# Rob Resumbidge 

# The Six-Minute Solution: A Reading Fluency Program (Secondary Level) 

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Grades 6-9

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## About the Authors

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Sheron M. Brown, a retired elementary reading specialist, was an educator for 38 years. She holds master's degrees in curriculum and instruction, reading, and educational administration. Brown began her teaching career in her home state of New Jersey and taught in Florida, Texas, Alaska, and California. She was a classroom teacher for grades 1-10 and an elementary administrator. Brown has also been an educational consultant for the San Diego County Office of Education and the North County Professional Development Federation. She conducts workshops and teacher trainings for school districts and conferences throughout the United States and is the author of four books of word-sorting and word-study activities: All Sorts of Sorts, All Sorts of Sorts 2, All Sorts of Sorts 3, and Words They Need to Know (with Sally Oppy). All are published by the Teaching Resource Center in San Diego, California.

## Cantents


293 Three Six-Minute Solution Field Tests 2曰日 Summary Paragraph Frame 1 (blackline master) 297 Summary Paragraph Frame 2 (blackline master) 2gs What Is Reading Fluency? (blackline master) 2g9 Why Is Reading Fluency Important? (blackline master)
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Nothing is more painful and frustrating to a teacher than to hear a student arduously read a sentence word by word, seeming to have to physically drag himself or herself to the end of the sentence. As educators, we have all heard students read in this manner time and again and have wanted to do something-anything-to help these disfluent students become good readers. Six Minute Solution Secondary will help students do just that. This research-based, highly effective instructional procedure for students in grades 3-6 builds reading fluency in only six minutes of the instructional day. For an overview of the instructional format, see the table below.


| 1 minute |  | Partner 1 Gives Feedback <br> - Partner 1 tells Partner 2 how many words he/she read, the number of errors he/she made, and does the error-correction procedure (see Chapter 4). <br> - Partner 2 records the numbers on his/her Fluency Record or Fluency Graph. <br> - Partner 1 wipes off the markings on his/her Practice Possage. |
| :---: | :---: | :---: |
| 1 minute |  | Students Put Away Materials <br> - One partner returns the copies of the Practice Passage, Fluency Record or Ftuency Graph, dry-erase marker, and erasing cloth in the zipper-lock plastic bag to the partner portfolio. |

Struggling readers as well as good readers benefit from Six-Minute Solution Secondary's daily fluency practice. Struggling readers gain fluency first at the word level and then at the passage level, while competent readers are challenged to read more expressive texts that are increasingly more difficult and sophisticated. All students benefit from fluency practice because as they encounter more challenging texts, they need to continue to grow as fluent readers.

## Fereading to Build Fluency

As the saying goes, "Practice makes perfect"-whether it's shooting basketballs, playing the piano, or processing text in a smooth, efficient, and accurate manner. The benefits of repeated readings of the same passage to build reading fluency have been well documented in many research studies (Levy, Nicholls, \& Kroshen, 1993; Meyer \& Felton, 1999; Samuels, 1979). Six-Minute Solution Secondary helps students succeed at reading fluency using an instructional model that is based on repeated-reading research and partnering students with closely matched instructional and fluency levels. Research supports the fact that students' reading skills improve when they work with peers in structured reading activities (Greenwood, Delquadri, \& Hall, 1989; Rosenshine \& Meister, 1994; and Stevens, Madden, Slavin, \& Famish, 1987).

## Partnering Students to Euild Fluency

In Six-Minute Solution Secondary, students' current instructional reading levels are determined and then students are placed in fluency partnerships. In these partnerships, one student reads the passage to his or her partner for one minute while the partner tracks the words read correctly as well as the reading errors. Partners then switch roles, with each partner charting his/her own progress. The entire procedure takes only six minutes.

## Decoding Ei Fluency

Experts may disagree as to what exactly is the best approach to teach students how to read, but they are in agreement as to what good reading "sounds" like. According to Carnine, Silbert, and Kame'enui (1997), fluency is "reading smoothly, easily, and quickly." In order to read fluently, the reader must be able to decode the vast majority of words automatically, with approximately 95 percent accuracy. However, although there is a clear link between fluency
and decoding skills, fluency practice alone will not improve a student's decoding skills. Any underlying decoding problems must also be addressed either prior to or in conjunction with fluency practice.

## Comprehension \& Fluency

Research also shows a high correlation between reading comprehension and reading fluency (Farstrup \& Samuels, 2002; Foorman \& Mehta, 2002; LaBerge \& Samuels, 1974). Reading comprehension suffers when students lack fluency. If a student is focusing his/her cognitive energies on word decoding and recognition, those energies are not available for comprehension. In the words of Farstrup and Samuels (2002), fluency consists of "optical, perceptual, syntactic, and semantic cycles, each melting into the next as readers try to get meaning as efficiently as possible using minimal time and energy."

## Independent Reading \& Fluency

Fluent readers generally find reading to be a pleasurable activity; as a result, they read more. When the amount of time spent on independent reading increases, there are accompanying gains in reading-related skills. As students read more, they increase not only their comprehension but also their vocabulary, background knowledge, decoding, and fluency skills. The "Matthew effect"-a term coined by reading researcher Dr. Keith Stanovich—refers to the effect that in reading, as in other areas of life, "the rich get richer while the poor get poorer" (Stanovich, 1986).

## Work Completion \& Fluency

Fluent readers will be better able to complete both class assignments and homework. This is significant when you consider the amount of reading assigned to upper elementary, middle school, and high school students. As an example: Student A, a fluent reader, is able to read an average of 180 correct words per minute (cwpm); Student B, a struggling reader, has an average fluency rate of 60 cwpm . Both students are assigned the same amount of reading. Student A, with an appropriate fluency rate, is able to complete the assignment in two hours. Student B, who reads at only one-third the rate of Student A, needs six hours to complete the same assignment.

## Reading Achievement \& Fluency Practice

Although the National Assessment of Educational Progress (Pinnell, Piluski, Wixson, Campbell, Gough, \& Beatty, 1995) found that 44 percent of fourth graders were not fluent readers, research shows that educators have the knowledge and tools to affect this problem. After analyzing many fluency studies, the National Reading Panel (NICHD, 2000) reported that fluency can be taught and that guided, repeated, oral reading procedures are "appropriate and valuable avenues for increasing reading fluency and overall reading achievement." Skilled readers read words quickly, correctly, and without hesitation. Students who have not become fluent readers continue to plod slowly through each sentence without experiencing the joy of quick, automatic, fluent reading. By its very nature, fluency practice supports comprehension. It provides a skill-building activity that enables students to move quickly through text. As students build fluency through rereading, they amass a larger
reading vocabulary. As they begin to read with automaticity, their cognitive attention can be focused on the text's meaning instead of on word identification. The National Reading Panel (NICHD, 2000) found that repeated oral reading, accompanied by feedback and guidance, resulted in significant reading achievement.

Six-Minute Solution Secondary uses both of these research-validated components-repeated readings of the same passage and oral feedback from peers-to build fluency.

## Slx Simple Steps for Getting Started

The Six-Minute Solution Secondary partner fluency model can be easily implemented in a variety of settings. The following is a list of the steps needed to get started and an estimate of how long each step will take.

## Step 1. Assessment (Chapter 1) <br> Estimated Time 1-2 hours

- Give each student a one minute timing on a grade level passage to determine oral fluency rate.
- Give each student a test to determine instructional reading level-San Diego Quick, silent reading test or a passage placement accuracy test.


## Step 2. Select Fluency Partners and Instructional Groups (Chapter 2)

## Estimated Time 1 hour

- Using a class roster, list students by fluency score and then by instructional reading level.
- Assign partners by ranking. For example, students ranked \#1 and $\# 2$ would be partners and students ranked $\# 3$ and $\# 4$ would be partners. Partners must be closely matched (fluency rates should be within $10-15$ words of each other).
- Designate the stronger of the two as partnership \#1 and the other $\# 2$.


## Step 3. Introduce the Fluency Concept [Chapter 3]

## Estimated Time 20-30 minutes

- Teacher demonstrates whisper reading the sample passage, tracking while reading, underlining unknown words and marking the last word read when the timer sounds.
- Teacher demonstrates totaling correct number of words read and graphing.
- Students whisper read passage for one minute, figure out the number of correct words read and graph. Procedure is repeated for a second minute.
- Students compare number of cwpm on each of their timings. Teacher leads class discussion on the benefits of repeated reading.


## Step 4. Establish Partner Behavior (Chapter 4) <br> Estimated Time $10-20$ minutes

- Teacher models and discusses cooperative and respectful partnerships.
- Teacher selects a student partner to demonstrate correct partner behavior during reading-"lean in and whisper read."
- Teacher demonstrates giving polite feedback to the partner.
- Teacher demonstrates gently correcting errors using tell and repeat method.
- Teacher states "No Arguing" rule and demonstrates how arguing wastes time.


## Step 5. Train Students in the Partnership Model (Chapter 5)

## Estimated Time 20-30 minutes

- Teacher demonstrates partner procedure with a student.
- Teacher sets timer for one minute and instructs all partner is to read and all partner $2 s$ to follow along and underline errors.
- After the timer sounds, teacher instructs all partner $2 s$ to give feedback to all partner $1 s$-total words read, number of errors, and correct words per minute.
- Teacher instructs all partner 1 s to graph or record their score.
- Teacher instructs students to change roles and get ready for the second timing. Students repeat procedure for a second minute.
- Procedure is repeated. Note: Teacher should walk around the room and monitor carefully at all times.


## Step G. Train Students to Manage Matenials Chapter B] <br> <br> Estimated Time 10-15 minutes

 <br> <br> Estimated Time 10-15 minutes}- Teacher shows students where portfolios and passages are kept.
- Teacher demonstrates choosing new passages and filing old passages.
- Teacher demonstrates storing the pen, cloth or sponge.


## Sample Schedule

The following is a sample of a weekly ( 5 day) schedule for the Six-Minute Solution Secondary partner fluency model. Notice that the first day of the week includes an accuracy check and the last day of the week may include optional comprehension and writing activities.

| Six-Minute Solution Secondary Sample Schedule |  |
| :---: | :---: |
| Monday | - All partnerships have new Grade-Level Practice Passages. Partners preview the entire passage for accuracy by whisper-reading or silently reading, underlining unknown words. Teacher monitors and identifies any words unknown to either partner. <br> - Option 1: No timings on Mondays. Have partners use the allotted six minutes for previewing Practice Passages. <br> - Option 2: Allow extra time (10-15 minutes) on Mondays. Have partners first preview their Practice Passage for accuracy. Then, conduct partner fluency practice during the allotted six minutes. |
| Tuesday through Thursday | - Six-Minute Solution Secondary procedure: Fluency practice. |
| Friday | - Partners turn in the week's Practice Passage and select a new one for the following week. <br> - Option: Extend the amount of time to incorporate student practice with comprehension or summary writing strategies. Partners can use the current Practice Passage for these optional activities before turning it in and selecting a new passage for the following week. See Chapter 8 for suggestions. |

Six-Minute Solution Secondary can be easily implemented in a variety of educational settings by foliowing six easy steps, each of which is discussed in the first several chapters.

## Chepter 1: Assessments

Assessment is critical in determining student fluency partnerships and in selecting the appropriate reading level of Practice Passages. This chapter provides step-by-step procedures for assessing students' oral reading fluency rates and instructional reading levels. It also includes recommended gradelevel oral reading fluency rates.

## Chapter P: Selecting Fluency Partners and Instructional Groups

Careful selection of student fluency partnerships is critical to the success of Six-Minute Solution Secondary. This chapter describes the procedures for selecting partners based on assessment data that has been collected via spreadsheet software or manual sorting. We also offer suggestions for program implementation in different configurations: entire classrooms, small groups, special-needs classes, intervention programs, and cross-age tutoring programs.

## Chapter 3: Introducing the Fluency Concept

This chapter provides the necessary steps for introducing the concept of repeated reading to students.

## Chapter 4: Establishing Partner Behavior

Training students to work in a cooperative manner and to provide polite feedback to each other are the focuses of this chapter.

## Chapter 5: Training Students in the Partnership Model

Taking the time to properly train students in Six-Minute Solution Secondary procedures will ensure that the program runs smoothly. This chapter discusses how to teach students to correctly carry out fluency procedures.

## Chapter 6: Managing Materials

Well-organized program materials that are easily accessible to students will assist in the establishment of effective fluency routines. In this chapter, we include ideas for initial implementation and ongoing management of materials.

Chapter 7: Student Pragress and Record Keeping It is essential to monitor individual student progress and to make instructional decisions based on that progress. This chapter provides examples of how to interpret fluency data, adjust reading goals accordingly, and support students who are not making adequate progress.

## Chapter 8: Comprehension and Writing Strategies

 Although Six-Minute Solution Secondary is primarily a fluency-building program, its Grade-Level Practice Passages may be used to instruct students in a variety of comprehension strategies as well. This chapter offers suggestions for teaching students how to summarize, paraphrase, retell, describe, sequence, compare, solve problems, and determine cause and effect. Practice Passages may also be used as models for teaching students the writing form of short summary. Examples of paragraph frames are included.
## Canclusion: Mare Than Six Minutes a Day

With the Six-Minute Solution Secondary fluency partnership model, students can increase their oral reading fluency by practicing for only six minutes a day on a regular basis. There will be times, however, when teachers will need to devote more than six minutes a day to fluency practice. The Conclusion outlines some situations that may require implementing extended fluency practice.

## Assessments

The Assessment section includes the following components:

## Assessment Passages

The Assessment Passage set consists of one passage per grade-level readability (grades 4-9), for a total of six passages. Assessment Passages can be used for two purposes:

1. To obtain a student's fluency score on a grade-level passage.
2. To determine a student's instructional level.

Using the Six-Minute Solution Secondary Assessment Passages. Consult these directions for assessing cwpm, determining reading instructional level, collecting pretest/posttest data, and determining student progress.

## San Diego Quick Assessment of Reading Ability

- San Diego Quick Assessment of Reading Ability (includes Teacher Record and Student Form). This assessment may be used to determine students' instructional reading levels.


## Fluency Building Sheets

## Practice Passages

Practice Passages are organized by Flesch-Kincaid readability level for grades 4-9 (total of 150 passages). The nonfiction, informational Practice Passages focus on science, social studies, history, and biographical topics. We use nonfiction passages for two important reasons:

1. Struggling readers often lack general background knowledge in topics that Practice Passages cover. Students benefit from fluency practice with reading material that offers general-knowledge information.
2. It is easier to "hide" readability level in nonfiction material. To improve reading fluency, a student needs to practice rereading passages at his/ her instructional reading level, which, in many cases, is below chronological grade-level placement.

The Practice Passages within each grade level are not thematic or dependent on one another.

## Autometic Word Lists

These lists include words that are most often encountered in written English. The words are grouped in sets of 25 and are repeated three times within each list.

## Fluency Building Sheets: Vowels and Vowel

 Combinations, Prefixes, and SuffixesIn order to fluently read multisyllabic words, students must be able to quickly break words into decodable chunks. Knowing vowel combinations and word parts automatically is a necessity for advanced decoding. Students who need to develop this preskill will benefit from practicing with these fluency building sheets.

## Appendix

The Appendix includes the following components:

- Frequently Asked Questions
- Fluency Assessment Report
- Initial Assessment Record (to rank and partner students)
- Fluency Record (data-collection form students use to record their cwpm scores)
- Fluency Graphs 1, 2, and 3 (data-collection forms students use to graph their cwpm progress). Choose the graph that best represents the current cwpm and goal cwpm for a student.
- Three Six-Minute Solution field tests (for readers who would like more information about the implementation and validation of Six-Minute Solution procedures).
- Blackline masters for introducing fluency concepts to students:
- Summary Paragraph Frame 1
- Summary Paragraph Frame 2
- What Is Reading Fluency?
- Why Is Reading Fluency Important?


## Assessments

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Assessment is an important step to implementing Six－Minute Solution Second－ ary．Determining students＇reading levels helps you to select practice pas－ sages，assign sudent partners，and establish a baseline to measure student progress．

Materials：
－Two copies of a grade－level passage－one for the student to read from and another for the teacher to use to record total words read and errors． Note：Every student must read the same passage for the purpose of assessment．The teacher could have a laminated copy on which to record errors and stopping point with a water based or dry erase mark－ ing pen．The teacher would then erase between students．Or the teacher could run multiple copies of the same passage and use a separate one to record errors and stopping point for each student．
－Data sheet for the teacher to record correct words per minute and timer．
－Materials to determine instructional reading level（San Diego Quick Test of Sight Word Recognition，silent reading test or a placement accuracy test．）

Estimated Time：
1－2 hours

## Assess Students

The first step in implementing Six－Minute Solution Secondary is to determine students＇oral reading fluency rate and instructional reading levels．This ini－ tial assessment will guide Practice Passage selection，provide data for select－ ing partners，and provide baseline information so that student growth can be evaluated．More specifically，the two－part assessment that follows（Assess－ ment 1 and Assessment 2）will determine：

1．A student＇s oral reading fluency rate（i．e．，correct words per minute ［cwpm］reading of a Assessment Passage at the student＇s grade－level placement）．
2．A student＇s instructional reading level as determined by using one of the following measures：word recognition test（San Diego Quick Assess－ ment of Reading Ability，see Assessment）a silent reading test or a pas－ sage placement accuracy test to indicate the level at which a student can read with 91 percent－96 percent accuracy．Note：If you already use an informal reading inventory，you may use this data to determine a student＇s instructional reading level．
We recommend that students be assessed for fluency three times a year （e．g．，in September，January，and May）to ensure appropriate student progress and to validate that student partners are working well together and record－ ing scores accurately．In addition，it is always a good idea to keep parents informed of their children＇s fluency levels．The Fluency Assessment Report （see Appendix）can be used for this purpose．

Students who have significant reading problems may need a more exten－ sive assessment than is described in this program in order to determine the nature and severity of their reading problems．The more extensive assessment
information can either replace Six-Minute Solution Secondary assessments or be used in conjunction with them. Use the assessment information you gather to guide you in addressing underlying deficits in skills, such as phonemic awareness and decoding. Instruction in these important skills may be conducted prior to or along with the implementation of Six-Minute Solution Secondary.

## Assessment 1

## Dral Reading Fluency

Materials:

- One copy of an Assessment Passage (see Assessment) for the student to read at the student's grade-level placement, laminated or enclosed in a plastic sleeve. Each student in the class will read the same Assessment Passage individually (e.g., all seventh-grade students will read the same Level 7 Assessment Passage). Note: When listening to an individual student read, sit apart from the other students so that they are not within hearing distance. This would give them prior knowledge of the passage.
- One copy of the same laminated Assessment Passage on which to record each student's reading errors and stopping point. Note: You may wish to have a laminated copy of the same Assessment Passage for each student on which to permanently record reading errors and stopping point. In that case, you will need as many copies as there are students in the class.
- A digital timer or stopwatch, a marking pen, and a clipboard.

Special circumstances: When working with groups of students who read significantly below grade level, it would not be appropriate to ask them to read a grade-level Assessment Passage. Instead, assess remedial students with a Assessment Passage at their estimated reading level. Continue assessing to determine the level at which a student reads with 95 percent accuracy (i.e., 5 errors in a 100 -word passage). This would be the appropriate level for a student to begin building fluency.

## Estimated time:

2.5 minutes per student

## Procedure:

1. Give each student the laminated copy of the grade-level Assessment Passage and say, "The title of this passage is $\qquad$ . When I say, 'Please begin,' I would like you to start reading here (point to the first word) and read out loud quickly and carefully until the timer sounds. If you do not know a word, I will tell it to you. Are you ready?"
2. Set the timer for one minute and say, "I will start the timer when you begin reading."
3. Using a clipboard to hold the teacher copy of the Assessment Passage, follow along as the student reads, underlining errors. Mark a diagonal line when the timer sounds, indicating the point at which the student stopped reading. The use of the clipboard will keep the student from being distracted by any marks you may make.
4. Tell the student, "Thank you. Please return to your seat and ask $\qquad$ (the next student) to come over to read."
5. During the interval between students, determine the total number of words the student read, subtract any errors, and note the correct words per minute (cwpm) read.
6. After all students have read the Assessment Passage, record their cwpm scores on the Initial Assessment Record (see Appendix).

Dral reading errons:

- Mispronunciations, unless attributed to accent or dialect.
- Words supplied by the teacher.
- Word omissions.
- Dropped word endings, unless attributed to accent or dialect.
- Substitutions, even if the word meaning is unchanged (e.g., "home" for "house").
- Reversed order of words (e.g., "he was" for "was he") counts as two errors.
- Mispronunciation of proper nouns counts as one error every occurrence.

Notes:

- Repetitions (e.g., "the boy, the boy") are not counted as errors.
- Insertions are not counted as errors or as words read.


## Assessment $P$

## Instruetional Reading Level

Any of three types of assessments may be used to obtain a close approximation of a student's instructional reading level:

- Word recognition test or
- Group silent-reading test or
- Passage placement accuracy test

Although these three types of assessments may seem unrelated, they are good informal indicators of a student's reading ability. It is not necessary to administer all three tests to determine a student's instructional reading level. The advantage to using a group silent-reading test is that it can be administered to all students at the same time. While the class is taking the test, you can read with individual students to obtain their oral reading fluency rate. Alternatively, word recognition tests are given to each student individually, with students reading the words orally to you. Passage placement reading tests must also be administered individually. Word recognition tests and/or oral passage placement tests may be administered individually to students at the same time as the oral reading fluency test (Assessment 1).

Word Recognition Test
Materials:

- San Diego Quick Assessment of Reading Ability (see Assessment).

Estimated tirne:
2.5 minutes per student

Procedure:

1. Make copies of the Student Form, Teacher Record, and Errors \& Reading Levels scoring sheet.
2. Administer the test per the directions in the introductory paragraph.
3. Transfer student scores to the scoring sheet.

Group Silent Feading Test
Materials:

- Copies of a silent reading test for all students in the class.


## Estimated time:

- Will vary, depending on the test.


## Procedure:

1. Choose a silent reading test that can be administered to the entire class during one class period. The selected silent reading test may be teacherprepared or commercial. The most important function of a silent reading test is to yield a measurable score that can be used to rank students according to their instructional reading levels. Examples of commercially prepared tests that lend themselves well to this procedure include:
a. Scholastic Reading Inventory (SRI) (Scholastic, 2003). Scores are reported in Lexile levels.
b. Gates-MacGinitie (MacGinitie, MacGinitie, Maria, \& Dreyer, 2003). Scores are reported in percentiles.
c. McLeod Test of Reading Comprehension (Consortium on Reading Excellence; CORE, 1999). Scores are reported in grade-level scores. d. Measure of Academic Progress (MAPs). This is a standardized computer test with scores reported in RIT (Rasch Unit) scores.
2. Explain the test directions to the class and complete the practice items with the entire group.
3. Instruct students to begin working on the silent reading test. Make sure that students have something they can do independently when they finish the test.
4. After all students have completed the test, record their scores.

