



Seventh Grade

(7)

WEEK #2

English Language Arts

Math

Social Studies

Science

Physical Education & VAPA

Name:	Date:
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Grammar: Abbreviations

Practice

An **abbreviation** is a shortened form of a word or phrase, such as *Dr.* for *Doctor* or *Rd.* for *Road*. Most abbreviations end with a period and are useful when taking notes or writing lists.

A Write each group of words correctly. Use capital letters and periods.

1. mr charles cunningham _____
2. 197 maple ave _____
3. dr frances thompson _____
4. thurs, sept 13 _____
5. 6:45 pm, wed, may 9 _____
6. d h lawrence _____
7. mon, 7:30 am _____
8. st. louis, mo _____
9. mr james s watson, sr _____
10. providence, r i _____

B Match each abbreviation with its long form.

- | | | | |
|-----------------|----------|---------------------|---------|
| 1. _____ pint | A. Mar | 6. _____ Reverend | F. pt. |
| 2. _____ Junior | B. cm | 7. _____ centimeter | G. Jr. |
| 3. _____ inch | C. Gov. | 8. _____ Governor | H. rd. |
| 4. _____ March | D. oz. | 9. _____ ounce | I. Rev. |
| 5. _____ road | E. Prof. | 10. _____ Professor | J. in. |

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Grammar: Abbreviations

Assess

A Write each message. Make the abbreviations and initials correct.

1. thurs, oct 15, 7:30 pm: babysit for mrs morris

2. soccer practice: mon through fri, 9 am to 1 pm

3. Girl Scout meeting: orchard st, wed, 8:00 pm

4. 5:00 pm: appointment with dr hollings

5. band rehearsal: tues, 9:30 am

B Write the abbreviation for each of the underlined words.

1. _____ Robert Stevens, Junior, is the new school principal.

2. _____ The Historical Society sponsored a 5 kilometer race.

3. _____ We had to make a left turn onto Grand Boulevard.

4. _____ Karen is originally from Baltimore, Maryland.

5. _____ Jack is six feet tall.

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Grammar: Commas

Practice

A **comma** signals a brief pause. Commas can be used between items in a series, after an introductory phrase or clause, or before a conjunction joining independent clauses.

A Add commas where they are needed between the items in the series.

1. Jan Dot Steve and Corey are coming to the party.
2. I have called the guests bought the food and warned the neighbors.
3. I think this will be a loud enjoyable and exciting party.
4. Can you bring plates napkins and cups?
5. Sarah walked ran and even rode a bike to get here.

B Add commas where they are needed after each introductory phrase or clause.

1. After we eat we will do the dishes.
2. With very little money she left home to spend a day in the city.
3. After he finished school he went to visit his father at work.
4. To win the state championship the team practiced day and night.
5. Whenever you are ready we can leave.

C Add commas where they are needed between the independent clauses.

1. You were away having a good time and I was here bored and lonely.
2. Mars is closer but Jupiter appears brighter.
3. The hours ticked away but the phone never rang.
4. I enjoy watching football but I like baseball better.
5. It was a superbly written book and I could not put it down.

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Grammar: Commas

Assess

A Add commas where they are needed. Not every sentence needs a comma. Write *correct* for any sentence that does not need a comma.

1. _____ Jerry tried out for the lead but Tom got the part.
2. _____ Sandy ran up the block across the park and around the school.
3. _____ The storm caused great damage and washed away several bridges.
4. _____ Last Saturday was windy cold and rainy.
5. _____ I stopped by to pick you up but you had already left.
6. _____ We arrived early and stayed late.
7. _____ My shoes are not under my bed in the closet or under the couch.
8. _____ If it does not rain tomorrow the roads will be jammed.
9. _____ Jackie and Katie will be roommates next year.
10. _____ Firs spruces and pines are evergreen trees.

B Write each pair of sentences as a compound sentence, using the conjunction in parentheses. Place a comma where it is needed.

1. Spring came. The birds flew north. (and)

2. I can hand in a written report on spiders. I can give an oral report. (or)

3. They had been working very hard. They did not seem especially tired. (but)

4. Usually we study in the morning. We go swimming in the afternoon. (and)

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Grammar: Compound Subjects and Predicates

Practice

A **compound subject** contains two or more subjects that share the same verb.

A **compound predicate** contains two or more verbs that share the same subject. Compound subjects and compound predicates are joined by conjunctions such as *and* and *or*.

Compound subject: *Colin and Steve* ran the marathon yesterday.

Compound predicate: At the lake, we *swam and fished*.

A Read the following sentences. Then, underline the compound subjects.

1. Baseball and football are my favorite sports.
2. Hikers and mountain bikers often share the same trail.
3. The rain and wind caused flood damage.
4. Doors and windows need to be ordered for the house.
5. Trout and pike are in the lake.
6. Canoes and rowboats can be rented by the hour.
7. Sandstone and shale are found in our neighborhood.
8. Books and tapes are available at the library.

B Read the following sentences. Then, underline the compound predicates.

1. I went snowboarding and sprained my ankle this weekend.
2. The waves crested and broke against the rocks.
3. The ring glistened and glimmered in the sun.
4. The tourists stopped and watched the street performer.
5. Christopher wrote and directed the play.
6. The lettuce wilted and drooped on the counter.
7. The team scored two runs and won the game.
8. The students brought crayons but forgot paper.

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Grammar: Compound Subjects and Predicates

Assess

A Read the following sentences and underline the compound subject or compound predicate in each. Indicate whether the sentence has a compound subject or compound predicate on the line.

1. Felix and Rex went to the circus in town.

2. They saw many clowns and ate lots of popcorn.

3. Lions and tigers are ferocious animals.

4. The homeowner ordered new rugs and threw out her old rugs.

5. I bought a new bicycle and rode it to school.

6. I collected cans and brought them to the recycling center.

7. Blackberries and raspberries grow by the house.

B Complete each of the following sentences with either a compound subject or compound predicate.

1. _____ went to the holiday celebration.
2. Ethan enjoys _____
3. Our family vacation always includes _____.
4. _____ went to the store to get ingredients for cookies.
5. The movie was about _____.

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Spelling: Homophones

Practice

A **homophone** is a word that sounds exactly like another word but has a different spelling and meaning.

A Use the words in the box. Write the homophone for each word. Remember, the two words must sound the same.

hours	write	sun	rows	tow	sail
-------	-------	-----	------	-----	------

1. rose _____ 2. toe _____ 3. right _____
4. sale _____ 5. ours _____ 6. son _____

B Underline the correct homophone for each sentence.

1. She ran to (warn, worn) us that the river was flooding.
2. It was so foggy that we almost (missed, mist) the turnoff.
3. The day started out sunny, but then it started to (rain, reign, rein).
4. The traffic was bad, and it took two hours to get (their, there, they're).
5. His friend (seas, sees, seize) him in the restaurant and comes over to talk.
6. There are wildflowers and old barns on the country (road, rode, rowed).