Passage Placement Acouracy Test
Procedure:

1. Select a few grade-level Assessment Passages (see Assessments) based on your estimation of the student's reading level.
2. Tell the student, "We need to find a reading level that is just right for you to practice reading. That means that the passage must be comfortable for you--not too easy and not too hard. In order to find that level, 1 am going to ask you to read a few passages to me."
3. Give the student a copy of the Assessment Passage and say, "The title of this passage is $\qquad$ Please begin here (point to the first word) and read out loud to me. If you do not know a word, I will tell it to you. Are you ready? Please begin." Note: The oral passage reading test is untimed.
4. When the student finishes reading the passage, ask, "How did you feel when you were reading the passage? Was it too easy? Was it too hard? Was it just right?"
Use the Determining Reading Levels Chart (following) to determine whether or not the student is reading the Placement Passage at his/her independent, instructional, or frustration level. The frustration level is one at which the passage is simply too difficult for the student to read, and little or no learning will occur. The instructional level is one at which the material can be read by the student, but some teacher guidance and instruction are necessary for content comprehension. The instructional level is the most important level to determine since it is at this level that learning truly occurs. The independent level is one at which the student can read the passage easily and without teacher assistance or instruction.

| Determining Reading Levels Chart <br> (Using a 100-word passage) |  |  |
| :---: | :---: | :--- |
| Passage Errors <br> Allowed | Passage Reading Level | Comprehension Level |
| 3 or fewer errors | Independent $(97 \%-100 \%)$ | Good to Excellent |
| $4-9$ errors | Instructional $(91 \%-96 \%)$ | Good to Satisfactory |
| 10 or more errors | Frustration $(90 \% \&$ below) | Satisfactory/Fair/Poor |

## Examples:

- A student who reads a 100 -word passage with 2 errors has an accuracy rate of 98 percent, which indicates that the passage is at the student's independent reading level.
- A student who reads a 100 -word passage with 5 errors has an accuracy rate of 95 percent, which indicates that the passage is at the student's instructional reading level.
- A student who reads a 100 -word passage with 12 errors has an accuracy rate of 88 percent, which indicates that the passage is at the student's frustration level.
Students may be placed at their instructional or independent level for the purpose of building fluency. They should never practice fluency with a passage in which their reading is less than 90 percent accurate. Accuracy must precede fluency, so it is essential that students be monitored for accurate reading before repeated reading practice takes place, Note: Refer to "Using the Six-Minute Solution Secondary Assessment Passages" (see Assessments) for information about determining reading instructional level, assessing cwpm, and collecting pretest/posttest data.

Many teachers assign students fluency passages at their instructional level with the intent of having them progress more quickly. Other teach-ers-especially those of reluctant readers-assign students fluency passages at their independent level with the intent of having them experience immediate success, resulting in increased motivation and self-esteem.

Special Circumstances: Students who are enrolled in Title 1, remedial reading, special education, or English Language Learner (ELL) classes or who have significant reading problems may be more appropriately assessed with an individually administered reading test such as the Woodcock Reading Mastery Test (Woodcock, 2000). This test will help you determine instructional reading levels and gather information about underlying reading problems.

## Appropriate Fluency Rate

A student's target fluency rate is based on his/her instructional reading level, not the current grade-level placement. For example, the initial goal for an eighth-grade student reading at a fourth-grade instructional level is 90-125 cwom, which is the recommended oral reading rate for fourth-grade readers. Once the student has met the initial goal, increase the cwpm goal to the upper range or move the student to Practice Passages at the next grade level.

Keep in mind that student partners always read the same Grade-Level Practice Passage at the same time. An eighth-grade ELL student reading at a fourth-grade level may be partnered with an eighth-grade special education student also reading at the fourth-grade level. Occasionally, there may be an "outlying student"-one whose instructional reading level does not match that of any other student. In that case, the outlying student may need to be partnered with a teacher, an aide, or a classroom volunteer.

Refer to Table 1.1 (Hasbrouck \& Tindal, 2005) for cwpm standards by grade level and school season. As a general rule, students scoring below the 50th percentile benefit from participating in a fluency building program.

Table 1.1
2005 Hasbrouck \& Tindal Oral Reading Fluency Data

Jan Hasbrouck and Gerald Tindal completed an extensive study of oral reading fluency in 2004. The results of their study are published in a technical report entitled, "Oral Reading Fluency: 90 Years of Measurement," which is available on the University of Oregon's website, brt.uoregon.edu/tech_reports.htm
The table below shows the mean oral reading fluency of students in grades 1 through 8 as determined by Hasbrouck and Tindal's data.

You can use the information in this table to draw conclusions and make decisions about the oral reading fluency of your students. Students scoring below the 50th percentile using the average score of two unpracticed readings from grade-level materials need a fluencybuilding program. In addition, teachers can use the table to set the long-term fluency goals for their struggling readers.

Note that there is a difference between monitoring and placement. Monitoring with an assessment tool such as Reading Fluency Monitor can help you identify students who need to improve their fluency and monitor their progress over time.

Placement is the process of selecting an appropriate level of reading material and setting a reading rate goal within the context of a fluencybuilding program, such as Read Naturally. To place students in Read Naturally, use the Read Naturally placement table.

| Grade | Percentile | Fall CWPM* | Winter CWPM* | Spring CWPM* |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 90 75 |  | $\begin{aligned} & 81 \\ & 47 \end{aligned}$ | $\begin{aligned} & \hline 111 \\ & 82 \end{aligned}$ |
|  | 50 |  | 23 | 53 |
|  | 25 |  | 12 | 28 |
|  | 10 |  | 6 | 15 |
| 2 | 90 | 106 | 125 | 142 |
|  | 75 | 79 | 100 | 117 |
|  | 50 | 51 | 72 | 89 |
|  | 25 | 25 | 42 | 61 |
|  | 10 | 11 | 18 | 31 |

[^0]| Grade | Percentile | Fall CWPM* | Winter CWPM ${ }^{*}$ | Spring CWPM* |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 90 | 128 | 146 | 162 |
|  | 75 | 99 | 120 | 137 |
|  | 50 | 71 | 92 | 107 |
|  | 25 | 44 | 62 | 78 |
|  | 10 | 21 | 36 | 48 |
| 4 | 90 | 145 | 166 | 180 |
|  | 75 | 119 | 139 | 152 |
|  | 50 | 94 | 112 | 123 |
|  | 25 | 68 | 87 | 98 |
|  | 10 | 45 | 61 | 72 |
| 5 | 90 | 166 | 182 | 194 |
|  | 75 | 139 | 156 | 168 |
|  | 50 | 110 | 127 | 139 |
|  | 25 | 85 | 99 | 109 |
|  | 10 | 61 | 74 | 83 |
| 6 | 90 | 177 | 195 | 204 |
|  | 75 | 153 | 167 | 177 |
|  | 50 | 127 | 140 | 150 |
|  | 25 | 98 | 111 | 122 |
|  | 10 | 68 | 82 | 93 |
| 7 | 90 | 180 | 192 | 202 |
|  | 75 | 156 | 165 | 177 |
|  | 50 | 128 | 136 | 150 |
|  | 25 | 102 | 109 | 123 |
|  | 10 | 79 | 88 | 98 |
| 8 | 90 | 185 | 199 | 199 |
|  | 75 | 161 | 173 | 177 |
|  | 50 | 133 | 146 | 151 |
|  | 25 | 106 | 115 | 124 |
|  | 10 | 77 | 84 | 97 |

The appropriate selection of student fluency partnerships is essential to the success of the program. This chapter describes the procedure for ranking students based on assessment results and forming partnerships based on the data.

## Materials:

- Fluency data for each student (i.e., a fluency score and an independent/ instructional reading level score).
- A student ranking sheet or a computer spreadsheet program that generates ranking order.


## Estimated time:

1 hour

## Selacting Partners

When selecting fluency partners, match students as closely as possible by both oral reading fluency rates and instructional reading levels. Assign partners based on ranking. For example, if using a spreadsheet program, sort first for fluency score and then for reading level. Students ranked as \#1 and $\# 2$ would be partners, students ranked as $\# 3$ and $\# 4$ would be partners, and so on. Parmers must be closely matched. As a general rule, their fluency rates should be within 10-15 words of each other. An appropriate match is critical to success.

An example of an appropriate partnership match would be two eighthgrade students at grade 4 instructional reading level with oral fluency rates within 10-15 words of each other. If one of these students had an oral reading fluency rate of 85 cwpm and the other student had an oral reading fluency rate of 45 cwpm , they would not be matched as fluency partners. The reason for this is that the student with the lower cwpm oral fluency rate would not be able to follow along with the partner's more rapid rate of reading.

Keeping in mind that student partners must always read the same Practice Passage, you could partner an eighth-grade ELL student reading at the fourth-grade level with an eighth-grade special education student who is also reading at the fourth-grade level. Occasionally, there may be an "outlying student"-one whose instructional reading level does not match that of any other student. This student may be partnered with a teacher, an aide, or a classroom volunteer.

Once partnerships are selected, label the partners as Partner 1 and Partner 2 . Partner 1 should be the stronger of the two partners. For example, two sixth-grade students-each with an instructional level of fourth grade-are partners. Partner 1 has a fluency rate of 72 cwpm and Partner 2 has a fluency rate of 68 cwpm . Note: Students must be assigned Grade-Level Practice Passage timings at their independent or instructional grade level.

Fluency partners may be selected by using spreadsheet software or by manually sorting students' oral reading fluency and instructional reading-level scores.

## Using Spreadsheets to Select Fluency Partners

For large groups of students, the easiest way to select fluency partners is to use spreadsheet software. The following steps will help you create the spreadsheet:

1. Begin by opening a new document (blank spreadsheet) and naming it (e.g., Language Arts Period 3, Mr. Smith's Sixth-Grade Class).
2. Label six columns with the following headings: Last Name, First Name, Date, Grade, Oral Reading Fluency Score (cwpm), and Instructional Reading Level.
3. Enter data in the six columns for each student.
4. Sort the data first by fluency (cwpm) and then by instructional reading level, in either ascending or descending order.
5. Assign fluency partners based on the sort (e.g., the first two students on the list would be partners, the second two students would be partners, and so on).

## Manually Sorting Scores to Select Fluency Partners

Another method you can use to select fluency partners is manual sorting. The following steps will help you rank student scores more easily:

1. Sort your students' oral fluency scores from Assessment 1 (see Chapter 1) in ascending order-from lowest to highest.
2. In the first column on the Initial Assessment Record (see Appendix), list students in the order of their oral-reading fluency scores.
3. In the second column, list the oral-reading fluency score for each student.
4. In the third column, list the students' instructional reading-level scores-from the San Diego Quick Assessment (see Assessments).
5. Match students as closely as possible based on the data, making sure that each partner's fluency score is within 10-15 words of one another and that both students are reading at the same instructional level.

## Selecting Instructional Groupings

Although Six-Minute Solution Secondary is fundamentally designed for the entire classroom, the following group configurations may be used successfully as well:

- Small groups within a class
- Individual fluency programs
- Parent-student partnerships
- Cross-age partnerships


## Entire Classroom

In this instructional grouping, the entire classroom is assessed and fluency partnerships are assigned. All Partner 1s read the assigned Grade-Level Practice Passage to their partners for one minute. While they are reading, Partner 2s mark Partner 1 errors and stopping point on their own laminated copy of the passage. Partner 1s then record their own cwpm score on their Fluency Record or Fluency Graph (see Appendix). All Partner 2s then read the same Practice Passage for one minute. Results are tracked by Partner 1s on their laminated copy of the passage. Partner $2 s$ then record their own cwpm score
on their Fluency Record or Fluency Graph. When fluency practice is completed for the day, partners store their portfolio, which contains the laminated Practice Passage, Fluency Records or Fluency Graphs, and a zipper-lock plastic bag with a dry-erase pen and erasing cloth.

## Small Groups Within a Class

Repeated reading practice can also be implemented in a small-group settingsuch as within a guided reading group-using the same Grade-Level Practice Passage for students who read at the same instructional level. Sample Schedule is as follows:

## Monday

- The teacher and students preview the passage for accuracy.
- The teacher sets a timer for one minute. Students whisper-read the passage to themselves, underlining difficult words.
- When the timer sounds, students calculate their cwpm score and note the number on their own Fluency Record or Fluency Graph. This is their initial reading score.

Tuesday, Wednesday, Thunsday

- The teacher and students choral-read the passage together for one minute.
- The teacher then sets a timer for one minute. Students whisper-read the passage to themselves.
- When the timer sounds, students calculate their cwpm score and note the number on their Fluency Record or Ftuency Graph.

Friday

- Final timing, using one of two options:

Option 1-Students pair up. The teacher sets a timer for one minute. One student reads while the partner follows along, underlining any reading errors and circling the last word read. Partner tells the reader how many cwpm were read, and reader records the number on his/her Fluency Record or Fluency Graph. This is the final timing. The teacher then resets the timer for one minute. Students repeat the process, with roles reversed.
Option 2-The teacher listens to each student read for one minute while the other students follow along silently. The teacher tells each student his/her cwpm read on the final timing. Students graph their own results.

## Individual Fluency Programs

Although all struggling readers should have reading fluency practice as an instructional goal, the partnership model is not appropriate in all educational settings. In a special education, remedial, or resource room-where students' instructional reading levels may be very diverse-it is often not possible to select evenly matched fluency partners. In these cases, individual fluency programs should be developed.

To establish an individual fluency program, the teacher will need to assess each student to determine the appropriate level for fluency practice. Students should be introduced to the concept of repeated reading and given a
rationale as to why they will be engaging in the practice. Finally, each student will need his/her own fluency folder containing two Grade-Level Practice Passages-one for the student to read from and the other for the teacher to follow along with-a Fluency Graph, and a marking pen for filling in the graph each day.

There are two options for conducting individual fluency programs. With Option 1, each student reads a Practice Passage at his/her individual instructional level, and all students follow the same steps every day. With Option 2, each student reads a Practice Passage at his/her individual instructional level, and then proceeds through the steps at his/her own rate.

## Option 1

- Monday-Each student selects a new Practice Passage at his/her own instructional level. Students read the passage on their own, underlining difficult or unknown words. The teacher meets with each student individually. The teacher reads the entire passage with the student for accuracy, modeling fluent reading. Then, the student reads the passage while being timed for one minute to obtain an initial cwpm score. The student graphs the cwpm score on his/her Fluency Graph.
- Tuesday, Wednesday, Thursday-All students take turns reading their Practice Passage to the teacher while being timed for one minute. Each student then graphs his/her cwpm score on his/her Fluency Graph. When not meeting with the teacher, students practice whisper-reading their passage.
- Friday-All students take turns reading their Practice Passage to the teacher while being timed for one minute in order to obtain a final score. Each student then graphs the final cwpm score on that particular passage on his/her Fluency Graph.


## Option 2

- Step 1-Each student selects a new Practice Passage at his/her own instructional level.
- Step 2-The teacher meets with each student individually and together they choral-read the passage for accuracy (untimed).
- Step 3-Each student reads the passage to the teacher for one minute. The teacher tells the student how many cwpm he/she read. This is the student's initial score.
- Step 4-The teacher and the student select a target goal together. The goal should be 20-40 words above the initial timing. For example, if a student reads 50 cwpm on an initial timing, the target goal could be 80 . Note: Select a target goal that is reasonably attainable for the student, taking into consideration his/her reading level and motivation.
- Step 5—Every day during fluency practice, the student reads his/her Practice Passage to the teacher for one minute and graphs the cwpm on his/her Fluency Graph. When students reach their oral reading goal with fewer than five reading errors, they have "passed" the passage. Note: Some students may be able to fluently read a passage in one week or less, while others may need to practice reading the same passage for two or more consecutive weeks before they reach their predetermined goal.


#### Abstract

Parent-Student Partnenships Parents can be easily trained to conduct one-minute fluency timings and data-recording procedures either at the school or at home. Working with their children on Automatic Word Lists, Fluency Building Sheets, and Practice Passages is a highly effective way for parents to support a school's readers. Home data-recording sheets can be brought to school and checked by the teacher. Additional Practice Passages can be sent home based on the data. As parents conduct fluency timings at home, they will acquire first-hand knowledge of their children's reading improvement on a daily basis.

Cross-Age Partnerships Older students may be assigned as fluency partners to younger students. The older students conduct one-minute fluency timings and record the data of their younger partners.


## Introducing the Fluency Concept

This chapter provides a model for introducing the concept of fluency to students. We believe that students deserve an explanation prior to engaging in any new procedure. They are more likely to be enthusiastic participants when they understand the "what" and the "why." In the words of noted educator Dr. Anita Archer, "Rationale reduces resistance."

Materials:

- A copy of a sample Practice Passage (see Fluency Building Sheets) for each student. Note: The readability level of the passage should match that of the lowest reader in the class.
- A copy of a Fluency Graph (select from 1, 2, or 3 in the Appendix) for each student.
- Overhead transparencies of the sample Practice Passage and the selected Ftuency Graph.
- Optional: Overhead transparencies of blackline masters "What Is Fluency?" and "Why Is Fluency Important?" (see Appendix).
- Marking pens for students and an erasable marking pen for the teacher.
- Color markers for teacher and students.
- A timer.

Estimated Time:
20-30 minutes

## Use Activity Procedure or Scripted procedure

## Activity Procedure

- Step 1: Select the Practice Passage. Select one passage for classroom demonstration and training. The readability of the selected passage should match the lowest level of reading in the class. For example, in an eighth-grade class, if the student who reads at the lowest level reads at the fourth-grade level, the passage selected for training should be at a fourth-grade readability level. It is important that students do not struggle while reading the Practice Passage.
- Step 2: Introduce the concept of fluency, Using grade-appropriate language, introduce students to the value of building fluency. You may paraphrase the information in the Introduction section and discuss the benefits of rereading, the concept of "practice makes perfect," and the correlation among fluency, comprehension, and work completion.


## Dptional Scripted Pnocedure

- Present the overhead transparency of "What Is Reading Fluency?" and say:
- "Our class will be starting a daily reading fluency program. Before I explain the program to you, I want to talk about what fluency is and why it is important, Reading fluency is the ability to read text accurately. That means that you know the words. Reading fluency is also the ability to read text quickly. However, fluency is not speed-reading. Good readers read quickly, but not too quickly. Finally, reading
fluency is the ability to read with expression. As readers, we want to be sure to stop at the punctuation marks and read so that other people can understand what we are saying. That means that we need to clearly say each word, not read so fast that the words run together. We need to remember the three parts to fluent reading: reading accurately, reading quickly, and reading with expression."
- "Listen. When we read fluently, we are reading accurately, quickly, and with expression."
- "Everyone, when you read fluently, you are reading how? (Students should respond, "accurately.") You are also reading how? (Students should respond, "quickly.") But you are also reading with what, everyone?" (Students should respond, "with expression.")
- "So, reading fluently is reading accurately, quickly, and with expression. Say it with me, everyone." (Students should respond, "Reading fluently is reading accurately, quickly, and with expression.")
- Present the overhead transparency of "Why Is Reading Fluency Important?" and say:
- "It is important to work on improving reading fluency for three main reasons. How many reasons?" (Students should respond, "three.")
- "The most important reason is because reading fluency is related to reading comprehension. Fluent readers understand what they are reading. Fluent readers have good what, everyone?" (Students should respond, "comprehension.")
- "If we can read words easily or fluently, we can pay better attention to what we are reading. So the main reason we are going to work on reading fluency is that we will improve our what, everyone? Our ... " (Students should respond, "comprehension.")
- "Fluent readers like to read because reading is easy for them. If reading is easy for us, we will read more and if we read more, we will learn more. So, another reason for improving reading fluency is to be able to read more independently. We are going to practice reading fluency so that we will become what kind of readers, everyone?" (Students should respond, "independent.")
- "Finally, fluent readers need less time to complete their class assignments and their homework. Fluent readers read faster, so they finish work faster and have more time for outside activities. Raise your hand if you would like to be able to finish your homework in less time. (Pause for students' response.) So, we will practice reading fluency so that we will improve our what, everyone?" (Students should respond, "work completion.")


## Activity Procedure

- Step 3: Explain the Grade-Level Practice Passage. Pass out copies of the selected Practice Passage to students. Point out the numbers at the beginning of each line in the passage. Explain to students that these numbers will help them keep track of how many words they read in one minute.


## - Step 4: Model the reading fluency procedure.

- Explain to students that when they read a passage, they will start with the first word and read until the timer sounds. As they read, they should track with a pen (without making marks) and underline any unknown or difficult words. When the timer sounds, they will draw a diagonal line after the last word read.
- Demonstrate the above procedure with the overhead transparency of the selected Practice Passage.
- Continue using the transparency to demonstrate how to count the total number of words read. Starting at the number at the beginning of the last line read, simply count from that number to the last word read. This is the total number of words read. Write that number in the calculation notation at the bottom of the passage page. Count the number of underlined (i.e., unknown or incorrect) words. Write that number in the calculation notation at the bottom of the passage page. Subtract the number of underlined words from the total number of words to determine the correct words per minute (cwpm). Write that number in the calculation notation at the bottom of the passage page.


## Dptional Scripted Procedure

- "Listen. When we read a passage, we will start with the first word of the passage (point) and read until the timer sounds. Where will we start, everyone?" (Students should respond, "with the first word of the passage.")
- "As we read, we should track with our finger or pen and be ready to underline any unknown or difficult words. A difficult word is a word that we cannot figure out within a couple of seconds. What will we do with difficult words, everyone?" (Students should respond, "underline them.")
- "When the timer sounds, we will draw a diagonal line after the last word we read. Watch me." (Demonstrate drawing a diagonal line.)
- "Next, we need to figure out the total number of correct words we read. To do this, we look at where we put the diagonal line after the last word we read. What do we do first, everyone?" (Students should respond, "find the last word we read.")
- "Then we go back to the beginning of that line. Where do we go, everyone?" (Students should respond, "to the beginning of the last line we read.")
- "We find the number count on that line. What do we find, everyone?" (Students should respond, "the number count.")
- "Then we count from that number to the last word read. That is the total number of words we read. What is it, everyone?" (Students should respond, "the total number of words read.")
- "We write that number on this line at the bottom of the page." (Write the number on the "Total Words Read" line.)
- "Next, we count the number of underlined words. What do we count, everyone?" (Students should respond, "the number of underlined words.")
- "We write that number on this line." (Write the number on the "Errors" line.)
- "Then, we subtract the number of underlined words from the total number of words read. The answer gives us the number of correct words read per minute, or the cwpm. (Write the number on the "CWPM" line.) What does it tell us, everyone?" (Students should respond, "the number of correct words read per minute.")


## Activity Procedure

- Step 5: Students whisper-read the Grade-Level Practice Passage.
- Set the timer for one minute and ask students to whisper-read the passage, following the procedures of tracking, underlining unknown/ difficult words, and drawing a diagonal line after the last word read when the timer sounds. Note: Students must whisper-read in order to simulate oral reading.
- When the timer sounds, ask students to count the total number of words read, count the number of underlined words, and subtract the number of underlined words to determine their cwpm scores. Monitor students carefully.
- Set the timer for another minute, and ask students to reread the passage, beginning with the first word.
- When the timer sounds, ask students to determine their cwpm scores.
- Lead a group discussion about fluency practice. Ask students to raise their hands if their cwpm scores were higher with the second reading. Solicit student reflection on why they might have read more words the second time.


## Optional Soripted Procedure

- "Now it is your turn. I am going to set the timer for one minute. When I tell you to begin, I want you to whisper-read the passage, beginning with the first word. It is important that you whisper-read because we are practicing oral-not silent-reading. As you read, underline any unknown or difficult words. When the timer sounds, draw a diagonal mark after the last word you read. Let's check: Will you read silently? (Students should respond, "no.") How will you read? (Students should respond, "whisper-read.") What will you do when the timer sounds? (Students should respond, "draw a slash mark after the last word I read.")
- When the timer sounds, say, "Draw a diagonal mark after the last word you read. Go back to the beginning of that line. Say the number and continue counting until you reach the last word read. That is your total number of words. Write that number down at the bottom of the passage page." Monitor students carefully.
- "Now, go back to the beginning of the passage and count the number of underlined words. Write that number down at the botom of the page." Monitor students carefully.
- "Subtract that number from your total number of words, and write it on the last line." Monitor students carefully.
- "Now you have your number of correct words per minute, or cwpm."
- "Now you are going to whisper-read the passage again. Start with the first word of the passage, whisper-read, and underline unknown or difficult words. When the timer sounds this time, circle the last word you read instead of drawing a diagonal line. Ready, please begin."
- When the timer sounds, say, "Circle the last word you read. Go back to the beginning of that line. Say the number and continue counting until you reach the last word read. That is your total number of words. Write that number down." Monitor students carefully.
- "Now go back to the beginning of the passage, and count the number of underlined words. Write that number down. Subtract that number from your total number of words." Monitor students carefully.
- "Now you have your cwpm score for your second reading."
- "Compare your first timing score with your second timing score. (Pause as students compare.) Raise your hand if you read more words the second time than you read the first time." The vast majority of students will have read more words the second time.
- "Turn to your neighbor (partner) and tell why you think you read more words the second time." Monitor students carefully.
- "As I monitored, I heard many of you say that when you read the second time, you already knew the words. You were familiar with the passage, so you could read faster the second time. There were no surprises on the second reading. You are exactly right. The more you practice a skill, the better you get. So in order to become more fluent readers, we are going to practice every day."


## Activity Frocedure

- Step 6: Students graph their cwpm scores.
- Using the overhead transparency of the Fluency Graph, demonstrate how to use it to record cwpm scores.
- Using their copy of the Fluency Graph, have students practice graphing their cwpm scores on their first and second readings of the demonstration passage.


## Dptional Scripted Procedune

- "Now we are going to look at how to graph cwpm scores. Each one of you has a graph that looks like this (show the example Fluency Graph). At the top, you will write your name, your partner's name, the class you are in, and the date you first started using this graph. For today's practice, just fill in your name."
- "Notice that there is a place for the date and the passage number at the bottom of the graph. Fill in today's date and the practice passage number. Since all of us are reading the same passage on the same day, we will all have the same date and passage number."
- "Now look at the numbers on the left side of the graph. Those numbers represent the number of correct words you read in one minute. What do the numbers stand for?" (Students should respond, "number of correct words read in one minute.")
- "Do you see a place for errors on this graph? (Students should respond, "no.") You will not be recording errors on this graph. You will record only correct words per minute, or cwpm, from the practice passage onto the graph."
- "Look at the bottom of the graph. Do the numbers start with 1? (Students should respond, "no.") What do they start with? (Students should respond, " 5 .") That's right; the numbers are in increments of 5 ."
- "Let's pretend that I read 45 cwpm on my initial timing. Put your finger on the number 45 . I will color in the squares from 5 to 45 to graph my initial timing."
- "Let's pretend that on my second timing, I read 52 cwpm . Is the number 52 on the graph? (Students should respond, "no.") So I will have to estimate. To do that, I will go to the number closest to 52 . What number will that be? (Students should respond, " 50 .") Then 1 will fill in the column just a little higher than 50 to show that I read more than 50 cwpm . This time I will color in the squares from 5 to just past 50 to graph my second timing."
- "Now it's your turn. Graph your first and second timing scores. Raise your hand if you need help." Walk around the classroom and monitor as students graph their cwpm scores.

In order for the partnership model to be successful, students need to work together in a polite and respectful manner. This chapter offers suggestions for introducing the concept of a working relationship within a cooperative partnership.

Students need to be instructed in appropriate fluency partnership behavior (e.g., leaning in and whispering), remembering that the only people who need to hear them are their partners, and providing appropriate corrective feedback on missed words. Addressing classroom noise level during training is key to preventing many potential problems. Teachers are often amazed at the low level of classroom noise when fluency timings are in progress.

## Materials:

None
Estimated time:
10 minutes

## Lee Activity Procedure or Beripted Procedure

## Activity Procedure

- Tell students that they will be working with a fluency partner for six minutes each day, emphasizing that the partnership is a working relationship and not necessarily a friendship. You may want to give an example of cooperation within a workplace, relating that although people do not necessarily like everyone they work with and they may not want to be close friends, they still need to treat each other with respect. You may also want to explain that the partnerships were assigned based on assessment information and the fact that "the computer assigned the partners." Note: If the concept of fluency is discussed completely with the class, there are generally fewer problems within partnerships. However, very occasionally, there may be partners who simply do not work well together. In that case, partners may need to be reassigned.
- Set rules about the appropriate noise level during fluency practice. Remind students that half the class will be reading aloud at the same time, and that the only people who need to hear them are their fluency partners. Tell students that they will "lean in and whisper" when reading to their partners. Model the procedure, giving positive and negative examples.
- Teach students to give polite feedback during the error-correction procedure (see Figure 4.1).


## Figure 4.1

## An Example of the Error-Correction Procedure

While the reader is reading aloud for one minute, the fluency partner follows along and underlines any errors. When the timer sounds, the partner notes the last word read, then provides polite feedback in the following manner.

Partner: "You read $\qquad$ (total number of) words. I heard $\qquad$ (number of) errors." The partner then points to each underlined (incorrect) word and pronounces it correctly for the reader. The partner asks the reader to repeat the word correctly.

Reader: Records the cwpm on the Fluency Graph.
Note: Establish a "No Arguing" rule between partners at this point in the training.

## Optional Scripted Procedure

- "We are going to be working in partnerships to practice reading fluency for six minutes every day. Let me tell you about partnerships. Partnerships are a working relationship. What are they, everyone? (Students should respond, "a working relationship.") A working relationship means that you work together. You do not have to be friends with your partners. You do not have to eat lunch together or walk down the hall together. You do not have to talk to each other outside of this class. But here is what you do need to do. For the six minutes that you are working in the partnership, you have to be polite and respectful. What do you have to be, everyone?" (Students should respond, "polite and respectful.")
- "In your partnerships, one of you will be Partner 1 and one of you will be Partner 2. All Partners 1s will read at the same time while all Partner 2 s will listen, follow along, and underline any reading errors. That means that half the class will be reading at one time. If all Partner 1s read in a regular speaking voice, is it possible that the noise level in the room will be too high? Yes or no? (Students should respond, "yes.") In order to keep the noise level down so that partners can hear each other read, you will lean in and whisper. What will you do, everyone?" (Students should respond, "lean in and whisper.").
- Choose a student partner to demonstrate the procedure: "I am (Juan's) partner. Watch me read to Juan." Demonstrate reading in a normal speaking tone while looking straight ahead. "Did I lean in and whisper? Yes or no? (Students should respond, "no."). Watch me again." Demonstrate the "lean in and whisper" procedure. "Did I lean in and whisper?" (Students should respond, "yes.")
- "While your partner is reading, you will follow along and underline any errors you hear. What will you do, everyone? (Students should respond, "follow along and underline errors.") When the timer sounds, you will draw a diagonal line after the last word your partner read. What will you do when the timer sounds, everyone? (Students should respond,
"draw a diagonal line after the last word my partner read.") Then you will figure out your partner's correct words per minute, or cwpm, score. What will you do, everyone?" (Students should respond, "figure out my partner's correct words per minute score.")
- "The next step is reporting to your partner. What is the next step, everyone? (Students should respond, "reporting to my partner.") First, you will tell your partner the total number of words that he/she read. Say, 'You read $\qquad$ words.' What do you say, everyone?" (Students should respond, "you read $\qquad$ words.")
- "Then you say, 'I heard $\qquad$ errors.' What do you say, everyone? (Students should respond, "I heard $\qquad$ errors.") Why do you suppose I want you to say 'I heard $\qquad$ errors' rather than 'You made $\qquad$ errors'? (Students should suggest it sounds better.) Yes, it sounds kinder. Then you tell your partner their correct words per minute. That is the number they will graph at the end of the session."
- "Finally, you will point to any reading errors your partner made, one word at a time, and pronounce the word correctly for your partner. Your partner will then read the word again correctly."
- "There is one very important rule you need to follow when working with your partner. The rule is 'No Arguing.' What is the rule, everyone? (Students should respond, "no arguing.") The reason we have a 'No Arguing' rule is that arguing wastes time. What does it do, everyone? (Students should respond, "it wastes time.") If your partner underlines a word that you think you read correctly, you could stop reading and tell your partner that he/she made a mistake. But if you do that, you will miss the rest of the timing for the day and won't be able to record a score. So, if your partner hears you read a word incorrectly, it is counted as an error because there is no what? (Students should respond, "no arguing.") The best thing for partners to do is to treat each other fairly."


## Training Students in the Partnership Model

Taking the time to properly train students in Six-Minute Solution Secondary procedures will ensure that the program runs smoothly. This chapter discusses how to teach students correct fluency procedures. Once students are properly trained, the entire fluency practice should take only six minutes of the reading period each day.

Devote a minimum of two to three class periods to training (Steps 3-6 in Chapters 3-6). We recommend that an explicit instructional model be employed when teaching the procedures. Each procedure should be introduced through modeling, then considerable guided practice time should be allowed with the teacher walking around the classroom to monitor, give feedback, and remodel procedures as necessary before students practice the procedure independently.

Teachers may want to randomly assign or specifically select partners for this step so that students can practice the procedure before teaming up with their ultimately assigned partners. Once all students feel comfortable with the procedure, they can then be placed with their assigned fluency partners.

## Materials:

- For each fluency partnership, one pocket portfolio that includes two copies of a preselected Practice Passage (either laminated or placed in a plastic sleeve) and two copies of a Fluency Graph (one for each partner).
- For each fluency partnership, a zipper-lock plastic bag containing a dryerase marker and erasing cloth.
- A Ftuency Graph for each student.
- Overhead transparencies of the selected Practice Passage and Fluency Graph.
- A timer:

Estimated Time:
20-30 minutes

## Use Activity Procedure Scripted Procedure

Activity Frocedure

- Select a Practice Passage at the readability level that matches the lowest reading level in the class.
- Seat students with fluency partners (randomly assigned or specificaily selected) and assign them the numbers 1 and 2 .
- Using the overhead transparency of the selected Practice Passage, model the fluency partnership with a student partner, emphasizing how the listener should track the words being read by the partner. Tracking helps students keep their place as their partners read and makes marking errors easier.
- Model the procedure for marking errors and noting the stopping point.
- Model the error-correction procedure (see Figure 4.1 in Chapter 4).
- Model how to calculate cwpm by counting the total number of words read and subtracting errors. For example:

- Using the overhead transparency of the Fluency Graph, review how to graph cwpm scores.
- After modeling all aspects of fluency partnership activities, have students practice the fluency procedure. Set the timer for one minute, and ask all Partner 1 s to read. Remind them to lean in and whisper-read to their partners. Remind Partner $2 s$ to track their partner's reading.
- Instruct Partner $2 s$ to give polite feedback to Partner 1 s .
- Set the timer again for one minute and ask Partner $2 s$ to read. Remind them to lean in and whisper-read to their partners. Remind Partner is to track their partner's reading.
- Instruct Partner 1 s to give poile feedback to Partner 2 s .


## Dptional Scripted Procedure

- Select a student with whom to demonstrate the partner procedure. Ask the student to read, and instruct him/her to make a few reading errors. Say, "Watch as my partner Sarita and I conduct our fluency timings. Sarita is Partner 1, so she will read first. Watch and see what I do while she is reading."
- Set the timer for one minute and ask the student to begin reading. Model tracking with a pen and underlining reading errors as the student reads.
- After the timer sounds, ask, "What did you observe me doing with my pen as my partner was reading? (Students should respond, "tracking.") Yes, it is important to follow along by tracking under each word as my partner reads. What did I do when I heard an error? (Students should respond, "you underlined it.") Yes, I underlined the word and kept tracking. Did I make any extra marks on the passage? (Students should respond, "no.") That's correct. I made a mark only if I heard an error. If I had drawn a line under each word my partner read, would I have been able to tell when she made an error? Yes or no? (Students should respond, "no."). Also, marking under all of the words would be messy and hard to clean off in only one minute."
- "Now listen to me give polite feedback to Sarita: 'You read 86 words. I heard 2 errors. $86-2=84$. 84 is your cwpm score. Mark that number on your graph. You will color in the squares later.' "
- "Now I need to tell Sarita the words she missed and ask her to repeat them." Point to the first error and say, "This word is $\qquad$ . What word?" Continue with the other missed words.
- "Now it is everyone's turn. Raise your hand if you are Partner 1s. Raise your hand if you are Partner 2 s . When I say, 'Please begin,' all Partner $1 s$ will lean in and whisper-read to their partners. All Partner 2 s should have their pens and be ready to track their partner's reading, mark reading errors, and draw a diagonal line at the stopping point. Please begin."
* When the timer sounds, say, "All Partner 2s, give polite feedback to Partner 1s." Partner is mark their cwpin scores on their graph. Monitor students carefully.
- "Now it is Partner 2's turn. When I say 'Please begin', all Partner 2 s will lean in and whisper-read to their partners. All Partner is should have their pens and be ready to track their partner's reading, mark reading errors, and draw a diagonal line at the stopping point. Please begin."
- When the timer sounds, say, " Now, Partner is should give polite feedback to Partner 2s." Partner $2 s$ mark their cwpm scores on their graph. Monitor students carefully.
- At the end of the timings, have one partner from each partnership put the materials away.


## Managing Materials

Well-organized materials that are easily accessible to students will assist in the establishment of effective fluency routines. This chapter includes ideas for initial implementation and ongoing management of Six-Minute Solution Secondary materials.

## Materials:

- One pocket portfolio for each partnership. Label each portfolio with the names of Partner 1 and Partner 2.
- Each portfolio should hold two copies of the same Practice Passage (laminated or enclosed in a plastic sleeve), a Fluency Graph for each student, and a zipper-lock plastic bag containing a dry-erase marker and erasing cloth.
- Stored Practice Passages in a central file that is accessible to students in order of readability.

Estimated Time:
10-15 minutes

## Use Activity Procedure or Soripted Procedure

## Activity Procedure

- Select appropriate Practice Passages for each partnership. (Practice Passages are number-coded by grade level [e.g., all sixth-grade-level passages are numbered in the 600 s , all seventh-grade-level passages are numbered in the 700s]. This coding system enables teachers to note reading levels without the levels being obvious to students.]
- Tell the class where the Practice Passages and partnership portfolios will be located.
- Demonstrate the process for choosing a new passage on Friday for fluency practice the next week:
- Take the currently used Practice Passages out of the plastic sleeves.
- Return the passages to the designated file and select two copies of a different Practice Passage within the same readability level or per the teacher's instruction.
- Teach students to return their partnership portfolios-with all materi-als-to the designated location.


## Additional Fluency Tips

- Once students are trained in the Six-Minute Solution Secondary instructional format (see Table 1.1 in the Introduction), use the Six-Minute Solution Secondary Sample Schedule (see Program Overview). It is most effective and efficient for students to begin reading a new Practice Passage on the first day of the school week.
- Make certain that each partnership knows who is Partner 1 and who is Partner 2. Partner 1 is the stronger reader and always reads first. However, do not share that information with students; simply state that Partner 1 reads first for management purposes.
- Tell students where they will sit during fluency practice. For example, some teachers make a seating arrangement for the language arts period that places partners next to each other. Other teachers have Partner is move beside Partner $2 s^{\prime}$ desks.
- Begin the first fluency practice session of the week with an accuracy check. Have students read the Practice Passage-untimed-to determine any unknown or difficult words. If neither of the partners knows a word, supply it for them. This accuracy check should occur only on the first day of a new Practice Passage each week.
- Remember that students need a minimum of three to five repeated readings of the same Practice Passage. Since both partners will be reading the same Practice Passage, they will hear it twice a day. Practice Passages should be changed once a week so that students are not able to memorize them. Note: The reading level of a Practice Passage is changed only after teacher review and assessment.
- Remind students that they are responsible for keeping to the six-minute time frame:
- 1 minute for the partners to get ready.
- 1 minute for Partner 1 to read.
- 1 minute for Partner 2 to tell Partner 1 the total number of words read, the errors, corrections, and cwpm. Partner 1 quickly records his/her cwpm.
- 1 minute for Partner 2 to read.
- 1 minute for Partner 1 to tell Partner 2 the total number of words read, the errors, corrections, and cwpm. Partner 2 quickly records his/her cwpm.
- 1 minute for both partners to color in their own graphs and put materials away.
- Generally speaking, fluency partners provide accountability for each other. Occasionally, a partnership may appear to be awarding inflated scores. A word or two in private to the "suspects" should solve the problem, along with maintaining close proximity while the partnership is conducting its timings.
- Continually monitor students closely during the six-minute fluency practices.


## Student Progress and Pecord Keeping

Record keeping is an essential component of Six-Minute Solution Secondary. It is critical to monitor improvement and make instructional decisions based on individual student progress. This may be accomplished by using either the Fluency Record or the Fluency Graphs (see Appendix). Teach students how to graph their own progress. Students tend to enjoy using Fluency Records and Fluency Graphs, as these tools make it easy for them to see their progress. Graphs can be especially motivating to students who have not had much reading success in the past. It gives them a concrete way to see their reading skills improve.

As a general rule, students who repeatedly read Grade-Level Practice Passages at the correct instructional level make weekly progress-even if only by an increase of a few correct words per minute. Give special attention to any student whose reading rates are not increasing from week to week.

Determine whether students are reading at the expected rate for their instructional reading levels (see Table 1.1 in Chapter 1). Remember, each student should read at the rate commensurate with the instructional reading level, not the grade-level placement. Reading rates increase as students are able to read more difficult material.

Check your students' Fluency Records or Fluency Graphs on a regular basis in order to determine that:

- Adequate progress is being made.
- Students have been assigned appropriate Practice Passages-neither too easy nor too difficult.
- Students have been assigned appropriate fluency partners.
- It is the appropriate time to increase the difficulty level of the Practice Passage being used by partners.


## Making Instructional Decisions Based on Fluency Graphs

The following examples demonstrate how the information on a student's Fluency Record or Fluency Graph can help you make important instructional decisions.

## Example 1: Kevin

Kevin is an eighth-grade student with a fourth-grade instructional reading level. Based on Table 1.1 (Hasbrouck \& Tindal, 2005) in Chapter 1, he is within the expected reading rate for his instructional level. Kevin is also making adequate progress. The first five days on his Fluency Graph (see Figure 7.1) reflect rereading the same Practice Passage. His first reading on Monday was 90 cwpm . After practicing the passage four more times, his ending fluency rate was 100 cwpm.

Notice what happens the following week (see March 9 column). Kevin is now reading a new Practice Passage. However, his beginning fluency rate has increased by five words (from 90 to 95 cwpm ) when compared to the previous Monday-even though this is a new Practice Passage. As Kevin continued to reread this passage during the second week, his reading rate steadily improved. As Kevin's reading rate continues to improve and he begins to
approach 110 cwpm , he will most likely be ready to start practicing Practice Passages at the fifth-grade level. Kevin's expected fluency rate goal would then range from 110 to 140 cwpm .

Figure 7.1
Kevin's Fluency Graph


## Example 2: Sarita

Sarita is reading at a fourth-grade instructional level and was assigned a fourth-grade Practice Passage. Based on Table 1.1 (Hasbrouck \& Tindal, 2005) in Chapter I, the appropriate goal for Sarita is to read 94-125 cwpm.

A glance at Sarita's Fluency Graph (see Figure 7.2) reveals that she is reading below her expected range. In this case, the teacher decides that he needs to reevaluate whether Sarita has been placed correctly at her instructional level. Based on the reevaluation, the teacher will decide whether or not to: (1) lower the Practice Passage reading level; (2) add practice with the Automatic Word Lists; or (3) incorporate additional instructional strategies such as the ones in the following section, "Helping the Student Who Is Not Making Adequate Progress." (Refer to the Practice Passages and the Automatic Word Lists-both in the Fluency Building Sheets section-for choosing Automatic Word Lists to use with your students.)

Figure 7.2
Sarita's Fluency Graph


## Example 3: José

Jose is a seventh-grade student with a seventh-grade instructional reading level. His fluency goal, as shown in Table 1.1 (Hasbrouck \& Tindal, 2005) in Chapter 1, is 128 cwpm. When Josés teacher reviewed his Fluency Graph (see Figure 7.3), she noticed that his reading rate is above his goal rate. She decided to assign eighth-grade Practice Passages to José, which may be more challenging for him.

Figure 7.3
José's Fluency Graph


## Helping the Student Who Is Not Making Adequate Progress

If a student is not making progress in the passage fluency and word-building activities in Six-Minute Solution Secondary, the reason may be is that the assigned Practice Passages do not match the student's instructional reading level. A student must be placed at the correct instructional reading level in order to make the expected progress. When students practice fluency at their correct instructional levels, the vast majority of them make excellent progress. However, if after examining a student's Fluency Graph or Fluency Record you determine that little progress has been made in two or more weeks, consider the following:

- If a student reads fewer than 40 cwpm, an intensive comprehensive reading program should be used instead of, or in addition to, Six-Minute Solution Secondary. A student who does not read more than 40 cwpm needs explicit instruction in underlying reading skills before reading fluency can be developed.
- Read the Practice Passage with the student to ascertain if he/she has been placed at the correct instructional reading level. The student should be able to correctly read approximately 95 percent of the words when reading at the appropriate instructional reading level. Note the errors the student is making. Perhaps many of the words the student is having difficulty with are high-frequency sight words. In this case, the student is likely to benefit from additional practice using the Automatic Word Lists. These lists contain sets of the most commonly encountered (i.e., high-frequency) words in the written English language.
- If you observe that a student is having great difficulty reading an assigned Practice Passage, select another one that is one grade level below. If the student reads less than 95 percent of the words correctly in the new passage, have him/her read a Practice Passage at an even lower reading level.
- A student's reading fluency problems may be associated with poor decoding skills. Assess whether the student would benefit from extra instruction in decoding.
- When students are first presented with new Practice Passages, make a point of meeting with the partnerships of struggling readers to ensure that they are demonstrating adequate accuracy. Consistently and carefully monitor partnerships of struggling readers throughout the week.
- A stronger reader may be paired with a struggling reader as a practice partner. The stronger reader reads the Practice Passage while the struggling reader follows closely behind, echoing the words of the stronger reader. The struggling reader will gain additional reading strength by having the passage read almost simultaneously. Practice partnership sessions should take place in addition to the regular Six-Minute Solution Secondary sessions.
- Give fluency partners extra untimed reading-practice opportunities. Partners can whisper-read to each other, thus gaining additional rereadings of the same Practice Passage before taking their formal one-minute timings. Whisper-reading will help to build the confidence of struggling readers before their actual word counts are recorded.
- Fhuency partners may also "ping-pong read" sentences back and forth to each other as another form of practice. This practice will also help students gain confidence and familiarity with the Practice Passage prior to the formal fluency timing.