C The underlined words are not correct. Cross out each one, and replace it with a homophone.

horse	mane	mooed	fowl	
reins				
deer	through	herd	neighs	tails

1. As I walked threw the field, cows mood and swatted their tales.
2. My hoarse Pinto sees me coming and nays in welcome.
3. I pat his main to say hello and grab his reigns.
4. I saw three dear, a heard of sheep, and some wild foul.

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Spelling: Homophones

Assess

A Underline the correct homophone. Check your answers in a dictionary.

1. Sixty minutes is an (our, hour).
2. One plus one equals (to, two, too).
3. Seven days make one (weak, week).
4. In this place means it is (here, hear).
5. Those who claimed victory have (won, one).
6. An aircraft is a (plain, plane).
7. The contraction for *they are* is (their, they're).

B Complete each sentence by writing the correct homophone on the line.

1. A. Keisha tied her _____ back with a ribbon. hair, hare
B. A _____ is larger than a rabbit. hair, hare
2. A. My dog has a long _____. tale, tail
B. Ray told a scary campfire _____. tale, tail
3. A. We read a book written _____ a famous author. by, buy
B. She stopped at the mall to _____ a present. by, buy
4. A. The _____ building was torn down. hole, whole
B. The workers are digging a large _____. hole, whole

C Edit the following grocery store sign. Cross out the three misspelled words. Then spell the words correctly on the lines below.

**Their is know fish today.
Try again next weak.**

Writing 3

3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

Writing Workshop: Short Story

When you write a short story, you can let your imagination soar. A **short story** is a brief, creative fictional narrative that develops around a conflict, or struggle between opposing forces. A well-constructed short story can transport readers to a whole new world, where anyone and anything is possible. The purpose of a short story is to entertain, but short stories often also teach important life lessons.

Assignment

Write a short story about an interesting, puzzling, or extraordinary situation that will capture readers' attention. Include these elements:

- ✓ well-developed major and minor characters
- ✓ an interesting conflict, or struggle
- ✓ a clear plot, or story line told in sequence
- ✓ a consistent point of view
- ✓ narrative techniques, including dialogue, suspense, and other literary elements and devices
- ✓ precise vocabulary and sensory details
- ✓ effective use of transitions
- ✓ correct use of language conventions, especially the use of comparatives

*Additional Standards

Writing

3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

3.a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence

that unfolds naturally and logically.

3.b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.

3.c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.

3.d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.

3.e. Provide a conclusion that follows from and reflects the narrated experiences or events.

6. Use technology, including the Internet, to produce and publish writing and link to

and cite sources as well as to interact and collaborate with others, including linking to and citing sources

Language

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

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Prewriting/Planning Strategies

Choose a topic. Use a “what if” strategy to find a story idea. Fill in the blanks of a sentence frame like the one shown below. Try several different situations and choose the one that interests you most.

What if (describe a person) suddenly (describe a problem)?

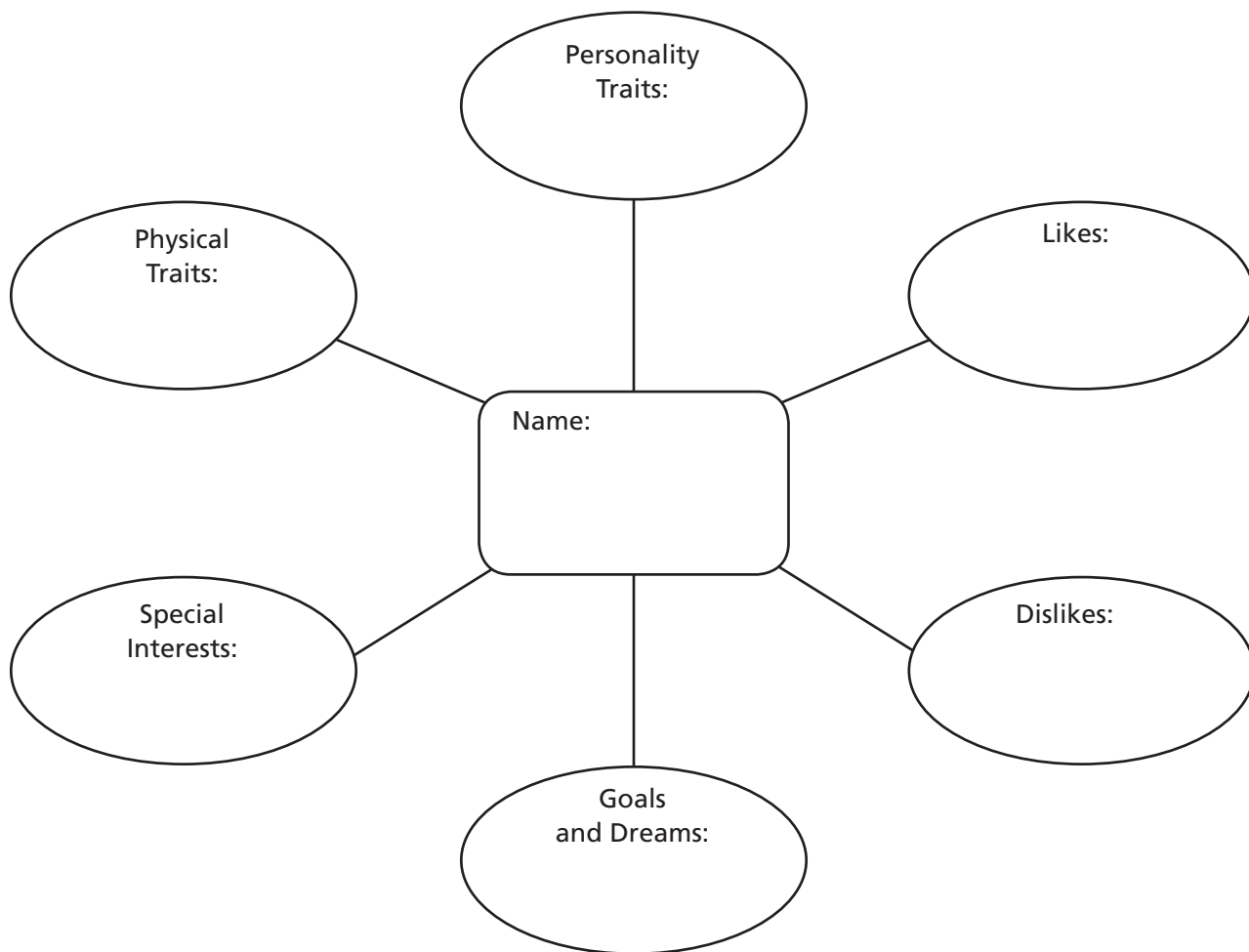
Another good way to generate story ideas is to write down snippets of interesting conversation that you overhear during the day. Jot down words and phrases from these conversations in a journal. At the end of the day, read them over to see if any of them captures your imagination. Select one and develop a story around it.