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## Comprehension and Summary Writing Strategies

Comprehension strategies (e.g., summarizing and paraphrasing) and the use of graphic organizers can be taught and practiced using the Practice Passages in Six-Minute Solution Secondary. We recommend that students be taught comprehension strategies and how to use graphic organizers directly through modeling and guided practice, bolstered by independent practice. Oral activities can easily be extended into a mini-lesson on how to take notes on expository material using the indentation note-taking strategy as described in the Skills for School Success Series (Archer \& Gleason, 2002). Examples of effective comprehension strategies for nonfiction include:

- Summarizing
- Paraphrasing
- Retelling
- Describing
- Learning expository text structure


## Summarizing

One method of improving students' comprehension skills is to teach summarizing. First, model summarizing by pausing after reading aloud each paragraph of a Practice Passage from an overhead transparency. Then, "think aloud" while you determine the main idea of each paragraph, limiting the number of words you use to summarize. Counting the words as they are spoken is a powerful way to illustrate this point. Another effective way to teach summarizing is to use "paragraph-shrinking" techniques (Fuchs, Fuchs, Kazlan, \& Allen, 1999).

Once you have modeled oral summarizing, you can assign student partners altemate paragraphs from their Practice Passage to orally summarize. Then, have the partners practice orally summarizing the whole passage. With additional instruction, this oral summarization practice can be extended to summary writing. After students complete their oral summarizations, ask them to turn over the Practice Passage and write a short summary of it.

## Paraphrasing

To model paraphrasing, read aloud a Practice Passage-paragraph by para-graph-from an overhead transparency. After reading each paragraph, stop and announce, "I can put the information in this paragraph into my own words by saying .... " Point out to students that it is easier to learn new information when you put it into your own words instead of trying to remember the text's language.

After modeling, have student partners paraphrase alternate paragraphs of their Practice Passage. Another effective method for teaching paraphrasing is the "read-cover-recite-check" strategy from the Skills for School Success Series (Archer \& Gleason, 2002)

## Retelling

Read aloud a Practice Passage from an overhead transparency. Then, model a brief retelling of the passage, using the main ideas of the paragraphs to formulate the retelling. By using phrases such as "The passage began with
"Next, I read ... ," and "Then I learned ... ," you can effectively model retelling of information.

## Describing

You can model describing by listing the characteristics, features, and examples of a topic. As you model, include key vocabulary words and phrases generally found in descriptive texts such as "for example," "characteristics," "for instance," "such as," and "to illustrate." You may use a spider-web graphic organizer (as in Figure 8.1) in which the topic of the passage is listed in a circle in the center and the features are written on lines extending out from the circle, forming a web.

Students can take turns orally describing their Practice Passage paragraphs to their partners while the partners take notes on the passage.

Figure 8.1
Spider-Web Graphic Organizer


Learning Expository Text Structure
Students can be taught about how text is structured using the following methods:

- Sequencing
- Comparing
- Analyzing cause and effect
- Problem solving


## Sequencing

Some of the Practice Passages list items or events in numerical or chronological order, or in sequences. When teaching students a comprehension strategy for this type of passage, call attention to key vocabulary words such as "first," "second," "third," "next," "then," "finally," "yesterday," "today," "now," "later," "before," and "after." Extend this sequencing comprehension activity to include writing by using a graphic organizer to list information sequentially (see Figure 8.2).

Figure 8.2
Sequencing Graphic Organizer


Second (Next, Then)

Third (Next, Then)

Fourth (Finally)

## Comparing

Some of the Practice Passages explain how two or more things are alike or different. Call attention to key vocabulary words and phrases in these passages such as "alike," "same as," "different from," "in contrast," "on the other hand," "but," "yet," "however," "although," "opposite of," "as well as," "while," and "unless." Venn diagrams are excellent graphic organizers to use for showing the similarities and differences in comparison text. A Venn diagram consists of two or more overlapping circles (see Figure 8.3).

Figure 8.3
Venn Diagram


Analyzing Cause and Effect
Another type of expository text structure lists one or more causes and the resulting effect(s). Key vocabulary words and phrases for this type of text include "consequently," "because," "if ... then," "thus," "since," "nevertheless," "accordingly," "because of," "as a result of," "may be due to," "therefore," and "this led to." A graphic organizer may be used to illustrate cause and effect (see Figure 8.4).

Figure 8.4
Cause and Effect Graphic Organizer


## Problem-Solving

This type of expository text structure states a problem and lists one or more solutions. Key vocabulary words and phrases include "the problem is," "the question is," "furthermore," "one reason for," "a solution," and "another possibility." An example of a graphic organizer for problem-solving text is shown in Figure 8.5.

# Figure 8.5 <br> Problem-Solving Graphic Organizer 

## Problem:

## Solutions:

## Summary Writing Strategies

Teachers may elect to incorporate summary writing strategies into the SixMinute Solution Secondary fluency model. In that case, on the last day of fluency practice, partners write a short summary of the assigned Practice Passage. It is recommended that teachers demonstrate summary writing with a Practice Passage at a readability level that matches that of the lowest reader in the class.

Macerials:

- A copy of the demonstration Practice Passage for each student.
- A copy of Summary Paragraph Frame 1 or Summary Paragraph Frame 2 (see Appendix) for each student.
- An overhead transparency of the demonstration Practice Passage.
- An overhead transparency of Summary Paragraph Frame 1 or Summary Paragraph Frame 2.
- A transparency writing pen.

Procedure:

1. Distribute copies of the demonstration Practice Passage and Summary Paragraph Frame 1 or Summary Faragraph Frame 2 to students.
2. Introduce the summary paragraph frame and discuss the components of the frame.
3. Read the demonstration Practice Passage together with students.
4. Model filling in the components of the paragraph frame by thinking aloud.
5. Have students follow along and fill in their paragraph frame.
6. Using the completed paragraph frame, join students in writing summary paragraphs.

## Summary Paragraph Frame 1

This passage was about $\qquad$ First, I learned $\qquad$ . Next, I learned $\qquad$ Finally, I learned $\qquad$ .

## Summary Paragraph Frame 2

Topic sentence (name the "who" or the "what"). Tell the most important thing about the "who" or the "what."

Example:
$\qquad$ is/was $\qquad$ . One important fact is $\qquad$ .

Another important fact is $\qquad$ A final important fact is $\qquad$ -.

One of the advantages of the Six-Minute Solution Secondary fluency partner model is that students are able to increase their oral reading fluency in only six minutes of an instructional period. This curriculum's original grouping configuration is a partnership match based on instructional reading and fluency levels. By utilizing this configuration, the partnership is self-support-ing-each partner's reading level and cwpm score mirror the other partner's. In this way, partnerships can function independently with little supervision.

However, there might be times when more than six minutes a day must be devoted to fluency practice, as in the following situations:

- On the first day of the week-when partnerships receive a new Practice Passage-more time will be required. Each student in the partnership silently reads the entire new Practice Passage. If any words are unknown, students consult first with their partners. If neither partner knows a word, the teacher supplies the correct pronunciation.
- Although the program can be easily implemented in a class of struggling readers, an individual fluency program may be more appropriate for some students. In these cases, additional time will be needed for fluency practice.
- Certain grouping configurations, such as guided reading groups, require more than six minutes a day.
- Incorporating additional comprehension activities and/or summary writing will require additional time.
The Six-Minute Solution Secondary partnership fluency model works well if partners can be fairly evenly matched. However, some educational settings do not lend themselves to the partnership fluency model. If instructional levels of students are very diverse, it would not be appropriate to assign fluency partners.

Keep in mind that fluency practice is essential for all struggling readers. If a particular setting does not lend itself to the partnership model, Six-Minute Solution Secondary may be adjusted to become an individualized fluency program. Refer to the "Individual Fluency Programs" section of Chapter 2 for two individual fluency program options. As an individualized fluency program, the Six-Minute Solution Secondary model may instead become the Sixteen-Minute Solution Secondary model. However, the benefits of daily fluency practice will more than compensate for the additional time required.



## Using the Six-Minute Solution Secondary

 Assessment PassagesThe six Assessment Passages included in Six-Minute Solution SecondaryLevels 4-9 for fourth grade to ninth grade-were designed to serve several purposes, and they may be used in a variety of ways. Refer to Chapter 1: Assessments for additional information.

## Using Assessment Passages to Assess Correct Words Per Minute [cwpm] and to Form Student Partnerships

1. Select the Assessment Passage that matches the current grade level of the students being assessed. For example, all students in a sixth-grade language arts class should be assessed on the same Level 6 Assessment Passage. The reading of Assessment Passages should be unpracticed, meaning that students should not silently read the passage before the fluency assessment is conducted.

In the case of remedial or special education students who read significantly below their chronological grade level, select an Assessment Passage that is closer to their instructional level. For example, in a special education classroom for grades 7,8 , and 9 in which the majority of students read at the second-grade level, use the Level 4 Assessment Passage for assessment. Note: All students must read the same Assessment Passage so that partnerships may be evenly assigned. However, partnerships will read Practice Passages at their independent or instructional level.
2. Make two copies of the selected Assessment Passage, and laminate them or insert them into plastic sleeves. The assessor uses one copy to mark reading errors and stopping point with an erasable marking pen, and students read from the other copy. Tell students that they will be asked to individually read the selected Assessment Passage quickly and carefully for one minute.
3. Set a timer for one minute, and tell the student to begin reading when he/she is ready. Avoid saying, "Get ready, get set, go!" Rather, start the timer when the student begins reading. Mark the reading errors the student makes and supply any words the student can't read after a 3 -second wait time. Mark any words supplied by you as errors. Student insertions and self-corrections are not counted as errors.
4. At the end of one minute, stop the student, and mark the last word read. Subtract the number of reading errors from the total number of words read to compute the correct words per minute (cwpm) rate for the student. Then, transfer the student's cwpm score to an Initial Assessment Record (see Appendix). Wipe off the markings on your copy of the Assessment Passage, and continue the one-minute timing procedure with the next student.
5. To form fluency partnerships, match each student's cwpm rate to within 10-15 words per minute of another student, with both students reading at the same-grade instructional level.

## Using Assessment Passages to Assess Reading Instructional Level

Assessment Passages may also be used to ascertain a student's reading level on that particular grade-level's passage. Again, this should be an unpracticed reading for which the student has no opportunity to read before the assessment begins. Note: Since the rationale for this type of assessment is determining accuracy-not fluency-it is untimed.

The Determining Reading Levels Chart (see Chapter 1) should be referenced to decide whether or not students are reading the Assessment Passage at the independent level, instructional level, or frustration level. The independent level is the one at which a student can read a passage easily and without teacher assistance or instruction. The instructional level is the one at which a student can read a passage, but some teacher guidance and instruction are necessary for comprehension. The instructional level is the most important one to determine, since it is at this level that learning truly occurs. The frustration level is the one at which a student struggles to read a passage and little, if any, learning will occur.

In matching students for fluency partnerships, both students should be able to read the same grade-level Assessment Passage at an instructional level. Conduct the assessments as directed in steps 1-4 in the previous section, but do not time students. After each student reads the Assessment Passage, use the Determining Reading Levels Chart in Chapter 1 to establish his/her reading level of the passage. Note: If it is quite apparent that the Assessment Passage is too difficult for a student to read, and the student is at his/her frustration level, stop the assessment immediately. Select a Assessment Passage that is at least two grade levels below the current passage, and begin the assessment again.

## Using Assessment Passages for Pretest and Posttest Data Collection

Assessment Passages can be used as well to document fluency progress over time after conducting the Six-Minute Solution Intermediate program. Select the same Assessment Passage you used for the original baseline data collection, and have the initial fluency scores available for comparison. (This information would appear on the Initial Assessment Record.)

Conduct the one-minute timing assessment with individual students in the usual manner, and calculate their cwpm scores. Subtract the original cwpm from the new cwpm to determine the number of words gained per minute resulting from fluency practice. Share this reading progress with the student and the parents, using the Fluency Assessment Report (see Appendix).

## Using Assessment Passages to Determine Progress in Reading Level for Making Instructional Decisions

Finally, Assessment Passages may be used not only to determine student progress in reading fluency but also to document reading level gains.

If a student's Fluency Graph confirms that he/she is reading consistently at or above grade-level, select the next level Assessment Passage and conduct an unpracticed fluency assessment. Use the Determining Reading Levels Chart in Chapter 1 to ascertain an increase in the student's instructional reading level. If it has increased, assign a Assessment Passage at the new level.

A marsupial is a type of mammal. Unlike other mammals, marsupials have pouches. They carry their babies in their pouches. Most of the marsupials in the world live in Australia.

Kangaroos are marsupials. They have strong back legs and can jump long distances. Kangaroos have strong tails. Their tail is used for balance. The red kangaroo can grow to be about seven feet tall. They can weigh more than 200 pounds. They move fast. Sometimes, they travel at 40 miles per hour.

Another Australian marsupial is the koala bear. The koalas live in trees. They have thick, gray fur, a black nose, and no tail. Koalas look very cuddly. They eat only leaves from a gum tree. The leaves are juicy. Koalas do not drink water.

Wombats are also marsupials. They are Australian rodents. Wombats live in holes in the ground. They sleep during the day and come out at night. Wombats' diet consists of grass and plant roots.

Opossums are the only marsupials that live outside Australia. Opossums look like large rats. They have long faces and tails. Opossums eat eggs, fruit, insects, and small animals. When they are scared, they fall to the ground and pretend to be dead. This is how the term "playing possum" originated.
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## Insects

Insects belong to a huge group of animals. This group is called arthropods. All arthropods have a hard outer coat called an exoskeleton. This exoskeleton protects the soft insides of an arthropod's body.

An adult insect's body is divided into three sections: a head, a thorax, and an abdomen. The insect's head contains mouthparts, eyes, and antennae. The thorax is the middle part of an insect's body. Three pairs of jointed legs are found on the thorax. Insects have six legs. Two pairs of wings are also attached to the thorax. The abdomen is the bottom part of an insect. It is the biggest part of the body.

Most insects undergo a change. This change is called a metamorphosis. The metamorphosis has four stages: egg, larva, pupa, and adult. Most insects lay eggs. Each egg then turns into a larva. After several molts, the larva enters the pupa stage. During this stage, it does not eat or move. When the pupa stage ends, the adult insect emerges.

There are thousands of insects in the world. More than 900,000 kinds have been found. That is more than three times as many other animal types put together. Many more new insects are discovered every year.

Total Words Read $\qquad$

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## Mammals: The Highest Animal Class



Mammals are the highest class of animals. There are about 5,000 living mammal species. Mammals have several characteristics in common. All mammals are warm-blooded. That means that their body temperature remains constant regardless of the temperature of their environment. The majority of all mammals have bodies partially or wholly covered with hair. Most female mammals give birth to live young. They nourish their offspring with milk secreted by mammary glands. Mammals have hearts with four chambers. They have three middle-ear bones: the malleus, incus, and stapes.

Mammals have four kinds of diets. Herbivores are plant-eaters. This group includes beavers, cows, horses, and pandas. Carnivores are meat-eaters. Whales, dolphins, dogs, tigers, and lions fall into this group. Omnivores eat plants and meat. Humans, raccoons, and some bears fall into this category. Insectivores eat insects. Aardvarks and anteaters are examples of insectivores.

There are many different kinds of mammals. The blue whale is the largest of all mammals. African elephants are the largest land mammals. In terms of speed, the cheetah is the fastest mammal, while the sloth is the slowest. The giraffe is the tallest mammal. Pygmy shrews and bumblebee bats are the smallest mammals. The striped skunk is the smelliest mammal of all.
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Whales are known as aquatic mammals because they spend their entire lives in the water. They are members of the Cetacea order and are found in every ocean of the world. The name Cetacea was derived from ketos, a Greek word meaning "whale."

As is characteristic of all mammals, whales are warm-blooded, breathe air into lungs, give birth to live offspring, and produce milk to nourish their young. Unlike land mammals, whales have considerably less hair and lose most of it by the time they reach adulthood. As an adaptation to their environment, whales have sleek, streamlined bodies that allow them to move easily through the water. Whales also have a layer of blubber for insulation.

Whales are divided into two main groups: toothed whales and toothless baleen whales. Examples of toothed whales are the beluga, the narwhal, and the killer whale. These whales have one nostril opening, or blowhole, and a wide throat. Baleen whales, on the other hand, have a pair of blowholes and a narrow throat. The right whale, the gray whale, and the blue whale are baleen whales. Since these whales have no teeth, they use baleen, a comb-like strainer in their jaws, to filter food from the water.
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Millions of years ago during the Mesozoic Era，or the＂Age of Reptiles，＂dinosaurs roamed the earth．Dinosaurs were one of several kinds of prehistoric reptiles that lived long before there were people on earth．They thrived for more than 165 million years．However，dinosaurs mysteriously became extinct 65 million years ago．No one knows for certain why this happened，although there are many theories．The most common theory is that an asteroid hit Earth，causing changes in the environmental climate to which dinosaurs couldn＇t adjust．

Scientists called paleontologists study dinosaur remains to learn more about these amazing prehistoric animals．They found that there were many different kinds of dinosaurs that lived on earth at different times．Dinosaurs were reptiles and，as such，primarily hatched from eggs． Some dinosaurs were huge，measuring over 100 feet long and more than 50 feet tall．These dinosaurs were the largest animals to walk on earth． Other dinosaurs were very small，about the size of a chicken．Still others were in between these two extremes．

Some dinosaurs walked on two legs，while some walked on all fours．Still other dinosaurs were able to do both．Many dinosaurs walked in a slow，lumbering way，while others were very speedy．Some dinosaurs were covered with armor plates，horns，crests，or spikes．Other dinosaurs had thick，bumpy skin，while a few even had primitive feathers．Most dinosaurs were plant－eaters，or herbivores．Triceratops was an example of a plant－eating dinosaur．Some dinosaurs were meat－eaters，or carnivores． Tyrannosaurus rex，a fierce predator，was an example of a meat－eating dinosaur．

All that is left of dinosaurs today are their fossils．Fossils are the remains of ancient plants and animals．Most are formed in sedimentary rocks．People have found dinosaur fossils for hundreds，maybe thousands，of years．Dinosaur fossils have been found on every continent on earth．
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## Amphibians: Water and Land Animals

Amphibians are classified as vertebrates, or animals that have a backbone. They are also cold-blooded animals since their body temperature is dependent upon the environment in which they live. Most amphibians are born in water, where they hatch from eggs. Amphibians first breathe using gills. As amphibians mature, they develop lungs, and when they are fully grown, they live on land. However, amphibians always stay close to the water, since they return there to lay their eggs. Amphibians can be grouped into three categories: urodeles, anurans, and caecilians.

Urodele amphibians are capable of regenerating their tails and limbs. Examples of urodele amphibians are salamanders and newts. Salamanders resemble lizards but do not have scales. Salamanders are about 4-8 inches in length. Newts are slightly smaller salamanders that are more brightly colored. Many newts display red spots along their sides.

The anuran amphibian category consists of frogs and toads. While in the same classification of amphibians, there are several definitive differences between frogs and toads. For example, frogs have smooth skin and long, powerfui legs that enable them to jump considerable distances. In addition, frogs have some teeth, primarily in their upper jaws. On the other hand, most toads have skin that is covered with warts and much shorter legs than frogs. Unlike frogs, toads have no teeth and their bodies are chubbier than those of frogs.

Caecilians are legless and tailless amphibians. There are two types of caecilians: the terrestrial and the aquatic. Caecilians are characterized by their smooth skin, long bodies, and resemblance to earthworms. The most familiar caecilian is the rubber eel. Some kinds of aquatic caecilians are found in aquariums.

Total Words Read $\qquad$

- Errors $\qquad$
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## San Diego Quick Assessment of Reading Ability

Directions: This is an individually administered sight-word reading assessment. Because this is a measure of sight-word knowledge, students need to recognize the words very quickly. Give a copy of the Student Form to the student to read. Choose a word list that is two to three grade levels below the student's current grade level as the starting point. Ask the student to read each word aloud. Keep the student moving down the lists. Do not allow more than three to five seconds on any word. Rather, tell the student to go on to the next word. Mark the word skipped as incorrect. Stop the assessment when the student has missed three or more words in a list. Record the highest grade level for each of the three levels (independent, instructional, and frustration) in the Errors \& Reading Levels table when testing is completed.


## San Diego Quick Assessment of Reading Ability

NAME: $\qquad$ ロATE: $\qquad$
Record the highest grade level for each:
INDEPENDENT $\qquad$ INSTRUCTIONAL $\qquad$ FRUSTRATION $\qquad$


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Fluency Building Sheets

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## Windi Friend or Fae?

Wind is moving air. The air around the earth is always moving. That is because the earth is continually spinning. When the sun heats the air, it becomes lighter. Lighter air moves more quickly. Lighter, hotter air becomes strong wind. How hot or cold the air is determines how quickly it moves. Winds are always blowing somewhere on the earth.

Wind can be a big help to us. There are many examples of how wind is helpful. Wind power pumps water from wells deep in the earth. Wind power also generates electricity. Windmills in Holland have kept the seawater from flooding low areas of the small country. Wind helps power sailboats and makes kites fly. Wind also cools us on hot, summer days.

But the wind can also be harmful. Strong winds in storms can damage buildings. Winds spinning in a tornado have destroyed parts of towns and cities. They have also killed many people. Hurricane winds form over warm waters. They blow into the land from the sea and cause great property damage and loss of life. Wind that has been warmed by forest fire becomes stronger. It blows the fire over larger areas of trees. Forest fires and their winds cause many trees to burn and many animals, houses, and people to be harmed.

We will always have wind because of the air surrounding our earth. Sometimes the wind is helpful to us. But at other times, wind can be harmful.

Total Words Read $\qquad$

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## The Giant Panda: The World's Best-Loved Animal

The giant panda bear is a favorite of many people. Giant pandas are black and white animals. They are big and furry. They are cute and fun to watch. Pandas live in China. They live in bamboo forests. The bamboo forests grow in the mountains of southwest China.

The giant pandas eat bamboo. They only eat one kind of bamboo. This type of bamboo can suddenly grow flowers. The bamboo flowers for no reason at all. No one knows why or when the flowers will grow. It can happen anytime. The bamboo may flower once every ten years. Or it may go many more years without flowering. After the bamboo flowers, it dies. This happens all at once. Then the bamboo forests all over China die. This is very bad for the giant panda. It takes many months for the bamboo to grow again. Without bamboo, the giant pandas have no food. Many of the giant pandas die of hunger.

Only about 1,000 giant pandas live in the world. This is not a big number. Pandas are in danger. They may become extinct. That means that pandas would no longer exist. The next time the bamboo flowers, many pandas may not survive. People want to help the giant pandas. They study bamboo forests. They try to learn more about the giant panda. The people of China set aside large areas of land. This land is to grow bamboo for the giant pandas. No one can live in these areas. The Chinese people hope that they can help the giant pandas. No one wants the panda to become extinct.

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## Blankets of Air Above Us

Blankets on our beds help keep us warm at night. Our earth has blankets of air that do the same thing. In the atmosphere above us, there are four blankets of air that help keep us warm and safe on Earth.

The first blanket of air closest to Earth is called the troposphere. The troposphere is where we live. It contains the air we breathe and the warmth we need. The troposphere has most of our weather in it. Seventyfive percent of the atmosphere's total mass is found in this layer. It also has most of the water vapor of the atmosphere. The seasons of the earth occur in this first layer.