Explore the conflict. The basic elements of a short story are characters, setting, and plot. The plot consists of the main **conflict**, or struggle, and the events that show how the conflict is resolved. The conflict may be *external*, as when a girl has a disagreement with her best friend; or it may be *internal*, as when the girl finds her friend’s diary and struggles with her conscience about whether or not to read it. Once you have chosen an idea for a story, take some time to explore and develop the conflict. Keep in mind that a conflict can be a difficult challenge the character must face, a decision the character must make, or a goal the character wants to achieve. Answer the questions in the chart.

1. What does my main character want?	
2. Who or what is preventing him or her from getting it?	
3. What will the character do to overcome the person or thing that is getting in the way?	

Name _____ Date _____ Assignment _____

Understand your main character. Get to know your main character before you write. Then you will know what he or she is likely to do and say in certain situations. Use the web to explore your character’s physical appearance, personality traits, likes, dislikes, special interests, and goals. Feel free to add additional categories as you develop your character.



List two or three other minor, or less important characters in your story. Explain their relationship to the main character.

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.....

.....

Name _____ Date _____ Assignment _____

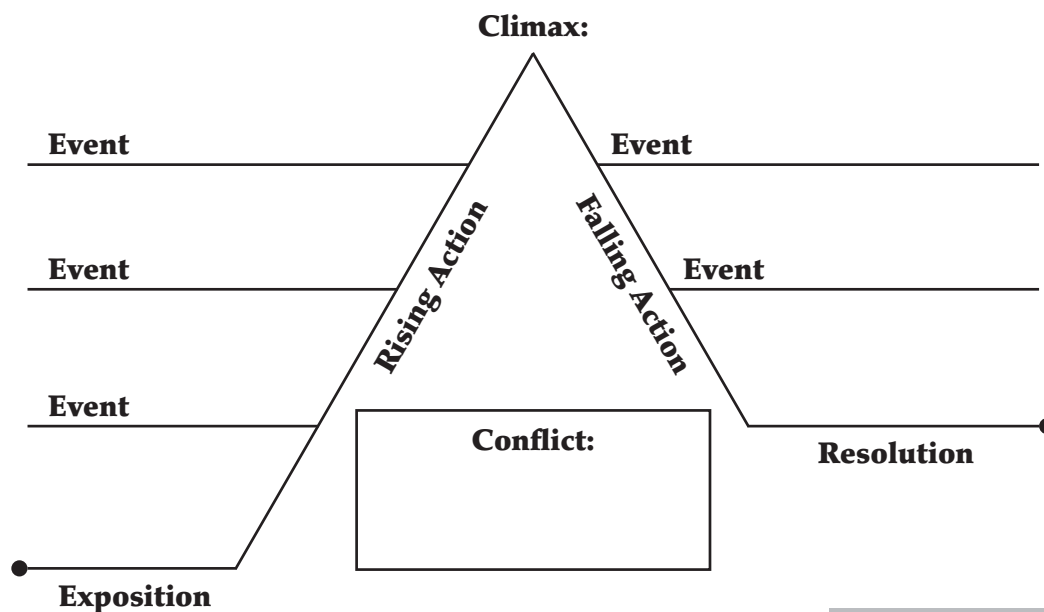
Drafting Strategies

Identify Setting: In some stories, the setting provides a realistic backdrop for the main character's struggle. For example, if you write about a character competing with other students to make the school's track team, some story events would likely take place at the track. In some stories, the setting actually provides the main character's conflict, for example in a story in which the main character gets stranded in a boat in a stormy sea. Use the chart to establish and describe a setting for your story.

Where and when does the story take place?	What details help describe the setting?	What does the setting mean to the conflict?

Develop a plot outline. Use the plot diagram below to organize events in your short story. Plot usually follows this pattern:

- **Exposition** introduces the characters, setting, and central conflict, or problem.
- The **rising action** includes two or three important events that show how the character tries to solve the conflict. Here the conflict intensifies and builds to the climax.
- The **climax** is the high point and most exciting part of the story. It is where the main character finally deals with the conflict.
- The **falling action** leads to the final **resolution**, where the conflict is resolved in some way and all the loose ends are tied up.



For use with Writing 3

Narrative Techniques

As you draft your story, be sure to balance all the parts of the plot. Set the right pace by varying sentence length and structure so that your story does not drag in some spots or move too quickly in other spots. A good story builds naturally and logically to a single exciting moment. To accomplish this, use a variety of narrative techniques.

Use precise language and sensory details. Good writers use precise language and sensory details to show readers what is happening instead of simply telling them. Using precise language and sensory details to describe setting can also help you convey a specific mood. **Mood** is the general feeling that a story or scene conveys to the reader.

Light, peaceful mood: *Bright beams of sunlight streamed through the open window and danced playfully on Olivia's face, waking her with a warm nudge.*

Dark and threatening: *Olivia was startled awake as a heavy gust of wind slammed the shutters closed, trapping in the suffocating heat.*

Use dialogue effectively. The use of lively dialogue can help move the plot along and also help you reveal more about your characters' thoughts and attitudes. When writing dialogue, keep your characters' personalities in mind. Use words and phrasing that the character would naturally use, including slang, idioms, and contractions.

Use the narrative techniques of foreshadowing and flashback. You can use foreshadowing to build suspense and make readers want to keep reading. **Foreshadowing** gives clues about what happens later in a story. You can use flashback to provide important background information about characters and events in your story. **Flashback** interrupts the story to switch back to an earlier time.

- **Foreshadowing:** *Ben was about to ask his mother to explain when she subtly shook her head at him and smiled secretly.*
- **Flashback:** *Lightning flashed, and suddenly Kara was once again a terrified six-year-old, hiding under the bed, waiting for someone to rescue her.*

Write from a consistent point of view. Tell your story from a single, consistent point of view. Choose from these types of point of view:

- first person: The narrator is also a character in the story; the narrator refers to him- or herself as *I*.
- third person omniscient: The narrator is not a character in the story and can relate details about any of the characters' experiences and perceptions.
- third person limited: The narrator is not a character in the story, but the narrator focuses on the experiences and perceptions of the main character, showing story events from that character's point of view only.

Name _____ Date _____ Assignment _____

Organize your narrative. Use the graphic organizer to organize events in your narrative. As you write, use a variety of transitional words, phrases, and clauses to convey sequence and to signal shifts from one time frame or setting to another.

- **Transitional words:** *first, next, then, meanwhile, before, during, now, yesterday, finally*
- **Transitional phrases:** *at the same time, last week, a month ago, some years back*
- **Transitional clauses:** *Before this event took place, While he was sleeping, When I was a child, After she left, As I walked into another room*

<p>.....</p> <p style="text-align: center;">(Title)</p>	<ol style="list-style-type: none"> 1. Give your story a title. It should convey the real meaning of your story and capture your readers' interest. 2. Introduce your main characters, the setting, and the conflict. 3. Describe what happens up to and including the climax of the story. <p>Remember to</p> <ul style="list-style-type: none"> • maintain a consistent point of view. • use vivid, precise language, sensory details, and dialogue. • use flashbacks to shift back to an earlier time. • use foreshadowing to give hints about future events • use transitions to show sequence and to shift to a different setting or time frame.
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Name _____ Date _____ Assignment _____

Conclusion

Provide a strong, satisfactory conclusion. Write an effective resolution, or conclusion to your story that leaves your readers satisfied. Use these tips.

- End with emphasis, not abruptly or vaguely by trailing off. The last event you narrate or scene you describe should help to summarize and reflect on the narrative by clearly showing the results of what has happened. For example, if through the events in the story, the main character has changed in some significant way, then the last scene should show this change. If the character has learned a specific lesson, then the last scene should show how the character applies or plans to apply this lesson to his or her life in the future.
- Tie up loose ends. Unless you are planning to write a sequel to your story, you should not leave readers wondering what happened to an important character or whether an important problem was solved. Include answers to such questions in your resolution.
- As you tie up loose ends, be careful not to cram answers to all unresolved questions into the resolution. The most significant problems or conflicts need to be fully developed and explored through the course of the story. The resolution is the point at which you give the final outcome, not tell a whole story in a sentence or two.

My Conclusion	Evaluating My Conclusion
	<input type="checkbox"/> Does my conclusion show what happens to the main character after the conflict is resolved? <input type="checkbox"/> Does it flow naturally and logically from story events? <input type="checkbox"/> Does it wrap up all the loose ends in the story?

Name _____ Date _____ Assignment _____

Revising Strategies

Evaluate your story

Use the organizer to explain how you plan to revise and edit your story to make it better. If you wish you can give a partner a copy of your draft and this graphic organizer and have your partner suggest ways to improve your story.

Focus Questions		How to Revise
Does my title capture the essence of my story and my readers' interest?	Yes No	
Do I introduce characters, setting, and conflict early in the story?	Yes No	
Do I use precise language, sensory details, and dialogue to help readers visualize setting, characters, and events?	Yes No	
Do I use natural-sounding dialogue that advances the plot and makes my characters believable?	Yes No	
Do all the events show how the main character deals with the conflict?	Yes No	
Do I use transitions to make the sequence of events clear and to show shifts in time and place?	Yes No	
Does the ending leave readers with any unanswered questions?	Yes No	
Do I maintain a consistent point of view throughout?	Yes No	
Do I use a variety of words and sentence lengths to set a good pace?	Yes No	

Revising

Comparison of Adjectives and Adverbs

Most adjectives and adverbs have three degrees of comparison; the *positive*, the *comparative*, and the *superlative*.

Identify degrees of adjectives and adverbs. The positive is used when no comparison is made. The comparative is used when two things are being compared. The superlative is used when three or more things are being compared.

Positive: Hannah is a *fast* runner.

Comparative: Eva is a *faster* runner than Hannah.

Superlative: Emmy is the *fastest* runner on the team.

Forming Comparative and Superlative Degrees	
Rules	Examples
Use <i>-er</i> or <i>more</i> to form the comparative degree.	faster, taller, narrower, sunnier, more intelligent, more expressive
Use <i>-est</i> or <i>most</i> to form the superlative degree.	fastest, tallest, sunniest, most nutritious, most sorrowful
Use <i>more</i> or <i>most</i> with modifiers of three or more syllables.	more popular, more intelligently, most popular, most intelligently

Fixing Incorrect Use of Comparative and Superlative Degrees

As you revise your draft, look for places where you made comparisons. Use one or more of the following methods to fix the incorrect use of comparative and superlative degrees of adjectives and adverbs in your draft:

- 1. Identify the number of things being compared.** Review the rules for comparison and use the correct word or word ending.
- 2. Identify the number of syllables in the modifier.** Review the rules for modifiers with a specific number of syllables and use the correct word or word ending.
- 3. Read the words aloud.** If the words sound awkward, combine the modifier with a different word or word ending.

Editing and Proofreading

Review your draft to correct errors in capitalization, spelling, and punctuation.

Focus on Capitalization: Review your draft carefully to find and correct capitalization errors. Make sure you have capitalized the title of your story correctly. Remember that the first and last word of a title are always capitalized. Articles (*a, an, the*) and short prepositions (*in, on, of*) are not capitalized.

Incorrect capitalization: The Day The Cow Flew through the Window

Correct capitalization: The Day the Cow Flew Through the Window

Focus on Spelling: Check the spelling of each word in your story. Look for words that you frequently misspell and make sure that they are correct. Pay particular attention to the spelling of the past tenses of irregular verbs. Check a dictionary if you are unsure of the spelling of an irregular verb's past tense. The correct spellings of irregular verb tenses are usually listed right after the pronunciation of the word. If you have typed your draft on a computer, use the spell-check feature to double-check for errors. Proofread carefully even after you run spell-check. Spell checkers will not find words that are used incorrectly, such as *its* instead of *it's* when the incorrect word is spelled correctly.

Focus on Punctuation: Proofread your writing to find and correct punctuation errors. Specifically, make sure you have punctuated dialogue correctly. Enclose a character's exact words in quotation marks. If dialogue comes *before* the speech tag (the words announcing speech), use a comma, question mark, or exclamation point at the end of the quotation—not a period. If dialogue comes *after* the speech tag, use a comma before the quotation. Always place a period at the end of a sentence inside the quotation marks.

Examples:

"I heard the siren," Benjamin said.

Sally jumped and shouted, "So did I, but it still surprised me!"

Benjamin added, "You do seem a little jumpy today."

Revision Checklist

- Have you reviewed your story to make sure your title, names, and other proper nouns are capitalized?
- Have you read each sentence and checked that all of the words are spelled correctly, especially the past tenses of irregular verbs?
- Have you punctuated dialogue correctly?

Name _____ Date _____ Assignment _____

Publishing and Presenting

Consider one of the following ways to present your writing:

Submit your story. Submit your story to your school’s literary magazine, a national publication, an online journal, or a writing contest. Many publications have online Web sites where you can find writer’s guidelines for submitting your writing. Follow the guidelines exactly to increase your chances of having your work published. Ask your teacher for additional help if necessary.