The second blanket of air in our atmosphere is the stratosphere. The stratosphere has a very important part that protects us. That part is the ozone layer. The ozone part of the stratosphere keeps the sun's harmful rays away from the earth. The stratosphere does not have much moisture. Therefore, it does not have many clouds. For that reason, airline pilots like to fly in the stratosphere.

The third blanket of air is the coldest layer in the atmosphere. It is called the mesosphere. Its name means "in between." The mesosphere becomes colder as its altitude increases. There are many strong winds in the mesosphere. These winds blow from west to east in the winter. In the summer, they blow from east to west.

The last layer of air around our earth is called the thermosphere. Its name means "warm place." It is the highest and the largest layer. This layer is very hot. Its temperature can be thousands and thousands of degrees. It is made up of gases. These gases have temperatures which vary. At the top of the thermosphere is where space begins.

The atmosphere of our earth is made up of these four blankets of air. Each one of them is important for life on Earth.
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## Super Waves

When people see waves on an ocean or on a lake, they may think of surfboards and wave runners. They probably don't give much thought to how strong those waves are. They also may not think about the changes those waves are bringing about. Every wave that comes ashore brings some change with it.

Winds start the waves. Winds that blow across the seas make the waves. The waves move across the surface of the seas until they meet the land or shoreline. When the waves meet the shoreline, they may change. For example, if the winds are blowing strongly, the waves will be very big. The big waves come crashing into the coast and bring a lot of power with them. The powerful waves continually pound the rocks on the land into small pieces. They do this again and again. The smaller pieces of rock end up on the floor of the ocean. The waves also take dirt and sand from one shore and move it to another shoreline. The waves and the wind are constantly changing the shoreline. In one place, they remove land and rocks. In another, they add to the land. The winds and the waves they create are powerful change forces on our shores. People try to build walls and barriers to stop them, but usually the wind and the waves win the battle.
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## Tigers: The Largest Cats



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Tigers belong to the cat family. They are the biggest cats on earth. Most tigers are brown with dark stripes. Their stomachs are whitish in color. Tigers are endangered. That means that there are not many tigers left in the world.

There are five kinds of tigers found in the world today. One kind of tiger is the Bengal tiger. It can grow to be 12 feet long. The males can weigh almost 500 pounds. Bengal tigers eat mostly deer and cattle. Most Bengal tigers live in India. The white tiger is a kind of Bengal tiger. These tigers have white fur with brown or reddish strips. Wild white tigers are rare. None have been seen in the wild since the 1950s. Most white tigers are in zoos.

The Siberian is the largest of all tigers. The male Siberian can weigh as much as 660 pounds. Siberian tigers have pale orange fur. Their stripes are brown. Siberian tigers live mostly in Russia. They eat elk and wild boar. The Sumatran tiger only lives on the island of Sumatra. This island is in Indonesia. The Sumatran tiger is the smallest of all tigers. The males weigh only about 264 pounds. Sumatran tigers have coats that are darker than other tigers. They have broad, black stripes. These stripes are close together. Sometimes the stripes are doubled. The South China tiger is also a small tiger. Only 20 to 30 of these tigers exist in the wild. The rest of them live in zoos. Very little is known about these tigers. The Indochinese tiger is another kind of tiger. It is smaller than the Bengal tiger. Its fur is darker with short, narrow stripes. Many Indochinese tigers live in Thailand.
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The Great Wall of China is the longest structure ever built. It is more than 4,000 miles long and can even be seen from outer space! An ancient Chinese emperor ordered the wall built to keep out enemies. That was more than two thousand years ago. The emperor's soldiers rounded up people and marched them off to begin work on the Great Wall. The wall was built completely by hand. It took tens of thousands of people to build the Great Wall. The wall was made of stone, brick, and dirt. Watchtowers and forts were added every one hundred yards. The Great Wall was built to match China's landscape. It stretches east to west across deserts and through mountains. The wall was built to be about 30 feet high. It was also very thick. The base of the wall is about 25 feet thick. At the top, it is about 15 feet thick. On top of the wall was a road where Chinese soldiers traveled back and forth.

The Chinese workers had to work day and night. Most of them did not have a choice. Some Chinese spent their entire lives working on the Great Wall. If workers tried to run away or complain, they were buried alive. If the Chinese did not work well, they were put to death. The Great Wall of China is often called the "longest graveyard" because so many people died while building the wall. The human cost of building this great wall was tremendous.
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## Water Bugs: Aquatic Insects

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## The Moon: Is It Really Made of Green Cheese?

There are many funny stories about the moon. Long ago, people thought it was made of green cheese. They thought that because the craters on the moon's surface looked like the holes found in certain cheeses. But what are the facts about the moon?

The moon is our closest neighbor. It does have tall mountains, wide flat places, and deep craters just like earth. But the moon has no atmosphere. It has no water. It also has no living things. It does have a crust like the earth though. It also is very hot and is probably molten deep inside. The moon has gravity like earth. However, earth's gravity pull is six times greater than the moon's. No wonder astronauts on the moon can leap as if they were the greatest jumpers ever seen.

The moon experiences large temperature changes. During daytime, its temperatures rise above 100 and at night they go below $\mathbf{- 1 0 0}$ degrees. The temperature changes cause the moon's crust and rocks to crack and break apart. Since there is no wind, the pieces of rock have changed over time to a fine dust. This fine dust covers most of the moon's surface. The craters or holes on the moon's surface are thought to have been made by meteorites that crashed into it early in its history. Some of the craters are very large, and others are quite small.

Astronauts have brought back rocks from the moon that were much older than the rocks here on earth. We still have much to learn about the moon, but at least we know it's not made of green cheese!

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Hummingbirds are the smallest birds. Their average length is about 3 inches long. Sometimes people think they are large moths or butterflies. Hummingbirds have short legs that have tiny, weak feet attached to them. There are over 500 kinds of hummingbirds found in the United States.

Hummingbirds are mostly found in the eastern United States. They are not found anywhere in Europe or Asia. These tiny birds fly so fast their wings are a blur. They move their wings so fast that they can even fly backwards or upside-down. Hummingbirds can also hover over flowers. While they are hovering, they drink the flower's nectar using their long bills and their long tongues. They fly so fast that they catch insects in the air while they are flying. They also eat insects they find on flowers.

Hummingbirds make their nests on leaves or twigs. They only lay two tiny white eggs. These eggs are less than half-an-inch long. The male hummingbird has nothing to do with building the nest. The male does not help take care of the babies either. The female hummingbird is the only caregiver. She takes care of the babies in the nest for about two weeks. Then the young hummingbirds learn to fly and leave the nest for good.
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## The Koala: Is It a Bear?

The koala bear is a mammal found only in Australia. Koala is an Aboriginal name meaning "no drink." The koala is not a bear. Koalas are marsupials. That means they give birth to live young, then carry them in a pouch until they are grown. The baby koala, like the baby kangaroo, is called a "joey." The baby lives in the mother's pouch for about seven months and then exits the pouch in the back. It continues to live on its mother's back for another six months until it is fully grown.

The koala has a big, hairless nose and soft, thick, gray or brown fur. The fur on its belly is white. The koala looks cuddly, but it has sharp, curved claws and a strong grip. It lives in eucalyptus trees and eats the young tender branches. Koalas get their liquids from the eucalyptus leaves, so they do not drink water. They are nocturnal animals. That means they sleep during the day and are active at night. Koalas only leave their tree to go to another tree. This puts them at tisk of being hit by cars that cannot see them in the dark.

Koalas are an endangered species. People are working hard to save them, but their numbers continue to decrease.
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## Bats: Flying Creatures of the Night

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Bats are small, furry animals that look like mice. Bats are the only mammals that are able to fly. Bats have unusual body parts. The joint bones of a bat's arm and hand are very long. There is a thin piece of skin called a flying membrane between the last four digits of a bat's fingers. This flying membrane looks like a webbed hand and is used as a wing. Bats have a second piece of skin, or membrane, which connects their hand and ankle joints. A third membrane stretches between the bat's ankles and attaches to its tail. These pieces of skin stretch like an open umbrella over the bones of the bat's arms and fingers. In order to fly, bats use a type of motion called a flapping flight. A bat lifts and pushes itself up by lowering its wings down and pushing them forward. The bat stays in a horizontal position while it is flying. It almost looks like it is doing the swimming breaststroke! Bats fly mostly at night. They are guided by reflected sound waves. This navigation system is called echolocation. Bats are able to send out supersonic sounds with a pitch higher than humans can hear. When these sounds hit an object, they make an echo. The bats hear the echo and change course so that they do not have a collision.

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Hero Street is in Silvis, Illinois. It is a town west of Chicago. Hero Street received its name in 1968. It is named in honor of the many residents of the street who have served in the U.S. military.

Hero Street used to be called 2nd Street. It was a short street on the edge of town. The street was not even paved for many years. It was muddy in the spring, icy in the winter, and dusty in the summer. In the 1940 s, large Hispanic families lived on 2nd Street. They had come from Mexico many years before. 2nd Street was a special place to live. Neighbors helped each other. Everyone was like one big family. It was a close-knit neighborhood. At the front of the neighborhood was a big slope. It was called Billy Goat Hill. The hill was a favorite place for children to play.

The neighborhood was also patriotic. When wars came, many 2nd Street residents enlisted. Eighty-seven men from 22 families on this street fought in three wars. Many families sent more than one son. They fought in World War II, the Korean War, and Vietnam. Eight men did not return.

In 1963, a Hispanic man was elected to the Silvis City Council. His name was Joe Terronez. Joe wanted to honor the people of 2nd Street. He helped pass laws to have the street paved and renamed to Hero Street. Billy Goat Hill was turned into a park. A monument to the Hero Street soldiers was built inside the park.

Today, people want to build a bigger monument on the hill. They want to have all of the names and some information about each hero on the monument. This is a big job. Many people are working together to earn money to pay for the new monument.
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## Gabriela Mistral: <br> Teacher and Nobel Prize-Winning Author

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In 1889, Gabriela Mistral was born. She was born in Chile. Chile is a country in South America. Gabriela was not the name she was given at birth. She was named Lucila Godey Alcaya. Her mother was a teacher. As a young child, Lucila loved to read. She also loved to write and to sing.

Lucila grew up to be a teacher like her mother. Lucila was not only a teacher. She also was a writer. She wrote poems about nature. She also wrote about people. Lucila wanted to try to publish her work. She was afraid that the school officials would not like her work. Therefore, Lucila did not want to use her own name. So she chose a pen name. A pen name is a name that writers use only for their writing. They use their real names for everything else. Lucila chose the name Gabriela Mistral as her pen name.

Using her new name, Lucila won a poetry contest in Chile. Soon she became famous as Gabriela Mistral. As a teacher, Gabriela worked to improve schools in Chile and in Mexico. As a writer, she won the Nobel Prize for Literature in 1945. The Nobel Prize is a very high honor. Gabriela was the first Latin American writer to win the Nobel Prize.
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## \section*{cos} <br> Babaons: The Biggest Monkeys

Baboons are the biggest monkeys. They are sometimes called dogfaced monkeys. This is because they have heads that resemble a dog's muzzle. Baboons can be brown, black, or silver in color. They have long arms and feet. Baboons are intelligent animals that are adaptable to their environment. They are found primarily in Africa. Baboons can live to be 25 to 30 years old.

Baboons live in groups called troops. These troops are wellorganized. Each member has its place. Dominant males usually rule the troop. They have two main jobs. The first job is to keep order within the troop. Baboons do not always get along with each other and often fight among themselves. The other job is to protect the troop from enemies. Jungle cats, like leopards, are the baboon's greatest enemy. The male baboons act as guards. They guard while the rest of the troop looks for food. Baboons are often on the move, looking for food. They live mostly on the ground. However, baboons are able to climb trees for safety. The baby baboons travel by holding onto their mother's fur. As they get older, the baby baboons ride on their mothers' backs.

Baboons eat insects, fruits, seed, reptiles, and rodents. Their favorite food is the scorpion. Baboons have large pouches in their cheeks. These pouches can hold almost as much food as their stomachs. They look under rocks and bushes for food. Baboons also hunt along with herds of other animals.

Baboons are social animals. One of their favorite activities is grooming. Baboons engage in mutual grooming as a way of forming social bonds. The grooming also helps to keep the baboons clean.
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## Wilbur and Orville Wright: The Flying Brothers

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Wilbur and Orville Wright were the first people to fly an airplane. The brothers lived in Dayton, Ohio. They built bicycles for a living. Wilbur and Orville loved to design and invent new bicycles. The brothers opened their own bike shop in 1892.

As young boys, the brothers received a flying toy from their father. They became fascinated by the idea of flying. Wilbur spent his spare time reading many books about flying. He thought human flight was possible. Soon the brothers began to build gliders as well as bicycles. Gliders are a type of plane with no engine. The Wright brothers built three gliders in all. With each new glider, they learned more and more about flying. They collected data on wing design. Some of the data tables they created are still used today.

In 1903, Wilbur and Orville Wright built an airplane. This airplane was different from their gliders. This airplane had an engine to power it. They named this airplane "The Flyer." The first flight of an airplane was made on December 17, 1903. It took place near Kitty Hawk, North Carolina. With Orville as the pilot, the plane flew 120 feet. That first flight lasted only 12 seconds. The brothers continued to make flights with their airplanes. Each time, they flew a longer time. Their fourth flight lasted fifty-nine seconds. It flew for almost half a mile.

The Wright brothers' invention changed the world. For the first time, people had access to places they had never before been able to go. They could meet people in faraway places. The age of globalization began. With air travel, people of different cultures could come together. They could share ideas and values with one another.
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## Hurricanes: Harmful Storms



Hurricanes are violent storms. In fact, hurricanes are the most destructive of all storms. Hurricane winds travel at speeds of at least 75 miles per hour. These storms are very large. They can measure from 300 to 500 miles in width. Their size and intensity makes them dangerous.

Hurricanes form in the late summer and early fall. They need moist air and heat. As a result, hurricanes start over tropical seas. The process begins when warm, moist air rises. Next, surrounding air flows toward the rising air. Then water vapor from the warm air condenses. This means that it turns into small drops of water. The drops of water form clouds. Heat is given off during condensation. The air becomes warmer. Thunderstorms develop, and the hurricane begins.

Hurticanes consist of spiraling winds. These winds spiral around a low pressure area in the center of the storm. This area is called the "eye" of the hurricane. Although winds rage around it, the eye of the hurricane is calm. The sun may even be shining in the hurricane's eye.

Hurricanes die out when they no longer have moist air and heat. This can happen if the hurricane moves over land. It can also happen if it moves into a colder area. Some hurricanes last only a few hours. Others can last as long as a couple of weeks. Hurricanes cannot be stopped. However, they can be predicted. That way, people can be warned to get out of the hurricane's path.
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## Mexica: U.S. Neighbar

Mexico is a country. It is south of the U.S. Mexico is smaller than the U.S. It is about one-fifth the size. Mexico has many land features. It has mountains and deserts. There are rain forests and beaches.

Mexico has a mild climate. It does not get very cold, even in the winter. Mexico has a dry season. The dry season lasts from October to April. Mexico also has a rainy season. The rainy season lasts from May until September.

Native Americans were the first people in Mexico. They lived there in the 10th century. In the 1500 s, the Spanish came to Mexico. They took over the country. Spain ruled Mexico for more than 300 years. Mexico was called New Spain. The Mexican people did not want Spain to rule them. They went to war with Spain. The war lasted many years. Finally, Mexico won the war. It became a free country in 1821.
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## The Five Oceans of the World

There are five oceans in the world. These five oceans are really just one big ocean. The continents separate the oceans.

The Pacific Ocean is the largest. It covers almost half of the earth. The Pacific is the deepest ocean. It is also the stormiest one. The Pacific lies next to the west coast of North and South America. It is a warm ocean.

The Atlantic Ocean is the second largest. It has the most coastline. It also has the saltiest water. The Atlantic lies between Europe, Africa, and the Americas. It borders the East Coast of the U.S. It extends between the Arctic and Antarctic.

The Indian Ocean is the third largest. It is mostly south of the equator. The Indian Ocean touches four continents.

The Arctic Ocean is sometimes called the North Polar Sea. Some people consider this ocean to be part of the Atlantic. It is filled with ice. It is the smallest of the world's oceans. It is also the shallowest. The Arctic Ocean lies next to the state of Alaska.

The Antarctic Ocean is larger than the Arctic Ocean. It is sometimes called the South Polar Sea. This ocean is made up of the southern waters of three other oceans. The Antarctic surrounds the continent of Antarctica. It is filled with ice just like the Arctic Ocean.
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## The London Bridge: From England to Arizona

The London Bridge has an interesting history. The first London Bridge was built across the Thames River by the Romans in a.d. 43. It was later rebuilt several times. These first London Bridges were made of wood. Fire and floods caused these bridges to fall down. Finally, around 1176, a new London Bridge was built out of stone. It took 33 years to build. People hoped that the new London Bridge would last forever. Unfortunately, it did not. As the city of London grew, the bridge was too narrow and small for the added traffic. Its granite and rock began to crack and fall apart. The bridge was too old and had too many problems. By the 1960s, the London Bridge was starting to sink into the Thames River. The people of London decided to build an entirely new London Bridge. They put the old bridge up for sale.

An American named Robert McCulloch bought the old London Bridge. He paid more than two million dollars for it. At the time, that was the most money ever paid for an antique. The old London Bridge was taken apart rock by rock. Each rock was numbered and packed in order. The rocks were sent across the Atlantic Ocean to Arizona. There the bridge was put back together again. The process took many years. This "new" London Bridge was finished on October 10, 1971. It is in Lake Havasu City, Arizona.

## The Hopi: Native Americans of the Southwest

Many hundreds of years ago, the Hopi lived in what is now Arizona. These Native Americans were desert people. They lived on top of steep hills with flat tops. These hills are called mesas. The Hopi built their houses out of rocks covered with a plaster. The plaster was made of clay and water. Then they joined their houses into villages. The Hopi villages are called pueblos. When a Hopi man and woman married, they lived in the woman's house. The Hopi women owned the houses in the pueblo. The Hopi men had a special room that was underground. This room is called a kiva. The Hopi men gathered in the kiva for special meetings. Women were only allowed in the kiva on special occasions.

The Hopi grew beans and squash. Corn was their main food though. The Hopi grew corn in many colors, not just yellow. Some of it was red, blue, black, and purple. The Hopi women used the corn kernels to make a kind of cornmeal pudding. Sometimes they added cactus plants to the cornmeal to make it sweeter. Hopi women also used desert clay to make colorful pottery.

The Hopi did not eat much meat. They did not hunt often because there were not many animals in the desert. Occasionally, they ate turkey, rabbit, antelope, or deer.

Today, many of the Hopi people still live in pueblos. They keep their traditional ways. Other Hopi live a more modern American life.
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Crispus Attucks: African Americen Patriot

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Crispus Attucks was shot and killed in the Boston Massacre, which happened in 1770. This event was thought to be the start of the American Revolution.

Crispus was born a slave. As a young man, he ran away and became a sailor. He worked on whaling ships. The ships sailed out of Boston Harbor. When he was not sailing, Crispus worked as a rope maker.

During this time in history, there were problems in Boston. The American colonists were mad. They did not want to pay taxes to England. So, the British sent soldiers to Boston. The American colonists did not want British soldiers in their city. One night, some colonists began teasing a British guard. They threw snowballs at him. They also threw sticks. Other British soldiers came to help the guard. They aimed guns at the crowd. People wanted to take the guns away from the soldiers.

Crispus took the lead. He led a group of white men toward the British soldiers. Crispus lunged forward with a club. One soldier shot and killed him. Then other shots rang out. Four white men were also killed that night in the Boston Massacre. It was the start of the American Revolution.

Crispus was not the only black man to fight the British. More than 5,000 black men fought for independence in the American Revolutionary War. But Crispus was the first to die. Many believe he was a true martyr.
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The Azores are a group of nine islands. They are in the middle of the Atlantic Ocean. The Azores are about 800 miles west of Portugal. The islands belong to Portugal. The Azores were formed by volcanoes long ago. They were once believed to be the lost continent of Atlantis.

Portuguese sailors discovered the Azores in 1427. By the middle of the 15 th century, farmers lived on the islands. They grew crops like wheat and sugar. Many ships sailed the seas during this time. They were on voyages of exploration. The Azores became a stopping place for ships. Some ships were returning from Asia. Others came back from Africa. Still others sailed from the Americas. Many ships carried treasure like gold and jewels. Most ships stopped at the islands for food and water. The Azores were soon an important port of call. In times of war, the Azores were used for military bases. Spain occupied them during the period from 1580 to 1640 . During the two World Wars, the Azores were used as naval and air bases.

Today, farmers still make their home on the Azore islands. They farm the rich soil of the islands. They grow many crops. Sugarcane, tea, and pineapples are grown there. The farmers also raise cattle and sheep. The islands' mountains have grasses for the animals to eat. Meat, cheese, and butter are shipped to Portugal for sale.

Tourists like to visit the Azores. The islands are beautiful. They have many mountains with steep cliffs. The hillsides are a brilliant green. Many colorful flowers decorate the landscape. Deep lakes fill extinct volcano craters. Life is calm and simple on the islands. The Azores may be one of the few unspoiled spots left in the world.
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## Olympic Sports: An Ancient Beginning

The first Olympic games were held in 776 e.c. They ended about eleven hundred years later in A.D. 393. The ancient Olympic games were held once every four years to honor the Greek god Zeus. All war in Greece was stopped during this time so the athletes could attend the games safely.

The first games had only a foot race. As time went on, more games were added. The games lasted about five days and were held in June or July. The games tested skills and strength. On the first day, sacrifices were held to the gods. On the second day, footraces were held. The most famous was the 220 -yard race. Only men were in the races. Women were not allowed to watch the games because the runners did not wear clothes during many of the events. There was one race in which the contestants wore armor however. On other days, there were wrestling and boxing matches.

The Olympic games were important in Greece. It was like a great festival with much singing and dancing. The winners were given an olive crown to wear on their heads and were invited to lots of parties. Olympic winners were treated like movie and sports stars of today. Our modern Olympic games began in 1896, just over one hundred years ago.
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Native North Americans: The First Settlers
Native Americans were the first people to live in what is now the U.S. They were here thousands of years before Europeans came. The Native Americans lived in groups. The groups were Native Nations. Each group lived in its own way. Each nation had its own language. Each had its own culture. Each nation had its own traditions. Many Native Americans believed that land was sacred. It was like air or water. They took care of their land. But, they did not think that land could be owned.
In the early 1600s, life changed for Native Americans. European settlers came to North America. They began claiming land as their own. They took any land that they wanted. Many Native American leaders tried to protect their lands. They fought against the settlers. Other Native American leaders tried to save their land by making treaties with the Europeans. Some Native Americans helped the settlers.
By the late 1700 s, life was very difficult for the Native Americans. The settlers brought guns, alcohol, and disease to the native lands. Many Native Americans died as a result. Others lost their land. They were forced to live on reservations.
In spite of these problems, many Native Americans did not give up. They took pride in their culture. Many kept up their traditional ways. They continued to have hope.
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## Sitting Bull and Crazy Horse:

## The Battle of the Little Bighorn

Sitting Bull and Crazy Horse led a famous battle against the U.S. government. It was called the Battle of the Little Bighorn. Sitting Bull was a Native American. He was a leader of the Lakota. He tried to save his native land from settlers. Sitting Bull made an agreement with the U.S. government in 1868. It was called the Fort Laramie Treaty. This treaty gave the Black Hills to the Lakota.