Give a reading. Read your story aloud to your class or to a group of friends. Prepare posters announcing your reading. Include intriguing dialogue or descriptions from your story on your poster to build interest in your story. To enhance your reading, find and play soft background music appropriate for the content of the story. After the event, distribute signed copies of your story to members of the audience.

Rubric for Self-Assessment

Find evidence in your writing to address each category. Then use the rating scale to grade your work.

Evaluating Your Short Story	not very		very			
Focus: How well-developed are your characters?	1	2	3	4	5	6
Organization: How clearly organized is the story line or sequence of events?	1	2	3	4	5	6
Support/Elaboration: How well do the dialogue and descriptive details build suspense and support the plot?	1	2	3	4	5	6
Style: How precise is your word choice?	1	2	3	4	5	6
Conventions: How correct is your grammar, especially your use of comparative adjectives and adverbs?	1	2	3	4	5	6

ELD Work For English Learners

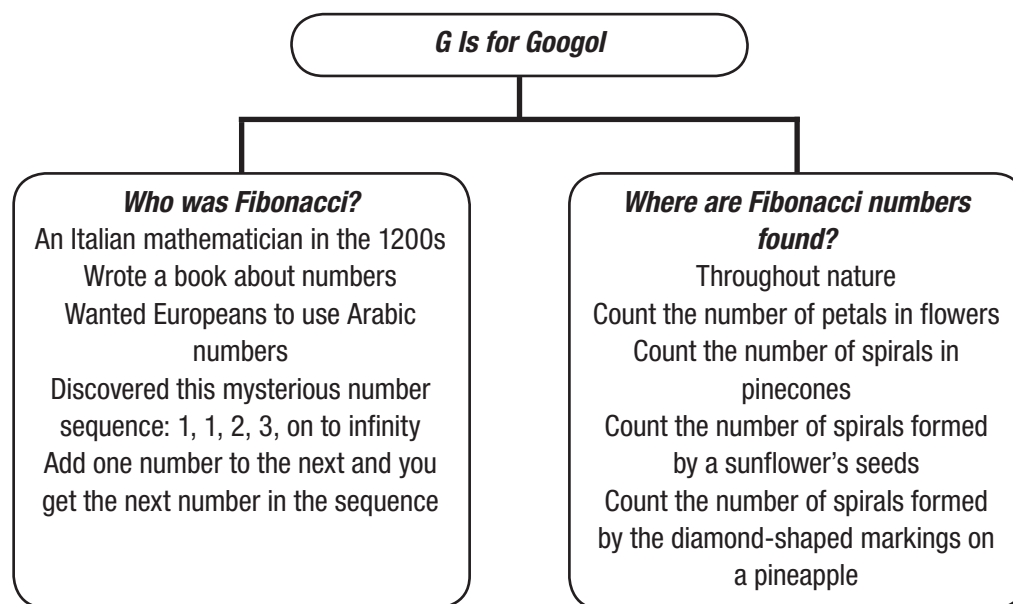
Can all mysteries be solved?

From *G Is for Googol*

SUMMARY Use with textbook pages 40–43.

These two sections from *G Is for Googol* describe an unusual number sequence that is found in nature, art, architecture, music, and poetry. “F Is for Fibonacci” tells about the Italian mathematician named Fibonacci who discovered the mysterious number sequence in the 1200s. The first 12 numbers in the series are 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, and 144. When you add one number to the next, you get the following number in the sequence. “N Is for Nature” explains how to find the Fibonacci sequence in pinecones and other natural objects, including sunflower seeds, pineapples, and artichokes.

Visual Summary



ELD Work For English Learners

Use What You Know

List three ways you use numbers in your daily life.

1. _____
2. _____
3. _____

Text Structure

Science articles often include the dates or time periods in which famous discoveries or advances were made. Underline the time period that appears on this page. What happened then?



Reading Strategy: Use Visuals

Visuals include charts, diagrams, and photographs. They support the text by showing information in a different form. Circle the visual on this page. What does it show?



From *G Is for Googol*

by David M. Schwartz

Did you know that a googol is a 1 followed by 100 zeroes? G Is for Googol is a math alphabet book that explains many unusual mathematical words and facts. Read two sections from this amazing book. Both are about a mysterious number sequence.

F Is for Fibonacci

In the 1200s, an Italian mathematician named Leonardo of Pisa wrote a book about numbers. He signed his name *Fibonacci* (pronounced fib-o-NOTCH-ee).

In his book, Fibonacci said that the people of Europe should stop using Roman numerals. He wanted everyone to switch to the numerals used in the Arabic world. Instead of writing LXXVIII, they could write 78. Isn't 78 easier to write than LXXVIII? Well, Fibonacci thought so, and because of him, we use Arabic numerals today.

Fibonacci's book also included story problems. One was about rabbits: How many pairs of rabbits will there be each month if you start with one pair of newborn rabbits, and that pair produces a pair of babies every month? The rabbits start producing babies when they are two months old, and their babies also have their first babies when they become two months old.

producing, having



ELD Work For English Learners

Here's one way to look at it:

After How Long?	How Many Rabbits?
Starting point	1 pair
After 1 month	1 pair
After 2 months	2 pairs
After 3 months	3 pairs
After 4 months	5 pairs
After 5 months	8 pairs
After 6 months	13 pairs
After 7 months	21 pairs
After 8 months	34 pairs
After 9 months	55 pairs
After 10 months	89 pairs
After 11 months	144 pairs

Let's look at the answers another way:

1 1 2 3 5 8 13 21 34 55 89 144

These are the first 12 numbers in the famous *Fibonacci sequence* of numbers.

See if you can **figure out** what's so special about the Fibonacci sequence. After the first two numbers, how can the others be made? Think about it before you read on.

Whenever you add one number to the next, you get the following number in the sequence. Try it. Add 2 and 3. What do you get? Now add 5 and 8. Got it? Okay, now what number comes after 144 in the Fibonacci sequence?

Fibonacci numbers are interesting, but what's *amazing* about them is how often they appear. You can find Fibonacci numbers in art, architecture, music, poetry, and nature. Read **N Is for Nature**. Get ready to be amazed.

figure out, think about a problem or situation until you find the answer or understand what has happened

Reading Strategy: Use Visuals

Visuals can help you to better understand the information in an article. Circle the chart on this page. What does the chart show?



Text Structure

A science text often has highlighted terms. Their definitions are at the bottom of the page. Circle the highlighted term on this page and underline its definition. Write a new sentence using the term.



Comprehension Check

Underline the sentence that lists the different areas where you can find the Fibonacci sequence. According to the author, what is amazing about this number sequence?



ELD Work For English Learners

Comprehension Check

Underline the sentence that tells where you can find the Fibonacci sequence in a flower. What is another example of the Fibonacci sequence in nature?



Text Structure

Science articles often explain or define key terms within the text. Circle the definition of *florets*. Name one kind of flower that has florets.



Comprehension Check

Underline the sentence that tells how many pine needles are in a bundle. How do these numbers connect to the Fibonacci sequence?



N Is for Nature

There are numbers in *nature*. Lots.

Do you remember the Fibonacci sequence of numbers? Here are the first twelve numbers of the Fibonacci sequence:

1 1 2 3 5 8 13 21 34 55 89 144

Fibonacci discovered this number sequence, but he did not invent it. Nature invented it. If each page of this book stated one way that Fibonacci numbers appear in nature, we'd need a book so heavy you couldn't lift it. Here are just a few.

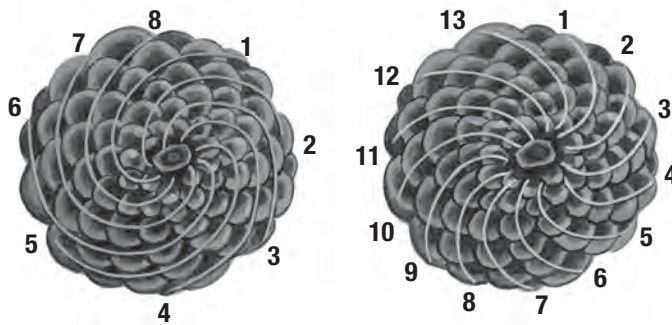
The number of **petals** in a flower is usually a Fibonacci number. Some flowers, like daisies, don't have true petals, but petal-like parts called *florets*. Florets come in Fibonacci numbers, too.

Pine needles come in groups, or *bundles*. The bundles almost always have 1, 2, 3, or 5 needles. Do these numbers look familiar?

petals, the brightly colored parts of a flower

ELD Work For English Learners

But pine needles aren't nearly as interesting as pinecones. Find a pinecone. The hard little knobby parts are called *bracts*. (Make sure your pinecone is in good condition, with no missing bracts.) Turn the cone so you're looking at its base. Can you see how the bracts make spirals? There are clockwise spirals, and there are counterclockwise spirals. Follow one spiral as it winds all the way around the cone to the pointy end. Dab a little paint on each bract in that spiral. Now dab a different color on a spiral going in the other direction. You'll see that one spiral winds gradually, and the other one winds more steeply. How many of each type are there? Count them. Remember, it's not the number of bracts that you're counting; it's the number of spirals.



▲ If you count the clockwise or counterclockwise spirals on the bottom of a pinecone, you will get a Fibonacci number.

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Text Structure

Science articles often include experiments. Underline the first step and the last step in the pinecone experiment on this page. What does the author suggest you use to mark each bract in a spiral?



Comprehension Check

Underline the sentence that explains what a *bract* is. What is the relationship between a bract and a spiral?



Reading Strategy: Use Visuals

Visuals help you to better understand a text. Circle the images on this page. What do they show? How do they help you understand more about the Fibonacci sequence?



ELD Work For English Learners

Text Structure

Science articles often include numbers or amounts. Circle all the numbers on this page that could describe the number of spirals on a pinecone. What else do these numbers have in common?



Comprehension Check

Underline the passage that tells where the Fibonacci sequence can be found on a sunflower, artichoke, and pineapple. What are the scales of a pineapple?



Reading Strategy: Use Visuals

Visuals can help you compare information. Draw boxes around the images on this page. How are seashells like pinecones?



Some pinecones have 3 gradual spirals and 5 steep spirals. Some have 5 gradual and 8 steep. Or 8 and 13. Or 13 and 21. A pinecone's spirals come in Fibonacci numbers. In fact, Fibonacci numbers are sometimes called "pinecone numbers."

Fibonacci numbers could also be called "sunflower numbers," "artichoke numbers," or "pineapple numbers" because you will find the numbers in spirals formed by a sunflower's seeds, an artichoke's leaves, and a pineapple's scales (the diamond-shaped markings on the outside).

Fibonacci strikes again!



▲ These seashells have spirals that follow the Fibonacci sequence.

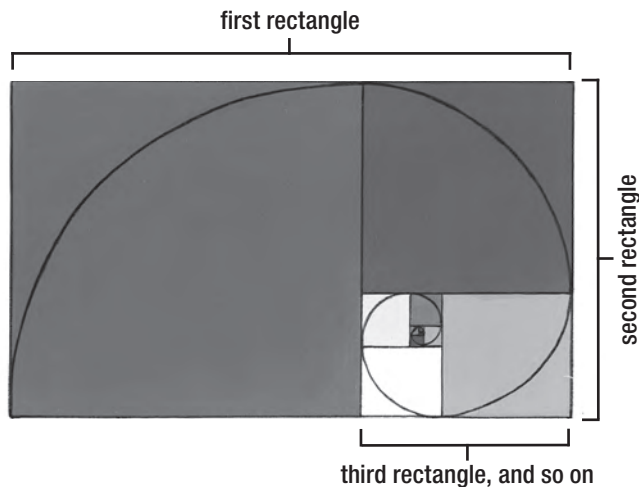
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ELD Work For English Learners

No one really understands why Fibonacci numbers show up so much in nature. It's a mystery!

Here's another way that Fibonacci numbers are found in nature: They make a spiral that maintains a constant proportion all the way to infinity. To find that spiral, take a rectangle that has "Fibonacci" proportions, say $3" \times 5"$, then repeat that same proportioned rectangle, smaller and smaller . . .

maintains, continues in the same way
proportion, the amount of something compared to something else



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Choose one and complete:

1. Make a poster to show Fibonacci numbers. Explain how the sequence works.
2. Use reliable sources at the library or on the Internet to learn more about Fibonacci's findings. Write a one-page report on his work and life.
3. Make a drawing that shows how Fibonacci numbers appear in nature.

Comprehension Check

Underline the sentence that describes another way the Fibonacci numbers are found in nature. Describe how to find the spiral that keeps a constant proportion all the way to infinity.



Text Structure

Draw a box around the first highlighted word on this page. Look at the definition. Then use the word in a new sentence.



Reading Strategy: Use Visuals

Circle the diagram on this page. How does it help explain ideas in the text?



ELD Work For English Learners

READING WRAP-UP

Retell It!

Write a short entry about Fibonacci for an encyclopedia. Explain who he was and what is important about the number sequence he discovered.

Reader's Response

Did the article make you think differently about the role of numbers in nature? If so, how did it change your thinking? If not, why?