In 1874, General George Custer found gold in the Black Hills. Then the U.S. wanted the land back. They tried to buy it. But the Lakota did not want to sell their land. U.S. soldiers moved onto the land. They told the Lakota to move or fight. Many Native American groups were angry. They joined together to fight for the land. Sitting Bull had a dream. He saw soldiers falling into a valley. The Native American people saw the dream as a sign that they would win.

Crazy Horse was also a leader of the Lakota. He was a brave warrior. General Custer thought he and his troops could defeat the Native American leaders. He was wrong. On June 25, 1876, he led troops into the Little Bighorn River Valley. There was a fierce battle. The warriors led by Sitting Bull and Crazy Horse won. It was the worst defeat ever suffered by the U.S. government at the hands of Native Americans.

The victory was short-lived, though. From that time on, the government pursued Sitting Bull and Crazy Horse. They were forced to surrender to the U.S. in 1877.
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## Level 5 Practice Passages

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$5 \square 3$ Roadrunners：Full Speed Ahead！
504 Plants on the Defensive
$5 \square 5$ Rome：A City Built on a Legend
506 Pandas：Not All Black and White
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## All About Seeds

Seeds are an important part of a plant. Seeds grow into new plants. Some seeds are tiny and can hardly be seen at all. Other seeds are large and stand out quite clearly, such as the pit in a peach or the seeds in a watermelon. Each seed has a covering around it called a seed coat. It is the seed coat that protects the seed inside it from any harm. Some seeds have a hard protective shell around them, like the scales on the pinecone that protect it. Other seeds are right outside in plain view, such as the tiny seeds that are on the outside surface of the strawberry.

Each seed has the same two parts regardless of where the seeds are located on a plant. The first part of the seed found inside the seed coat is the tiny plant itself. Also within the protective seed coat is food on which the tiny plant can feed. The seed does not start to grow until the conditions are right for it . When the seed begins to grow, it is called germination. For most seeds to begin germination, the right conditions usually include warmth from the sum and water. When the seed begins to grow, its roots begin to reach down in the soil to anchor it. Its stem begins to grow up to form the plant and its leaves. While the seed is growing, it feeds on the plant food that has been stored as part of the seed and protected by the seed coat.
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Some people do not realize that bones are alive. Bones are made of living tissue. Calcium, phosphorous, and bone cells make up our bones. Infants have about three hundred and fifty bones in their bodies. However, an adult body contains only two hundred and six bones. That means that an infant has over a hundred and forty more bones in its body than an adult. The reason for this difference is bone fusion. As infants begin to grow and develop, some of their bones fuse or grow together.

Every bone is covered with an outer layer. This layer consists of compact bone and is very hard. Inside the outer layer of bone is a softer bone. The inside layer is strong and spongy. Bone marrow is contained within the bone. The bone marrow makes blood for the body. The largest bone in the human body is the thighbone. Its length is related to the size of the person. Its length is about one fourth of a person's height. The smallest bones in the body are in the ear. There are three tiny ear bones that are only three millimeters long.

Bones are very important. The hard bones of the body make up a person's skeleton. The skeleton supports all the other systems in the body. Without bones, bodies would not have shapes. A jellyfish is an example of a body without a shape. Bones also protect the soft organs of the body. They do this by forming a protective cage around organs such as the heart, lungs, and brain. Damage to soft organs can cause serious problems. Bones also work with muscles to allow bodies to move. It is important to keep bones strong and healthy. One way to do this is to eat a sufficient amount of green vegetables and dairy products. Another way is to do plenty of weight-bearing exercise. Taking care of bones is important to overall health.
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## Roadrunners: Full Speed Ahead!

Roadrunners are members of the cuckoo family. Their home is in the desert. Roadrunners are black and white in color. They have a distinct crest on the crowns of their heads. They also have long bills and very long tails. Their legs are extremely powerful. Strong legs enable roadrunners to run up to seventeen miles per hour. These birds can easily outrun a horse.

Roadrunners need to be fast so they can catch their prey. They feed almost entirely on other animals. These include insects, scorpions, lizards, rodents, snakes, and other birds. They also chase grasshoppers. If a grasshopper tries to escape, the roadrunner can jump three or four feet into the air. The western roadrunner is famous for its ability to kill rattlesnakes. It is one of the few animals that is able to do so. Because of its lightning speed, the roadrunner can grab a rattlesnake by its tail. The roadrunner swings the rattlesnake around like a whip. It slams the rattlesnake's head into the ground until it is dead. The roadrunner then proceeds to eat the snake. It is not able to swallow the whole snake at one time though. So the roadrunner often keeps the snake dangling from its mouth, eating an inch or two at a time.

Roadrunners rarely fly although they are able to do so. If it senses danger, the roadrunner may take to its wings. However, it is hard to keep its large body in the air for more than a few seconds. Consequently, the roadrunner prefers to walk or run.

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It seems strange that plants must defend themselves, but it is true. Plants have enemies. Those enemies might be animals or insects who eat plants. Other plant enemies are disease or molds that grow on plants and kill them. Elements such as frost, fire, and strong winds are harmful to plants. Plants have natural and interesting weapons to defend themselves from enemies.

Poisons are one of the best ways for plants to defend themselves. Many plants are poisonous when they are eaten. Plants like mountain laurel make grazing animals sick. Certain mushrooms are extremely deadly if they are eaten. Other plants have fruits, such as the nightshade or pokeberry, that can cause illness and, in some cases, death. Some plants poison livestock who may be grazing where they grow. The animals learn to leave these plants alone. Other plants are poisonous to the touch. Plants like poison oak and poison ivy cause skin itching.

Thorns, spines, and burrs protect other plants. Roses, cacti, and berries have prickly ways of defending themselves. Other plants give off an unpleasant smell or odor. Their bad odor discourages animals from eating them. Some plants protect themselves from weather, fire, and disease. The bark of many trees is a barrier against the weather and insects. Desert plants have thick stems and few leaves. This helps them to store water.

Plants may look harmless. However, they have many different ways of protecting themselves. Some of these ways are quite deadly.
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## Rome: A City Built on a Legend

A legend is a story about a person or a place. Although they are entertaining, legends are not true stories. One famous legend is about how the city of Rome was founded. In 753 b.c., as the legend goes, twin brothers were the founders of Rome. The brothers' names were Romulus and Remus. Their father was Mars, the Roman god of war. Their mother was the daughter of King Numitor. The king's brother was jealous of the baby boys. He did not want his nephews to inherit the throne. So the evil uncle put the boys in a basket and set it to sail down the Tiber River. The basket eventually washed ashore. Luckily for the boys, a friendly wolf rescued them. This wolf took good care of the babies and even fed them with her own milk. A kindly shepherd found the boys and raised them as his own.

When the brothers grew up, they decided to build a city. They wanted to honor the wolf that had rescued them as babies by dedicating the city to her. They wanted their city to be a place where orphans and homeless people could live. Unfortunately, the brothers got into an argument over where they should build the city. They also argued over which one of them would be the ruler of the city. In a fit of anger, Romulus killed Remus. Romulus then built his city on Palatine Hill. That was the spot where the wolf had found the twins. Romulus named the city Rome after himself.
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## Pandas: Not All Black and White

"Black and white" and "cute and adorable" are words that come to mind when most people hear the word "panda." These words describe the giant panda. The giant panda is as big as a bear and indeed resembles one. Giant pandas live in the mountains of central China. The Chinese name for the giant panda literally means "white bear." Giant pandas are about the same size as the American black bear. There are important differences though. Giant pandas do not hibernate, nor are they able to walk on their hind legs as black bears do. Pandas have strong teeth and jaws that are useful for chewing bamboo. Giant pandas have unusual front paws. There is a pad on each front paw. Giant pandas use these pads like thumbs to pick up food and feed themselves. These "thumbs" help the giant pandas to grab huge bamboo stalks. The giant panda is a rare mammal. Giant pandas are small at birth. But by the time they are one year old, they can weigh 60 pounds. In about five years, the giant panda is full-grown and can weigh as much as 300 pounds!

Many people are surprised to learn that there is a lesser panda. The lesser panda is different in appearance from the giant panda. The lesser panda is considerably smaller, about the size of a house cat. Its body is covered with long, thick rust-colored fur. The lesser panda has a white face with dark strips from the eye to the corner of the mouth. The lesser panda has a striped tail like a raccoon. However, both types of panda feed on bamboo shoots, climb trees, and have friendly dispositions!
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Chopsticks were invented in China more than 5,000 years ago. Long ago, food was chopped into little pieces so it would cook faster. The faster food cooked, the more fuel it would save. Since food was eaten in small pieces, there was no need for knives. Rather, chopsticks were used to move food from the plate to the mouth. Confucius was a Chinese philosopher. He was a vegetarian. It is believed that Confucius did not like knives. Knives reminded him of the slaughterhouse. He favored chopsticks. By a.d. 500 , the use of chopsticks had spread to other countries. The people in present day Vietnam, Korea, and Japan, as well as China, use chopsticks today.

Chinese chopsticks are about 9 or 10 inches long. They are square at the top, have a blunt end, and are thinner on the bottom. The Chinese call them kuai-ai. This means "quick little fellows." Chopsticks have been made of many materials. Bamboo is a popular choice since it is available and inexpensive. Bamboo is also heat resistant. Other types of wood such as sandalwood, cedar, and teak have also been used. Long ago, rich people had chopsticks made from jade, gold, or silver. In the days of the Chinese dynasty, silver chopsticks were used. People believed that silver would turn black if it touched poisoned food. We know now that silver will not react to poison. It sometimes changes color if it touches rotten eggs, garlic, or onions.
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## A Rock Is a Rock. Dr ls it?

All rocks might look alike, but they are quite different. Scientists have identified three groups of rocks. Rocks are made of different kinds of minerals. However, it is not the kinds of minerals they are made of that determine what group they are in. How the rock was formed determines its group. Deep down in the center of the earth, molten rock or magma flows because it is so very hot. When some of this molten magma comes closer to the earth's surface, it begins to cool and harden. This is how the first type of rock is formed. Rocks that are formed from cooled magma are called igneous rocks.

The earth is constantly moving beneath its surface with a great deal of heat and pressure. When rock that already has been formed is subjected to this heat and pressure, metamorphic rock is formed. The earth takes one kind of rock and, because of heat and pressure, changes it into another type of rock. The third type of rock also takes older rocks and forms new rocks. When plants die, their remains form layers in the earth. When animals die, their remains also form in layers. These remains are worn down by weather and climate. Over time, the layers of older rock, and plant and animal remains harden into the third type of rock called sedimentary rock. The next time you see a rock, try to figure out which type of rock it is: an igneous rock, a metamorphic rock, or a sedimentary rock.
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## Totem Poles: Silent Starytellers

Totem poles are a beautiful, ancient art form. They also had an important purpose. Long ago, written language did not exist. Many native tribes relied on totem poles to tell a clan's history. In Alaska, natives carved totem poles from huge cedar trees. They used animals in the region to tell their stories. The raven was one of these animals. He can be identified on the poles by his long, straight beak. The raven is thought to be able to change into many forms. He is a symbol of God. The eagle is another animal seen on totem poles. Unlike the raven, the eagle has a curved beak. To the native Alaskans, the eagle was a symbol of peace and friendship. The orca, or killer whale, was also carved on totem poles. The killer whale could be identified by sharp teeth and a dorsal fin. Other animals seen on Alaskan totem poles are the beaver, the bear, and the wolf. The beaver has a long flat tail and two big front teeth. The wolf can be distinguished from a bear on the totem pole by a longer nose and sharper teeth.

Totem poles were painted with natural resources. For example, native Alaskans used salmon eggs, minerals, and vegetables. The main colors were black, white, and red-brown. Depending on the tribe, blue, blue-green, and yellow were used as well. Totem poles often stood for 50 to 60 years. When a totem pole became rotten and fell to the ground, it was either left to decay or used for firewood.

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## Bamban: Useful Crass

Bamboo is a useful plant in many places in the world. It is a type of grass that can grow to be very tall. Bamboo has stems that can reach almost 120 feet tall. This kind of bamboo seems more like a tall tree than a grass. Bamboo can be found in both the Eastern and Western hemispheres. It grows best in warm, tropical climates. Some types of bamboo can live in colder climates such as in Japan. They also grow in parts of North and South America. A smaller type of bamboo, canebrakes, grows in the southern United States swamplands.

The stem of the bamboo plant is the most useful part. Bamboo stems are hollow, smooth, and very light in weight. They are sawed into parts and used as building materials. The hollowness of the bamboo stem is useful for making water drainpipes. Bamboo is also used to make wind instruments, baskets, and containers. Some homes are decorated with bamboo furniture. Bamboo is also used to make buckets, bridges, fishing poles, and even paper. Some people even weave mats and rugs from bamboo. In some parts of the world, bamboo seeds and new stems are used for food. The shoots of some kinds of bamboo can be cooked like asparagus spears. They can also be preserved in sugar or eaten pickled. Cattle eat the leaves of the bamboo tree. As a building material, decoration, and food source, bamboo is truly a useful plant.
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## Paint: A Splash of Color

Paint has been used throughout history. In prehistoric times, people painted on cave walls. While cave painting was decorative, it was also used as a means of expression. Paint was later used to illustrate religious books. Easel painting was created at the beginning of the Renaissance Period.

Paint comes in many colors. It can be used as an expression of art or to protect a surface like a wall. The color of paint is due to its pigment. Pigment is a dry, colored powder that is mixed with a liquid. The liquid is called the vehicle. Pigment is found on the bottom of a container of paint. The vehicle, usually clear, can be seen at the top. The kind of vehicle used is what makes paints different from one another.

Water paints rely on the caking of the pigment powder to make it stick to a painted surface. Sometimes glue or paste is added to paint. This helps improve the ability of the paint to adhere to a surface. Water is added to latex paint to separate particles of latex rubber. The particles stick together when the water evaporates. Latex paint can be washed out of rollers and brushes with soap and water before it dries. If the paint dries though, it is much harder to clean. Chemicals are needed to remove it. Oil paints last longer and give more surface protection than other kinds of paints. Linseed oil is used as the vehicle for oil paints. The linseed oil works with oxygen to make a tough, waterproof seal. Oil paints are too thick to apply with a brush, so thinner has to be used.

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Loch Ness is a big, deep lake in Scotland. It has many fish swimming in it. But Loch Ness also has something else swimming in it. According to local legend, there is a monster swimming in the lake. The Loch Ness monster is nicknamed "Nessie." For hundreds of years, Nessie has been the subject of various sightings. Nessie does not resemble any other creature that has been sighted. People who have seen Nessie report that the monster has a large body and a long neck. Scientists at first did not believe that the Loch Ness monster existed. However, enough evidence was gathered to prove that something unusual is in the lake!

A small team of scientists took sound and photographic equipment to the lake. They lowered the equipment in the lake, looking for Nessie. The team took pictures of what appeared to be two large creatures. The creatures had large bodies and long necks. The creatures also appeared to have eyes, a mouth, and stalks with nostrils at their ends. This first team felt there might be as many as thirty Loch Ness monsters in the deep lake. A larger scientific team began another search for Nessie. This team had underwater television cameras with better sound equipment. The first two tries were disappointing. The Loch Ness was dark and cloudy, so not much could be seen. However, science has not given up on finding Nessie. Perhaps one day the true secret of the Loch Ness monster will be revealed!
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A community is formed when people live together in one place. There are basically three kinds of communities. There are villages, towns, and cities. One of the most important differences between them is their populations.

A village is the smallest community. Most villages are farming communities. There might be one or two stores in a village. A village does not have a police department or fire department. It must rely on the closest town or city for those services. If a village has its own school, it is small.

A town is larger than a village, but not as large as a city. A town might be a suburb of a larger city. A town may have a few thousand people living in it. It may have a downtown with a small shopping area. Towns usually have a small police force and school system also. Sometimes towns have their own hospitals.

Cities are the largest kind of community. They have always been centers of activity. Some cities started as centers for religion. Other cities started as centers of government. Cities may be financial centers. They can also be manufacturing centers. Some cities are cultural centers. Cities have many more people than towns. They have more services for their citizens. Cities have their own fire and police departments. They have hospitals and school systems. Cities have many types of housing available and several shopping areas.

People choose to live in viliages, towns, or cities for specific reasons. One reason might be the types of jobs they have. Another reason might be the needs of their families. Still others choose a place to live based on the services available. People select to live in the community that best suits their needs.
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## Glaciers:

## Nature's Bulldozers

The word "glacier" paints a vivid picture in the minds of most people. The word "glacier" comes from French and Latin roots. "Glace" is a French word meaning ice. The word can also refer to something coated with a sugar glaze. It is not hard to imagine a glacier as "sugar-coated ice."

A glacier could better be described as a river of ice. In fact, a glacier is a huge, slow-moving mass of ice nestled between mountains. Glaciers are formed when more snow falls than melts in the mountains. As snowflakes fall, they are changed into snow. When more snow is added, the old snow becomes compacted. That means that it becomes smooth and rounded. Eventually, the old snow turns into ice. This cycle occurs again and again until finally a solid mass of ice is created. The ice becomes so thick that it overflows, slides downhill, and becomes a glacier.

Glaciers are powerful forces of nature. As glaciers move downhill, grinding their way to the sea, they flatten everything in their way. Glaciers even pull small rocks along with them. These rocks scrape and scratch the ground as they are pulled along. The rocks rub against one another and eventually are ground into a fine dust-like powder which is called glacial silt. Moving rocks and soil as they travel, glaciers sculpt the landscape, carving mountain valleys or shaping peaks. It is easy to see why glaciers are considered to be nature's bulldozers.
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Break dancing is a popular acrobatic dance form. Its name is associated with breaks in music. Break dancers dance to a break beat. Disc jockeys create break beats by combining musical parts. They select music with drum solos and rhythm. The music is looped together and played again and again. Break dancers move their feet sideways and onto their toes. They spin on their knees, hands, elbows, and even on their heads. Many forms of break dancing include mock fight moves. Other forms include pantomime.

Many people credit superstar James Brown with creating the first break dancing moves. In 1969, when performing his big hit "Get On the Good Foot," he danced around the stage. His "Good Foot" was a freestyle, high-energy dance that included body drops and spins.

The "Good Foot" evolved into what is now called old-style breaking. Old-style breaking was simpler in that it involved only the dancer's feet. There were no handspins or backspins. But old-style breaking was very challenging, too. It incorporated very fast, complicated leg moves. Other moves were modeled after Kung Fu. This style was especially popular with street gangs in New York's South Bronx. The best break dancer was often the best fighter on the street. Break dancing contests started. Breakers in street gangs would battle each other in dance contests.

New-style breaking took over in the early 1980 s. New-style breaking added a lot of acrobatic moves. Headspins and backspins were two of these moves. Others were hand-glides and windmills. Break dancing has evolved even more with music videos and rap music. It is popular all over the world. International break dancing tournaments are held every year.
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## Martin Luther King: A Man of Peace

Martin Luther King, Jr. was a great African American leader. He was born on January 15,1929 . When he was a boy, black people did not have the same rights as white people. Black children and white children went to different schools. They drank from different water faucets. They ate in different restaurants. Separating black and white people was called "segregation."

Martin Luther King grew up to become a minister. In 1954, he was working in Montgomery, Alabama. He wanted to change the segregation laws. In 1955, a black woman named Rosa Parks was riding a bus home from work. The bus driver told her to give her seat to a white person. Mrs. Parks refused. She was arrested and put in jail. This made the black people in Montgomery very angry. They decided to boycott the buses until the segregation laws were changed. Martin Luther King helped to lead the protest. After one year, the unfair law was changed. Dr. King believed in peaceful protest. He did not believe in violence. When Dr. King gave a speech, many people came to listen. Dr. King is famous for his "I Have a Dream" speech. In this speech, Dr. King talked about a world where his children would not be judged by the color of their skin. Martin Luther King was awarded the Nobel Peace Prize in 1964. Unfortunately, this man of peace was shot and killed in 1968 at the age of 39 . He is honored every year in January when the nation celebrates his birthday.
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## The Bald Eagle: America's National Bird

The bald eagle is America's national bird. It is the emblem or symbol that stands for America. The bald eagle was chosen to represent America on June 20, 1782. This was the date when the great seal of America was adopted.

The bald eagle was chosen as America's emblem for many reasons. The eagle represents the spirit of freedom. It soars high above the mountains, living a life of freedom. It also stands for a long life. Wild bald eagles can live as long as thirty years. Once an eagle is paired with its mate, the pair will stay together until one of them dies. Pairs of eagles build nests out of sticks on the tops of very tall trees. The bald eagle has a majestic look as well. It is a big and powerful bird. It was named at a time when the word bald meant white or streaked with white. So, the bald eagle is not bald at all. Rather, the adult eagle's head is covered with white feathers. Its tail is also white. The bald eagle's body and wings are dark brown and its eyes, beak, and feet are yellow. The bald eagle was also selected as America's symbol because it is the only eagle confined to the North American continent.

One story suggests that during one of the first battles of the Revolutionary War, bald eagles were circling above the fighting men. The eagles were making shrieking cries. The patriots thought that the eagles were encouraging them by crying for freedom!

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## Are Giant Squids Really Giant?



In one scary movie, a giant squid attacks a diver. In another movie, a giant squid even attacks a submarine and manages to move it around underwater. Do these giant creatures exist only in Hollywood? Actually, the giant squid really is a sea animal. The giant squid is large, but not as large as it is portrayed in the movies.

Strangely enough, the giant squid is related to the small clam and the small snail. A squid, a clam, and a snail all belong to the mollusk family. The members of the mollusk family all have one thing in common. They all have a hard shell. This hard shell is to protect their soft bodies. A clam's shell surrounds its soft body and can be easily seen. The snail's shell, too, is easily visible.

But where is the giant squid's shell? The shell that protects the squid is inside its body. Instead of having one "foot" for movement like the snail or clam, the squid's foot has been divided into eight tentacles. Those tentacles have suckers for grabbing and holding food. The tentacles can be as long as twenty-two feet. The squid's body can be over thirty feet long. A large sea animal covered with tentacles reaching out to grab food can be a frightening sight. No wonder Hollywood has used the giant squid as a popular feature in horror movies.
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## Bessie Coleman: First Female African American Aviator

Bessie was born in Texas in 1896. Her parents were sharecroppers. Bessie was one of 13 children. Bessie had to walk four miles each way to school. She was smart and an outstanding math student. Bessie first became interested in flying when she read about the air war during World War I.

When she was 23, Bessie went to live with her brother in Chicago. She listened to tales of soldiers returning from World War I. They told stories of amazing flying adventures. Bessie learned that there were women pilots in France. She decided that she wanted to become a pilot, too. Very few American women had pilot's licenses in 1918. Bessie applied to many American flight schools. Every one turned her down for two reasons: she was a woman and she was black.

Bessie did not give up. She learned to speak French. Then Bessie went to flight school in France. It took her seven months to learn to fly. In 1921, Bessie earned an international pilot's license. She returned to the U.S. and took up stunt flying. Bessie became a popular performer at air shows. She became an advocate for other African Americans. Bessie encouraged them to fly as well. She refused to perform at locations that wouldn't allow other members of her race to attend.