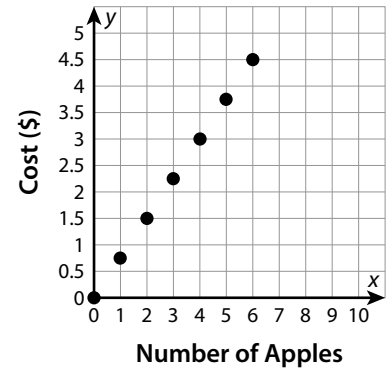
Think About the Skill

How did using the visuals help you to better understand the article? Give some specific examples.

Interpreting Graphs of Proportional Relationships

► The graph shows the cost of apples at a local market. Use the graph to answer problems 1–3.

- 1 What is the cost of 1 apple and of 3 apples?
How do you know?

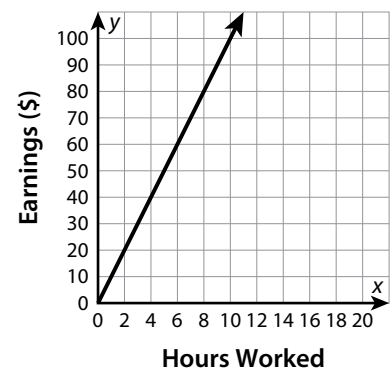


- 2 What does the point $(0, 0)$ represent in this context?

- 3 What does the point $(2, 1.5)$ represent in this context?

► The graph shows Manuela's earnings for the number of hours she spends tutoring. Use the graph to answer problems 4 and 5.

- 4 How much does Manuela earn for each hour of tutoring?
Explain.



- 5 Write an equation that shows the relationship between Manuela's earnings, y , and hours, x .

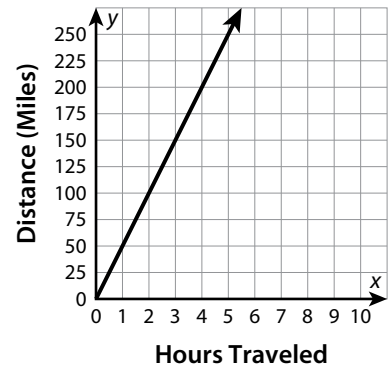
Interpreting Graphs of Proportional Relationships *continued*

- **The graph shows the distance Jason’s family traveled on a recent road trip. Use the graph to answer problems 6–8.**

6 What is the constant of proportionality?
Explain how you know.

7 Identify and interpret one other point on the graph.

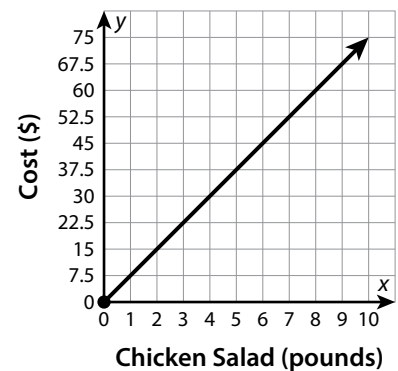
8 Write an equation that models the distance, d , traveled in t hours.



- **The graph shows the cost per pound of chicken salad. Use the graph to answer problems 9 and 10.**

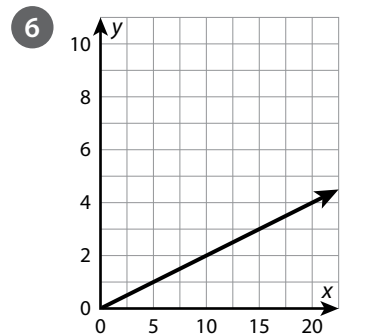
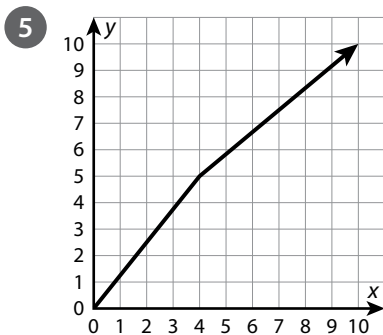
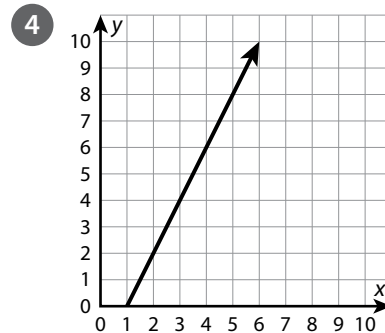
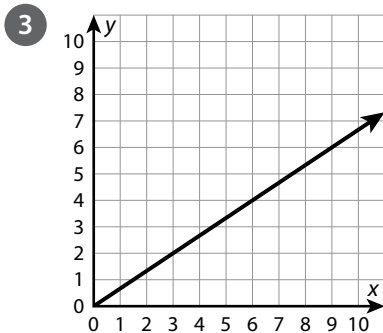
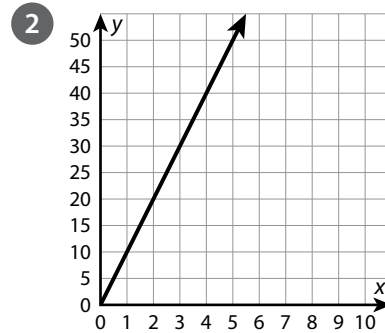
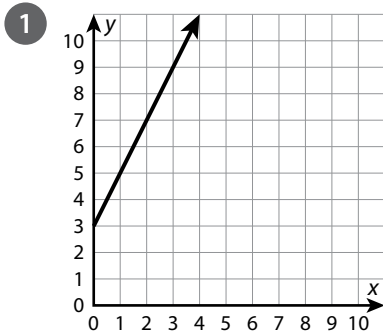
9 Randy claims that he can purchase 3.5 pounds of chicken salad for \$23.50. Is he correct? Explain.

10 Explain how you can determine how much chicken salad may be purchased for \$52.50.

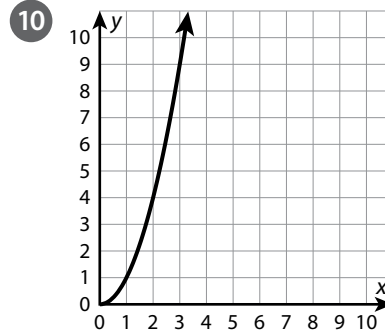
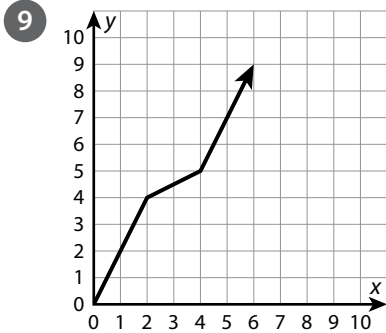
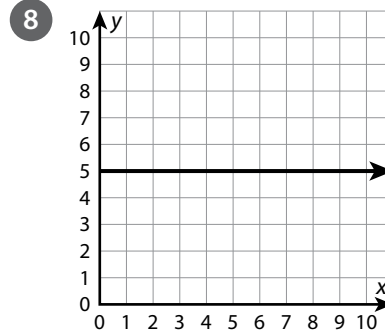
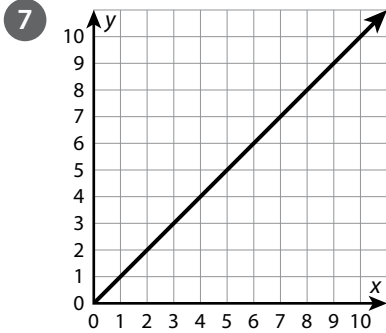


Recognizing Graphs of Proportional Relationships

► Circle all the problems with graphs that do NOT represent a proportional relationship. For the problems that are circled, explain why the graphs do not represent a proportional relationship.