Bessie's dream was to start a flight school of her own. Sadly, she did not live to realize that dream. Bessie died in a plane crash in 1926 at the age of 30 . Bessie Coleman is not forgotten, however. The Bessie Coleman Aviator Club for women pilots of all races was started in her honor. A network of Bessie Coleman Aero Clubs was also formed. Every year on her birthday, groups of pilots fly over her grave to drop flowers. Bessie Coleman Drive, near Chicago's O'Hare airport, bears her name. The U.S. Postal Service issued a Bessie Coleman stamp. Bessie's pioneering spirit lives on.

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## The Metric System: Counting by Ten

More than two hundred years ago in France, a group of scientists invented a new system of measurement. They wanted the new system to be more exact than the old way of measuring. So the scientists figured out the distance between the North Pole and the equator. Then they divided this distance into ten million parts. Each part became one unit of length. This unit was called a meter. It was named after the Greek word, meter, that means to measure. The new system of measuring was named the metric system. A meter is a little bit longer than a yard.

In the metric system, the other units for measuring and weighing were based on the meter, The gram, a word that means "small weight," became the basic unit to measure weight. A gram is very small! It takes 28 grams to equal only one ounce. The liter, named after another Greek word, became the basic unit for measuring the amount of liquid in a container. A liter is equal to about 33 ounces. It is a little more than a quart. Our system of measuring is a little confusing. We have many different names and numbers that we have to remember. But in the metric system, there are only a few names. And there is really only one number; ten. The three main units in the metric system-the meter, the gram, and the liter-are changed to larger or smaller units by multiplying or dividing by ten.
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## Sacajawea: Native American Guide

Sacajawea was a Native American. She was the first woman to cross the Rocky Mountains. Sacajawea was a guide for two famous explorers. These explorers were Lewis and Clark. They were the first to explore the U.S. west of the Mississippi River. Without Sacajawea's help, Lewis and Clark may not have made it to the Pacific Ocean.

Sacajawea was born around 1788 in what is now Idaho. She was from the Shoshone nation. Sacajawea was kidnapped when she was 12 by a warring nation. A few years later, she was sold to a French trapper to be his wife. Sacajawea was only 16 when she met Lewis and Clark in 1804.

Sacajawea helped Lewis and Clark in many ways. First, she was a helpful guide. She remembered trails from her childhood. Sacajawea led the explorers in the right direction. Clark called her his pilot. She knew the local plants and found food for them to eat. Second, Sacajawea helped the explorers trade with the Shoshone for horses. The explorers needed horses in order to cross the mountains. Third, Sacajawea's presence kept the explorers safe from attacks by Native nations. She was a mother and carried her baby on her back. Native American women and children never traveled with war parties. The Native people they met along the way knew that Lewis and Clark came in peace. Sacajawea traveled with them for more than a year.

Lewis and Clark were grateful to Sacajawea. They named many rivers and lakes after her. In 2000, the U.S. Mint made a coin in her honor. It shows her carrying her son on her back.
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## Volleyball: Up and Qver

A man named William Morgan invented the game of volleyball in 1895. Morgan was a physical education teacher in a Massachusetts YMCA. He was interested in a game that would require less effort than basketball. He also wanted a game in which opponents did not come into physical contact.

Morgan designed a team game that consisted of the tapping of a ball back and forth across a net. Morgan's game is one in which teams are on opposite sides of the net. In volleyball, the players do not move around too much. Once an indoor game, volleyball later became popular as an outside game as well. It is played worldwide today.

Volleyball is played on a field or a court that is divided by a net. There are six players on each team. Three of the players play in the front, close to the net, and three play in the back. The volleyball is a rubber ball covered in leather. To begin the game, the ball is served by the player who stands at the right back of the volleyball court. The ball must go over the net without first touching the ground, another player, or the net. After the serve, the ball is tapped back and forth across the net by each team until one team is unable to return a ball. The ball must be tapped or batted by hand and may not be lifted or pushed. If the serving team fails to serve fairly or fails to return a serve successfully, it loses the serve. If the defending team fails to return a serve, then the serving team scores a point. The game is won when one team scores fifteen points.
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Mexican Independence Day is celebrated on September 16. For more than 300 years, Mexico was part of the Spanish Empire. During that time, Mexico was called New Spain. The Mexican people did not like being ruled by Spain.

In New Spain, there was a caste system. It was based on race. People were assigned to a caste level at birth. Those at the top of the caste had a nice life. Those at the bottom did not.

Another reason was that Spain wanted money from New Spain. Spain made New Spain pay taxes. Spain also took money from the New Spain churches. A final reason was that New Spain had trouble feeding its own people. There was a famine, and people were starving.

A Mexican priest started a revolt against Spanish rule. The priest's name was Father Miguel Hidalgo. On September 16, 1810, he gave a famous speech. It was called the "Cry of Dolores." The speech became the Mexican battle cry for freedom. Hidalgo and his followers fought against Spain. Father Hidalgo was captured. He was executed on July 31 , 1811. His revolt failed. In spite of this, Miguel Hidalgo is known as the father of Mexican independence.

Mexican Independence Day is celebrated on the anniversary of the start of Father Hidalgo's revolt. The Mexican people finally achieved freedom from Spain 11 years later in 1821.

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## Peter the Great: Russian Czar

Peter was born on May 30, 1672, in Moscow. When he was only 17 years old, he became the king of Russia. Russian kings were called czars. At this time, Russia was a very backward country. Peter decided to travel to Europe to learn how to make Russia a more modern country. He visited countries like England and Holland. Peter brought back western ideas to share with the Russian people. He introduced the European calendar and alphabet to his countrymen. He also shared new ideas about government, schools, and even clothes with the Russian people. Peter built a new city in Russia and named it St. Petersburg. St. Petersburg was modeled after some of the European cities Peter had visited. Peter the Great was also a strong military leader. He was interested in ships. He even built his own ship at the age of sixteen. A Russian navy was created during his reign. He won land on the Baltic Sea so Russia would have a place to dock her ships. Peter also made the Russian army stronger. Peter the Great was a popular leader with young Russians. His popularity made it possible for him to do what he wanted without being overthrown. Some historians think that Peter the Great was a wonderful leader. They give him credit for making Russia a more modern country.

Other historians do not think that Peter the Great was so great. They point out that Peter was a cruel leader. He tried to control the Russian Orthodox Church. He raided the church treasury. Peter forced the older Russian men to cut off their beards against church wishes. He made the men in his court dress like Europeans and smoke pipes. Peter forced Russian serfs, or slaves, to work in factories. Nevertheless, Peter the Great is considered a national hero in Russia. The many monuments that were built to honor him are still maintained.
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## Chinese Railroad Workers: Men of Steel

In 1863, America was growing. It was becoming a large country. Many people were moving west. There was a need for transportation across the U.S. Two railroad companies started building one long railroad. The Union Pacific started in the east, in Iowa. The Central Pacific started in the west, in California. The two railroads then joined together as one in Utah. They created the first coast-to-coast railroad system.

Building the railroad was hard work. It was also very dangerous. Railroad track was laid across the Sierra Nevada Mountains in eastern California. The mountains rose to 7,000 feet for more than 100 miles. The workers had to blast their way through the mountains.

Chinese workers were hired to do the dangerous jobs that white workers refused. The Chinese, though physically small, proved to be strong and brave workers. They were lowered by baskets from the tops of cliffs. While suspended in the air, the Chinese chipped away at the rock. They used dynamite to make tunnels. Chinese workers dug ditches. They dammed rivers. Hundreds of men died on the job.

In addition to the dangers of the job, workers had to endure poor weather conditions. They worked in the extreme cold of the mountains. They worked in the extreme heat of the deserts in California, Nevada, and Utah. Chinese workers were not treated fairly. Other workers made fun of the Chinese because they looked different. The Chinese workers were paid less than white workers. They had to provide their own tents and food.

In spite of the way they were treated, the Chinese worked hard and never gave up. Without the efforts of 12,000 Chinese workers, the U.S. transcontinental railroad may have never been built.

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ED1 Water：What Would We Do Without It？
GロP Granite：It＇s More Than Just a Rock
EDЗ The Road to Freedom：America＇s Journey
Bロ4 The Great Lakes：North America＇s Freshwater Lakes
6O5 Organizing Our Planet
EロE Bats：Misunderstood Mammals
EO7 The Printing Press
EDE Klondike Gold Rush：A Tale of Two Trails
6ロ9 Cells：Basic Units of Life
61ロ Salmon：Uphill Fighters
B11 The Constitution：America＇s Most Important Document
B12 Leonardo da Vinci
E13 All That Glitters Might Be Gold
E14 Zeus：Father of the Greek Gods
E15 King Salmon and Friends
B16 Alexander Graham Bell：Telephone Inventor
B17 Estevanico and the Seven Cities of Gold
G18 The Thermometer：A Measure of Many Things
E19 Rap Music：Its Historical Beat
GeD Balance of Power：Three Branches of Government
E21 Maria Tallchief：Prima Ballerina
G르 Sequoya：Inventor of the Cherokee Alphabet
ERS Cinco de Mayo：A Celebration of Spirit
E24 George Washington：America＇s First President
G로 The Cherokee Nation

Water: What Would We Do Without It?

| , | 0 | Water is necessary for life, In fact, most living things are made of |
| :---: | :---: | :---: |
| +1 | 13 | water. Also, most living things need water to survive. Although the earth |
|  | 25 | is almost 70 percent water, most of the earth's water supply is frozen. |
|  | 38 | Much of the earth's water can be found at both the North Pole and the |
| H | 53 | South Pole. Water frozen in glaciers also contains a good deal of the |
| W4 | 66 | earth's water. Other water can be found in numerous lakes and rivers |
| , | 78 | throughout the world. Some of our earth's water supply is also found |
| \% | 90 | underground and must be drilled for in water wells. Water is returned to |
| 4ix | 103 | the earth by a cycle of precipitation followed by evaporation by the sun. |
|  | 116 | On average, people in the U.S. use about 100 gallons of water a |
| \% | 129 | day, We use water as a part of our daily lives in numerous ways. We |
|  | 144 | drink it, bathe in it, and brush our teeth with it. We cook and clean with |
| sti | 160 | water. Some of us swim in water or travel on it. Although we use water |
| $+1$ | 175 | over and over again, this does not mean we should take it for granted. It |
|  | 190 | is important that we conserve water in any way that we can. There are |
|  | 204 | many things we can do to save water. We should avoid letting water run |
|  | 218 | down the drain as we brush our teeth, wash our hands, or rinse dishes. |
|  | 232 | We can save more than 5 gallons a day by turning off the water when |
|  | 247 | brushing our teeth. We could rinse dishes in a sink partly filled with |
|  | 260 | clean water rather than under running water. Taking a quick shower |
|  | 271 | instead of a bath can save an average of 20 gallons of water. Checking |
|  | 285 | for and fixing dripping faucets and leaky toilets can save as much as 10 |
|  | 299 | gallons of water per person a day. Outside, we can limit how much we |
|  | 313 | water plants and lawns. We can wash our cars with a bucket of soapy |
|  | 327 | water and stop the hose between rinses. Since water is necessary for our |
|  | 340 | survival, water conservation efforts should be taken seriously. Conserving |
|  | 349 | the earth's water supply is everyone's job. |

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## It's More Than Just a Rock

Granite is an unusual and unique kind of rock. However, granite is also common and found in many places. Oftentimes, we may be surrounded by granite. Mountains composed of granite stand out against the sky. Many of the tallest buildings and famous statues in the United States are made of granite. Granite is a special kind of rock called an igneous rock. That means granite was once found in a hot liquid form called magma in the middle of the earth. When the magma moved to the earth's surface, it cooled and hardened. Some of that hardened rock became granite.

The word "granite" was derived from a word meaning "grained." Granite is a strong and rough rock. Granite is mostly made of two minerals: feldspar and quartz. It is the quartz in granite that gives it its sparkle. Granite must be polished to smooth out its rough surface. When it is polished, it shines and displays beautiful colors. Various hues of pink, red, brown, black, green, and even blue can be found in granite. Because it is such a strong rock, granite is used on the walls and floors of many buildings. Granite is the perfect choice for monuments and statues because sun, wind, and other weather will not erode it.

To obtain the large pieces of granite necessary for buildings, the sides of mountains are sliced off in large sheets. These sheets of granite are subsequently cut into thinner slices and polished for decorative uses, like walls and kitchen countertops. It is amazing to think that pieces of tall, rough mountains can become the shiny, bright, colorful walls on some of the nation's most beautiful buildings.
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English people came to North America looking for a new life. They found a new land with people living on it. These people were the Native Americans. The English decided to live in America also. So they started a colony in Virginia. They named it Jamestown. Jamestown was the first permanent English colony. It was founded in 1607. Other English people came to America, too. Some of these people were called Pilgrims. They arrived on a ship called the Mayflower. The Pilgrims agreed to set up a government. They promised to obey the laws of their government. This agreement was the Mayflower Compact. It was signed on November 11 , 1620.

Many other people came to America. Soon there were 13 colonies of people. However, there were serious problems. The king of England wanted the colonists to pay new taxes. The colonists did not want to pay these taxes. By the 1760 s, colonists were very angry with England. They thought the taxes were unfair. They started to fight back. The colonists stopped buying English products. On December 16, 1773, colonists led a protest in Boston. They did not like a new tax on tea. So a group of colonists dressed as Native Americans. They boarded an English ship. Once on board, the colonists dumped tea into the harbor. This protest was called the Boston Tea Party.

Soon after the Boston Tea Party, the colonists and England went to war. This war was the American Revolution. The colonists won the war. They won the right to be free from England's control. They were able to have their own country. On July 4, 1776, the colonists declared their independence from England. The Fourth of July is America's birthday. It has been an important holiday for more than 200 years.
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The Great Lakes are important natural resources. They make up the largest system of fresh, surface water on earth. There are five great lakes, which are bordered by Canada and seven U.S. states. Lake Superior is the deepest and coldest lake. It has the most volume of water. It is shaped like a wolf's head. The land around Lake Superior has many forests but not many people live there.

Lake Michigan is the second largest lake. It is the only one that lies within the boundaries of the United States. The northern part of Lake Michigan drains into Green Bay. There are fisheries in Green Bay. There are also waste products from paper mills. The southern part of Lake Michigan has many people. The metropolitan areas of Milwaukee and Chicago are located near Lake Michigan.

Lake Huron is the third largest lake. It is surrounded by sandy shores. People like to visit it. There are summer cottages along the shores of Lake Huron. Like Lake Michigan, Lake Huron also has a productive fishery. Lake Erie is the smallest of the lakes in volume, as well as the shallowest. Because it is shallow, Erie is also the warmest of the five lakes. There are many city areas around the Lake Erie basin. The land around Land Erie has fertile soil. Lake Erie is the lake most exposed to the effects of city life and farming. From the air, Lakes Michigan, Huron, and Erie resemble the shape of a mitten.

The smallest lake in terms of area is Lake Ontario. It is deeper than its neighbor, Lake Erie, though. The cities of Toronto and Hamilton are located around Lake Ontario. These five great lakes cover more than 94,000 square miles. They hold almost one-fifth of the world's supply of fresh surface water. The United States obtains almost all of its fresh water supply from the Great Lakes. North America's freshwater lakes are important natural resources.
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Humans have always tried to organize the world in which they live. Plants and animals have been named since the beginning of time. Aristotle tried to organize the living world over 2,000 years ago. He formed two groups. Living things were either plants or animals. He then further grouped the animals by where they lived. There were animals that lived on land, in the water, or in the air. He classified plants into three groups. Plants, according to Aristotle, were trees, shrubs, or herbs.

Over time, many other ways to organize living things were tried. They all failed because of language differences and lack of knowledge about the plants and animals. For example, a starfish is not a fish. A horseshoe crab should really be called a horseshoe spider. Depending on where one lives, a mountain lion may also be called a puma or a cougar.

Finally, a Swedish scientist named Carl von Linne devised a grouping system. He decided to use Latin to name the groups. Latin was no longer used as an oral language, so it wouldn't change over time. He liked Latin so much that he even changed his own name to a Latin version of von Linne. His name became Carolus Linnaeus. Linnaeus studied thousands and thousands of plants and animals. He decided to group the plants and animals by their structures. His classification system is used today by scientists all over the world to place plants and animals into similar groups.

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## Bats: Misunderstood Mammals

Bats are perhaps the most misunderstood of all the mammals. For example, the expression "blind as a bat" is widely used. The supposition that bats are blind is just one of the many misconceptions about these flying mammals. In reality, bats are not blind at all. In fact, while all bats can see, many bats can even see better than some people. There are basically two kinds of bats-large and small. Mega bats have excellent eyesight. Their large eyes enable them to see fruits and flowers in the night. Smaller bats rely on echolocation while flying at night, but even these bats are able to see. The echolocation assists them in finding insects. Most bats have better night vision than day vision, however.

Many people think of bats as vampires that suck people's blood. There are nearly 1,000 species of bats in the world. They live in almost all areas of the world except for the very cold regions like Antarctica. Only three species of bats, those living in Mexico and South America, eat the blood of mammals and birds. Even these bats do not suck the blood. Instead, they make a small bite in the animal's skin using their very sharp teeth. They then lick up the blood. Bat saliva has a chemical that prevents blood from clotting before the bat is finished eating. Scientists are studying bats to see if this chemical could prevent human strokes caused by blood clots.

Bats are important to humans in other ways. They pollinate trees and flowers and spread seeds so that plants grow in other areas. Bats can eat half of their weight in insects each night. Therefore, they are very effective controllers of pests who harm crops and spread disease. These misunderstood mammals are actually very valuable creatures.
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## The Printing Press

Imagine having to copy an entire book by hand. That's what people had to do before the printing press was invented. Books sometimes took years to copy. They were very rare and extremely expensive. Monks spent their entire lives just making one copy of the Bible.

In the early fifteenth century, a German named Johann Gutenberg had a wonderful idea. He thought of a way to print books instead of copying them by hand. Gutenberg took small blocks of wood and made them all the same size. He then took each block of wood and carved one letter of the alphabet on it. When Gutenberg wanted to print a word, he would line up the blocks with the letters that would spell that word. He would spread ink on each of the letters and then press them down on a piece of parchment paper. He could use the same alphabet letter blocks over and over again, as he strung the blocks together to make words. This method still took a great deal of time, but then Gutenberg thought of a way to design a machine that would print an entire page at one time.

Gutenberg invented that printing machine, called the printing press, in 1448. He printed three hundred Bibles in Latin, the language of the church at the time. Forty of those 300 Bibles still exist today. They are called the Gutenberg Bibles, and they are worth millions and millions of dollars. The next time you pick up a book to read, imagine how long it would take to print just one page if you had to line up blocks of wood letters before it could be printed.
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## Gold Rush: A Tale of Two Trails

Between 1896 and 1900, nearly 100,000 people rushed to Alaska and the Yukon Territory. The reason? Gold, of course! The word that gold had been discovered in the Yukon River traveled quickly across the United States. People from all walks of life set out to find their fortune. Unfortunately, gold-seeking was a dangerous undertaking. It is estimated that only 40,000 of the 100,000 actually made the trip to the Dawson gold fields. Once there, only 10 percent of them found gold,

Gold seekers had two choices to get to the Dawson Chilkoot and the White Pass. The Chilkoot Pass was too steep for horses, so men who could not afford horses often took this trail. The Canadian Mounties required that each miner bring a year's worth of supplies. A year's worth of supplies could weigh as much as one ton. Without these supplies, miners were not allowed to cross. Consequently, gold seekers had to strap heavy packs on their backs and drag loaded dog sleds and canoes as they hiked along. It took the men many backbreaking trips over the pass to haul their supplies. Once over the pass, miners had to build boats and travel down rushing rapids to finally reach the gold fields. Many men turned back along the way.

The White Pass trail was the other route to the gold fields. Since the White Pass was not as steep as the Chilkoot Pass trail, pack animals were allowed on this trail. Sadly, the trail proved to be too much for these animals to bear. Three thousand animals died and were abandoned along this trail. The White Pass became known as Dead Horse Trail.
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## Cells: Basic Units of Life

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Cells are considered to be the basic units of life itself. All living things are made up of cells. A tree is made up of cells, as is an alligator. Some living things only have one cell, such as bacteria. Other living things, such as humans, have trillions of cells in their bodies.

It wasn't until the early 1600 s that the existence of cells was discovered. An English scientist, Robert Hooke, built an early microscope. He placed a thin slice of a piece of cork under the microscope, magnified it, and made observations. Imagine his surprise when he saw many small squares in the cork. Robert Hooke thought the small squares resembled the tiny rooms in which monks lived. Robert Hooke named his discovery after these rooms, which were called cells.

As microscopes improved, scientists made important discoveries about cells. They observed that there are many kinds of cells and that these cells are very complicated. Scientists discovered that all cells do not look alike. Many cells apparently specialize in performing a certain kind of function. These cells have shapes that help them do their jobs. For example, muscle cells are elongated. These cells have the ability to expand and contract. Narrow white blood cells have a rounded shape. Their shape assists them in better flowing through veins. Cells that make up the eye are sensitive to light, as is the eye itself.

Microscopes have greatly improved, so much so that Robert Hooke would not believe his eyes if he looked through one today. Scientists' knowledge of cells and their functions have advanced considerably as well. Scientists are continually studying and discovering more each day about cells. One important area of research on cells is how to stop dangerous cells, such as cancer cells, from growing. What started with Robert Hooke and a slice of cork is ongoing, with the health and wellbeing of humankind as the ultimate goal.
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## Salmon: பphill Fighters

The salmon is the state fish of Alaska. Named after Greek words meaning "hook" and "nose," salmon are sometimes called the Greek gods of the sea, Salmon contain Omega 3, considered by some to be a miracle ingredient. Omega 3 reportedly helps to reduce the risk of heart attack. Many people consider salmon to be a delicious tasting fish as well. It is a popular choice on many restaurant menus, in grocery stores, and in fish markets. Consequently, commercial fishermen catch millions of salmon each year.

As part of their natural life cycle, wild salmon have but one purpose in life. Their only goal is to spawn, or reproduce. Once a salmon has spawned, it dies. Salmon are on the move from the time they are born. Most wild salmon are born in gravel beds in streams or lakes. Recently hatched salmon, called fry, travel far and wide on a quest to find salt water. As they travel, salmon must dodge bigger fish to avoid being eaten. After a period of one to seven years of adventure, a salmon's natural instinct tells it that it is time to return home. Salmon will bravely fight many obstacles as they embark on their trip. Frequently, they battle water currents, swimming upstream to reach the spawning beds where they were born. They then lay and fertilize their eggs. Once that job is completed, the salmon dies. This journey back to their birthplace for the purpose of reproduction is called the salmon run.
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## America's Most Important Document

The Constitution is an official plan. It is very important. The Constitution tells how our country should be run. This important plan was written in 1787. The first meeting, or convention, was held on May 25. James Madison was a leader at the convention. He was in favor of a strong national government. He worked very hard and took detailed notes. James Madison is known as the father of the Constitution.

Delegates from the 13 states attended the convention. They tried to decide how to elect members of Congress. Some delegates liked the Virginia Plan. This plan said that states with more people should have more members in Congress. Other delegates liked the New Jersey plan. This plan said that all states should have the same number of members in Congress. The delegates decided to compromise. They came up with a plan that created two law-making groups. These law-making groups were called houses. One house would elect delegates based on how many people lived in each state. The other house would elect two delegates from each state regardless of the size of the state. On September 17, 1787, thirty-nine of the fifty-five delegates signed the Constitution. Later, changes were made to the Constitution. These changes are called amendments to the Constitution. The first ten amendments to the Constitution are called the Bill of Rights. In 1791, the Bill of Rights was added to the Constitution. Over the next 215 years, other changes were made to the Constitution. Our current Constitution has 27 amendments.
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## Leonardo da Vinci

Leonardo da Vinci was a famous painter. He lived a long time ago during the Italian Renaissance. This was a period of time between 1300 and 1500 . Wealthy people and church leaders hired artists. They wanted the artists to paint pictures and make statutes. Da Vinci was one of the greatest artists of the Italian Renaissance.

Leonardo da Vinci painted two very famous paintings. One is called the Mona Lisa. The Mona Lisa is a picture of a woman. She has a mysterious smile. People wonder why she is smiling and what she is thinking. The other painting is called The Last Supper. This painting is a picture of Jesus Christ and his 12 disciples. Da Vinci painted it on a church wall in Italy. These two paintings by Leonardo da Vinci are probably two of the most famous in the entire world.

Although famous as a painter, Da Vinci was also a scientist and an inventor: He studied the human body and how it worked. Da Vinci then made detailed drawings showing how muscles are attached to bones. Da Vinci was fascinated by machines and how they work. Da Vinci invented many machines. For example, he made a flying machine out of wood, cloth, and feathers. It had wings that flapped like a bird. Da Vinci also is credited with inventing military weapons. Leonardo da Vinci was truly a man of many talents.
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## All That Glitters Might Be Gald

Gold is a valuable metal. For thousands of years, it has been valued for its beautiful yellow color. It also has been valued for its shine and glitter.

Gold can be melted and molded into many different shapes. Gold is used to make beautiful jewelry, coins for various countries, crosses and statues for churches, and, in some cultures, teeth. Gold has been found in many countries all over the world. The Egyptians filled the pharaohs' pyramids with it. The Incas of Peru and the Aztecs of Mexico were experts in using the gold they mined for jewelry and religious statues.

In 1848 , gold was found at Sutter's Mill in California. Heavy bars of gold were sent by stagecoach and steamship from California. When people in other parts of the United States saw this gold, they rushed to California, hoping to get rich. These people were called the "forty-niners" because that was the year they started to arrive in California. Gold was found in rushing rivers by prospectors panning for it. Sluice boxes were built on the banks of rivers. The prospectors shoveled the river rock and sand into the sluice box. Water was poured through the sluice box. Gold, which is very heavy, sunk to the bottom of the box while the lighter river rock and sand washed out. Gold has also been found deep in mines. Prospectors found valuable veins of gold in quartz rock deep in the earth and mined the quartz. The quartz rock was crushed and the gold removed from it.

The quest of gold has been the cause of both positive and negative events. The search for this valuable metal caused wars, murders, and whole civilizations to be wiped out. On the other hand, the search for gold led explorers to discover and settle new lands and allowed for the creation of beautiful works of art.
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## Zeus: Father of the Creek Cods

Gods were important in the ancient Greek religion. The Greeks believed that their gods lived in families and that each god or goddess had a certain kind of power. They also thought that each of the gods had a distinct personality. Sacred places called sanctuaries were built by the Greeks to honor their gods. Greeks prayed to different gods for different reasons. They also made sacrifices to the gods as a way to please them.

Zeus, the god of the sky and of the weather, was also considered the father of all the Greek gods. The Greeks believed that Zeus was the absolute master of all the Greeks, other gods, and perhaps the universe. The Olympic games were actually created to honor Zeus. The games were named after the highest mountain in Greece, Mount Olympus. Ancient Greeks pictured Zeus sitting in a golden throne on top of Mount Olympus. The Greeks believed that Zeus would take pleasure from watching athletes compete in the Olympic games. All Greeks, regardless of where they lived, worshiped Zeus and the other gods in his family. Zeus's wife, Hera, was known as the goddess of marriage. His brother, Poseidon, was the god of the sea. Zeus himself was thought to control the weather. In the Greek people's minds, thunder and lighting occurred as a punishment when Zeus was very angry. One of Zeus's sons, Apollo, was the god of light and health. It was believed that Apollo was responsible for the sun rising and setting each day. The ancient Greeks explained many of the wonders of nature by attributing them to the behavior and personalities of the Greek gods.
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## King Salmon and Friends

If you are a fish eater, chances are good that you have eaten salmon. Salmon are a popular and plentiful fish. In Alaska alone, more than 173 million salmon were commercially harvested last year.

King salmon are the largest and best-known type of salmon. King salmon average between 20 and 40 pounds but can grow to be much larger. In 1949, a king salmon weighing 126 pounds was caught in a fish trap near Petersburg, Alaska. Ranging from California's Monterey Bay to the Chukchi Sea near Russia, king salmon spend one to seven years in the ocean. Then they, like all salmon, head for their freshwater homes to reproduce or spawn. Once that job is completed, the salmon die. Thus, the natural life cycle of the salmon comes to an end.

In addition to the king salmon, there are four other types of salmon. The coho or silver salmon weighs 8 to 12 pounds on average. The coho is an active salmon-leaping and jumping out of the water when hooked by a fisherman. The sockeye salmon is small, weighing only 4 to 8 pounds. The sockeye is sleek and silver-looking when in the ocean. Once it returns home to spawn, the sockeye salmon turns red. Humpback salmon are the smallest of the Pacific salmon, weighing on average 3 to 4 pounds. The males develop their humpbacks when spawning. They also change color--turning brown to black. The females turn an olive green color. The fifth type of salmon is the chum. These salmon range from the Sacramento River in California to the Mackenzie River in Canada. Chums are the preferred choice of the Alaskan sled dog. Many stores in Alaska sell smoked chum salmon in dog treat packages!
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## Alexander Eraham Bell: Telephone Inventor

Alexander Graham Bell invented the telephone in 1876. Bell's father was a teacher of people who were deaf. Alexander became interested in speech and hearing problems. He grew up to become a teacher of the deaf like his father. One of his students later became his wife.

Alexander wanted to make speech visible for the deaf. He tried to find a way to record sound vibrations. He worked with another inventor named Thomas Watson. They tried different ways of sending messages. By accident, they found a way to have sound carried by electrical current. After that, it was only a matter of time before they found a way to transmit human sound along a wire.

Bell went to the Centennial Exposition of 1876 in Philadelphia. He presented his invention to the public. It was very well received. People could now talk to one another across great distances. Bell continued to improve the telephone. Telephone service companies were organized in England and in the United States. Bell became wealthy and famous. But he never forgot about helping the deaf. If it had not been for Bell's interest in deafness, the telephone would not have been invented. Bell used his own money to set up a fund to study deafness. He was in favor of teaching deaf people to use language instead of signs. Bell was opposed to keeping people who were deaf separate. Many of his methods were used in schools for people who were deaf. Alexander Graham Bell is well-known as the inventor of the telephone. However, he was also an advocate for people who are deaf.
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## Estevanico and the Seven Cities of Gold

Native Americans tell many stories about black men who came from faraway places. The story of Estevanico, or "Little Seven," is a popular one.

Estevanico was born in Africa in the early 1500s. He was one of the early explorers of the southwestern U.S. Estevanico was a Muslim slave. He sailed with his master and a crew to the New World in 1527. They were looking for gold. The trip was very hard. They were shipwrecked at what is now Tampa Bay, Florida. Estevanico and the crew members then made their own rafts. They sailed west toward Mexico on five rafts. Three of the rafts sank along the way. The other two rafts landed at Galveston Island near what is now Texas.

After a very harsh winter, only 15 of 80 men were still alive. They headed west on foot, walking along the Colorado River. By 1533, only Estevanico and three other crew members had survived. Along the way, they were helped by some native tribes but enslaved by others.

In 1534, Estevanico and the three other men were living with a native tribe in inland Texas. They became medicine men. Soon, they were known as healers of the sick. Estevanico carried a medicine rattle as a good luck symbol. He was gifted in learning languages. Soon, he spoke several native dialects. The natives called Estevanico and his friends "Children of the Sun" because they traveled from east to west. They were the first non-natives to travel in this part of the Southwest.

Thousands of natives took turns guiding Estevanico and his friends on their journey to Mexico City. They arrived in July 1536. The Spanish governor asked them to join a northern expedition. Only Estevanico agreed to go. His job was to be a scout. The purpose of the trip was to look for the mythical "Seven Cities of Cibola."

While exploring, these men discovered what is now Arizona and New Mexico. This was 45 years after Columbus had arrived on the shores of the New World. In these new lands, Estevanico found a village with many buildings. The buildings were made of stone and were many tiers high. Estevanico thought he had found the seven cities of gold, but he had not. He had stumbled onto a pueblo belonging to a Zuni tribe. The Zuni did not trust him. Estevanico and most of his native followers were killed on the spot.
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Is it cold or hot outside today? We often rely on a thermometer to let us know the temperature. Temperature is a measure of how hot or cold something is. Many factors influence the outside temperature. At certain times of the year, the sun is closer to our part of the earth. During these times, the sun warms the earth, and the temperature is higher. At other times of the year, our part of the earth is tilted away from the sun. Then the temperature is colder. Cloud cover can also influence temperature. If there are few clouds, the temperature is higher. Being close to water is another factor. The air near the water is cooler than inland air. Air high up in the mountains is cooler than desert air. Winds affect temperature as well. When strong winds blow, they usually help cool the air. However, if there is a strong wind blowing in from the hot desert, it will warm up the air.

Meteorologists are people who study the weather. They use thermometers to measure the outside air. But there are other kinds of thermometers as well. Thermometers are also used to determine a person's body temperature. Human beings have a normal body temperature of 98.6 degrees Fahrenheit. Variations from this body temperature can mean that a person is ill. Chemists may use thermometers to check the temperature of a scientific solution. The temperature of the solution can make a difference in a scientist's research findings. Chefs and bakers use thermometers in their work. Meat thermometers indicate whether food is cooked well enough to eat. Candy thermometers are used to help pastry chefs create perfect sweets. Thermometers measure many kinds of things!

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Rap is a popular musical form. Its roots are in West Africa. Thousands of native tribes celebrated rituals and ceremonies. They celebrated with pounding drumbeats, chanting, and dancing. Beginning in the late 1400s, African slaves were brought to America. They made up their own music with the rhythms they remembered from their homeland.

Almost 500 years later, rap began in New York. It started in the South Bronx, with teenagers talking in rhyme to the rhythm of a beat. In the early 1970s, rap was first known as hip-hop. Rhythms and melodies from existing music were mixed with poems.

Early rap was first a street art. Its tales reflected life in the inner cities of New York. Rapping was a popular addition to neighborhood block parties. Clubs began featuring rap music. Rap became popular with black teens in New York, Philadelphia, and Washington, D.C.

In September 1979, "Rapper's Delight" was released by the Sugarhill Gang. It was very successiul. Record companies became interested in this new sound. As a result, rap music gained a wider audience. It became popular not only in the U.S. but also across the world's oceans, as people starting tuning in to this new sound.

Not everyone became a rap fan, however. Critics were concerned about rap lyrics. Many of these lyrics reflected the hardships of inner-city life and other harsh topics. Supporters argue that rap music has helped to bridge gaps among cultures. No one can deny that rap is a very popular form of music. It continues to grow and attract new fans.
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The makers of the United States Constitution did not want to give too much power to one group. They were afraid that it would be dangerous for the country. The lawmakers decided to divide the jobs of the government. They created three branches of government. Article I of the Constitution created the first branch. The first branch is the Legislative Branch. The legislative branch is the Congress. Congress makes the laws of the nation. It also handles money. Congress is responsible for making the money, borrowing money, and collecting taxes. It is also in charge of the military.

The second branch was created as Article II of the Constitution. It is the Executive Branch. The Executive Branch is the President of the United States. The president is responsible for making sure laws are carried out. He is able to put laws into effect by signing them. He can also veto laws he does not like. The president is the commander-in-chief of the nation's armed forces. He appoints people to important positions and makes treaties with other countries.

Article III of the Constitution created the third branch of the government. This third branch is the Judicial Branch. The Judicial Branch is the Supreme Court and other national courts. The Judicial Branch is responsible for explaining what laws mean. This branch decides if current laws passed by Congress follow the intention of the Constitution.
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## Maria Tallchief: Prima Ballerina

Maria was born in Oklahoma. Her father was chief of the Osage tribe. Maria's mother was Scottish-Irish. From the time she was a little girl, Maria loved to sing and dance. She started taking dance lessons when she was only four years old. She also took piano lessons.

After high school, Maria went to New York City. She wanted to work as a ballerina. She danced so well that she was hired right away. Her first job was with the Ballet Russe de Monte Carlo. Soon after, she met George Balanchine. He was a famous choreographer from Russia. Choreographers design dances by matching dance steps to music.

In 1948, George became the artistic director of the New York City Ballet. He created special ballets for Maria. One of the most famous was a version of Igor Stravinsky's "Firebird." In this ballet, Maria danced the part of a magical bird. Maria had many other famous roles as well. She was queen of the swans in the ballet "Swan Lake." In the "Nutcracker" ballet, Maria danced the part of the Sugar Plum Fairy. At the age of 35, Maria became the prima, or first, ballerina for the American Ballet Theatre.

Maria Tallchief is recognized as one of the most accomplished ballerinas in America. The state of Oklahoma honored her as "Woman of Two Worlds." Not only was she a gifted ballerina, she was also a promoter of Native American culture and contributions to the arts.
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## Sequoya: Inventor of the Cherokee Alphabet

Sequoya was born in Loudon Country, Tennessee, in about 1760. He was a member of the Cherokee tribe. As a young man, Sequoya became a silversmith. His job was to make objects and jewelry from silver. Sequoya traded his jewelry with the new settlers who had come to his land. Sequoya had never learned how to read. He became interested in how the settlers used marks on paper to record what they said. The Cherokees called these marks "talking leaves." It became apparent to Sequoya that being able to read and write was important. He realized that the Cherokees had no way to do this. As a result, he decided to create a Cherokee alphabet.

Sequoya worked for more than 10 years. He matched 85 Cherokee syllables to a written symbol. Finally, the Cherokee alphabet was finished. Sequoya's alphaber was easy to learn. Using this system, most Cherokees learned to read and write in one week's time! Soon thousands of Cherokees were literate. They were able to read the articles Sequoya wrote about their history. The Cherokees made written laws. They also developed a constitution. In the 1827 , the Cherokee nation was formed. They adopted English as their second language. Their first newspaper was published in 1828. It was called the Cherokee Phoenix. Without Sequoya's invention, none of this would have been possible. Sequoya is honored in California's Sequoia National Park. The giant redwood trees are named after him.
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## Cinco de Mayo: A Celebration of Spirit

Cinco de Mayo is the 5th of May. It is a national holiday in Mexico. It is second only to Mexican Independence Day.

On May 5, 1862, there was a famous battle. It was the Battle of Puebla. A group of Mexican peasants fought against a French army. The Mexican fighters were outnumbered. Also, they were poorly armed. But they fought bravely and fiercely. The Mexicans won the battle in spite of overwhelming odds. It was a triumph of a few over many.

This victory was very important to Mexicans. Cinco de Mayo is a celebration of spirit. It is a symbol of freedom and liberty. It honors those who fight for what they believe in against all odds.

People of Mexican descent everywhere celebrate Cinco de Mayo. There are parades in many Mexican and American towns. There are also speeches. Sometimes, the Battle of Puebla is reenacted. Cinco de Mayo is a chance to celebrate Hispanic culture in general. It is also an opportunity to celebrate the friendship between the U.S. and Mexico.
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## George Washington: America's First President

George Washington was born in Virginia on February 22, 1732. At that time, Virginia was a colony of England. When George grew up, he joined the Vitginia army. He was a good soldier. Soon he became the leader of the army. There were problems in the colonies. Many of the people did not want to belong to England anymore. They felt that the king of England did not treat them fairly. The king made the colonists pay unfair taxes. The king did not want to give the colonies their freedom. So they went to war. This war was called the Revolutionary War. It was also called the War for Independence. George Washington was the leader of the American army in this war. He was a good leader and helped America to win the war.

After the war, the colonies became a new country. This country was the United States of America. Americans wanted George Washington to be the leader of the country. He was elected to be the first president in 1789. George Washington was one of the best-loved presidents in American history. He is celebrated in many ways. For example, our nation's capital, Washington, D.C., was named after George Washington. The famous Washington Monument was built to honor George Washington. This tall, pointed building is more than 555 feet high. People can go to the top of the monument. They are able to look over the entire city of Washington, D.C. George Washington's face is on our quarters and dollar bills. George Washington's birthday is celebrated as a national holiday.
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## The Cherokee Nation

The Cherokee homeland was the Appalachian Mountains. This land is in the southeastern part of the U.S. The Cherokee lived there for thousands of years. Then European settlers began to arrive.

In 1540, a Spanish explorer came to Cherokee land. His name was Hernando de Soto. He was looking for gold. He and his men brought diseases from Europe. These diseases killed many Cherokee. By the 1700s, many other European settlers had arrived. American colonists had taken over Cherokee lands. The Cherokee tried to protect their homeland. They signed a treaty with England. They fought with the British against the colonists. The fight became the Revolutionary War. The colonists won the war.

When Andrew Jackson became U.S. president in 1830, he declared war on the Cherokee. He suggested the Indian Removal Bill. The U.S. Congress made the bill law. It became legal for the U.S. to remove the Cherokee and other Native Americans from their homelands. The Cherokee were forced to march to what is now Oklahoma. There was little food or water along the way. More than 4,000 Cherokee died on this march. It came to be known as the "Trail of Tears."

The Cherokee suffered many hardships. In spite of these difficulties, their culture has survived. Some Cherokee were able to move back to their homeland. Others stayed in Oklahoma and made it their new home. Today, there are three Cherokee reservations with more than 137,000 members.
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Level 7 Practice Passages


## Polar Explaration

The polar regions at both ends of the earth have attracted many explorers. Some were scientists. Some were mapmakers. Others went to seek fame as the first explorers to reach the poles. The first polar explorer was a Greek who sailed north around 400 b.c. He probably discovered either Norway or Iceland. No one sailed north for another 1,000 years. Then, Ottar of Norway sailed north from Norway and discovered the White Sea. The Vikings settled both Iceland and Greenland around A.D. 900 However, they did not go any farther north.

Spain and Portugal controlled the southern spice routes to India in the 1500s. The English and the Dutch then tried to find northern routes to India. In 1588, England defeated Spain. England then opened the spice routes to all nations. That made polar exploration no longer necessary. No one ventured south to Antarctica until the 1700s. The English explorer Captain Cook sailed in the area for three years. The Russians sailed east and claimed Alaska in 1728.

Scientists started the next explorations in the 1850s. Geologists wanted to know about the earth's make up. They were interested in the polar regions. Geographers wanted to find the true magnetic North and South Poles. An American, Robert Peary, reached the North Pole on April 6, 1909. A Norwegian, Roald Amundsen, was the first to reach the South Pole on December 14, 1911. Admiral Richard Byrd, an American, was the first to fly over the North Pole. He did so on May 9, 1926. Byrd then turned his attention toward the South Pole. He set up a base camp called "Little America" in Antarctica. Byrd flew over the South Pole on November 29, 1929. The base camp Admiral Byrd set up still serves as a base camp today. It is used for modern scientific exploration by all nations of the world.
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Ancient Egyptians Traveled to the New World

The ancient Egyptians believed that once they died, they would go to a place called the New World. This New World was thought to be a wonderful place where people could live forever. Arriving in the New World was so important to the Egyptian people that they made great plans for this afterlife journey. One important plan was to build pyramids to be used as tombs. Another important plan was to preserve the body. The Egyptians believed that if the dead body decayed, the person's spirit would die and be unable to reach the New World. They developed a process called embalming. This process turned dead bodies into mummies. Usually only the wealthy Egyptians were able to have their bodies turned into mummies.

The Egyptians believed that travel to the New World was difficult. They thought that the dead needed to have food and drink to make the journey to the New World, Items such as fruit baskets, wine, roasted meat, and bread were placed in the tomb along with the mummy. Somelimes little statues of servants were left in the tombs. The Egyptians believed that a spell would make these servants come to life so that they could work for the dead person in the New World. Many other objects that would be useful in the New World were also placed in tombs. These objects included games, clothes, tools, and jewelry. The Egyptians believed that the afterlife would be similar to current life, so they wanted to be certain that they would have whatever they needed when they arrived in the New World.
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## Prehistoric Reptiles

Alligators have lived in the southeastern United States for many centuries. Scientists have studied fossil records of alligators. These records suggest that alligators have lived on earth for 150 million years! That means they were alive when dinosaurs roamed the earth.

Native Americans and pioneers occasionally hunted alligators for food. It wasn't until hundreds of years later that alligators were hunted for their skin. Fashion markets started using alligator skin for fine leather products. Beginning in the 1940s, laws were passed to protect alligators. Today, alligators are a protected species.

Alligators look like large lizards. They have flat tails and long snouts. Their snouts have nostrils at the end. This allows alligators to breathe while most of their body is underwater. Alligators have four short legs and scaly skin. They can swim very fast by using their long, powerful tails to propel them through the water. Alligators range in size from eight to eleven feet long. The female alligator lays eggs in early spring. She lays about 30 eggs. The eggs are buried in a nest of twigs, sticks, and mud. The nests are built near the water. After she lays the eggs, the mother alligator leaves them alone. The eggs hatch by themselves, and the baby alligators must make their own way to the water. Many baby alligators are eaten by other alligators and creatures on their way to the water. Once the baby alligators are in the water, they are a little safer than they were on the land.

Alligators may look cute. However, they are natural predators. Due to their aggressive nature and large size, they can easily kill pets and even humans.
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James Beckwourth: Pioneer Mountain Man
Jim Beckwourth played an important role in the settlement of the American West. Jim was born in Virginia in 1798. He was an African American who was born a slave. When Jim was 24 , he ran off to New Orleans. He became a scout for the Rocky Mountain Fur Company. Jim was an excellent scout. He was good at hunting and fighting. He also knew how to bargain with Native Americans. Jim married a Native American Crow woman. He was later asked to be chief of her tribe.
Storytelling was valued among fur traders. Jim could "spin a good yarn." He was the only African American of his time to record his life story. Jim dictated his story to Tom Bonner. Bonner was a justice of the peace in the California gold fields. Jim's autobiography was published in 1856. Many people were quick to dismiss Jim's account of American history. Such people were prejudiced. They did not value Jim's viewpoint because of his race.
Later, historians discovered that much of what Jim reported was very accurate. His account is a true story of what life was like in the $1820 \mathrm{~s}-1850 \mathrm{~s}$. He described what life was like for fur trappers in the 1820 s. Jim told about the Crow tribal life in the 1830s. His story included tales about the pioneers of the Southwest in the 1840 s and the California gold miners of the 1850 s.
Jim Beckwourth led a colorful life. He is most famous for discovering a passageway through the Sierra Nevada Mountains. This pathway is near Reno, Nevada. Jim's discovery helped settlers to more easily reach California. The pass is named after Jim. It is called Beckwourth Pass.
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[^0]:    *CWPM $=$ Correct Words Per Minute

[^1]:    Total Words Fead $\qquad$

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