Recognizing Graphs of Proportional Relationships *continued*



- 11 Without analyzing specific points on a graph, explain how you know whether a graph shows a proportional relationship.

Solving Multi-Step Ratio Problems

► **Solve each problem.**

- 1 At The Green House of Salad, you get a \$1 coupon for every 3 salads you buy. What is the least number of salads you could buy to get \$10 in coupons?
-

- 2 Kim orders catering from Midtown Diner for \$35. She spends \$5 on a large order of potato salad and the rest on turkey sandwiches. Each sandwich is \$2.50. How many sandwiches does Kim buy?
-

- 3 Molly and Liza are exercising. Molly does 10 push-ups at the same time as Liza does 15 push-ups. When Molly does 40 push-ups, how many push-ups does Liza do?
-

- 4 A shark swims at a speed of 25 miles per hour. The shark rests after 40 miles. How long, in minutes, does the shark swim before resting?
-

- 5 Ali and Janet are selling gifts at a local craft show. For every bar of soap that Ali sells, she earns \$5. For every mug that Janet sells, she earns twice as much as Ali. Ali sells 5 bars of soap, and Janet sells 7 mugs. How much money did they make altogether?
-

- 6 Ted is making trail mix for a party. He mixes $1\frac{1}{2}$ cups of nuts, $\frac{1}{4}$ cup of raisins, and $\frac{1}{4}$ cup of pretzels. How many cups of pretzels does Ted need to make 15 cups of trail mix?
-

- 7 The ratio of chaperones to students on a field trip is 2 : 7. There are 14 chaperones on the field trip. In all, how many chaperones and students are there?
-

- 8 Dayren is driving to visit family. She drives at an average of 65 miles per hour. She drives 227.5 miles before lunch and then 97.5 miles after lunch. How many hours did she spend driving?
-

Solving Problems Involving Multiple Percents

► **Solve each problem.**

- 1 A chair's regular price is \$349. It is on clearance for 30% off, and a customer uses a 15% off coupon after that. What is the final cost of the chair before sales tax?
- 2 A calculator is listed for \$110 and is on clearance for 35% off. Sales tax is 7%. What is the cost of the calculator?
- 3 Cara started working for \$9 per hour. She earns a 4% raise every year. What is her hourly wage after three years?
- 4 A factory manufactures a metal piece in 32 minutes. New technology allowed the factory to cut that time by 8%. Then another improvement cut the time by 5%. How long does it take to manufacture the piece now? Round your answer to the nearest minute.
- 5 An apartment costs \$875 per month to rent. The owner raises the price by 20% and then gives a discount of 8% to renters who sign an 18-month lease. How much less do renters who sign an 18-month lease pay per month to rent the apartment?

Solving Problems Involving Multiple Percents *continued*

- 6 Damon buys lumber worth \$562. He gets a 20% contractor's discount. The sales tax is 6%. His credit card gives him 2% off. How much does he pay?
- 7 Cindy is shopping for a television. The original price is \$612. Store A has the television on clearance for 30% off. Store B has it on clearance for 25% off, and Cindy has a 10% off coupon to use at Store B. At which store will she pay less? How much less?
- 8 John goes to a restaurant and has a bill of \$32.57. He uses a 10% off coupon on the cost of the meal. The tax is 8%. He leaves a tip of 18% on the amount before the coupon or tax is applied. How much does he spend?
- 9 Explain which situation will give you the best price: a discount of 15% and then 10% off that amount, a discount of 10% and then 15% off that amount, or a discount of 25%.

15.2 Populations

Lesson Objectives

- Define population.
- Identify measures of population size, growth, and structure.
- Describe how the human population grew in the past and is predicted to grow in the future.

Lesson Vocabulary

- age-sex structure
- carrying capacity
- demographic transition
- exponential growth
- logistic growth
- population density
- population distribution
- population growth rate
- population pyramid

Introduction

A population is a group of individuals of the same species that live in the same area. The population is the unit of natural selection, adaptation, and microevolution. In ecology, how large a population is and how quickly it is growing are often used as measures of a species' health.

Population Size, Growth, and Structure

Population size is the number of individuals in a population. Population size influences the chances of a species surviving or going extinct. If a species' populations become very small, the species may be at risk of going extinct.

Population Density and Distribution

Another sign of a species' state of health is the density of its populations. Population density is the average number of individuals in a population for a given area. Density is a measure of how crowded or spread out the individuals in a population are on average. For example, a population of 100 deer that live in an area of 10 square kilometers has a population density of 10 deer per square kilometer.

Population density is an average measure. Often, individuals in a population are not spread out evenly. Instead, they may live in clumps or some other pattern. How individuals in a population are distributed, or spread throughout their area, is called population distribution. You can see different patterns of population distribution in **Figure 15.3**. Different patterns characterize different species and types of environments, as you can read in the figure.

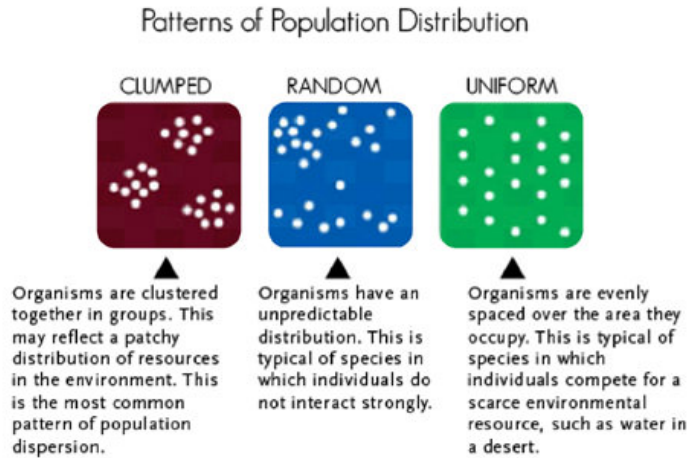


FIGURE 15.3

Patterns of population distribution include clumped, random, and uniform distributions. Each pattern is associated with different types of species or environments.

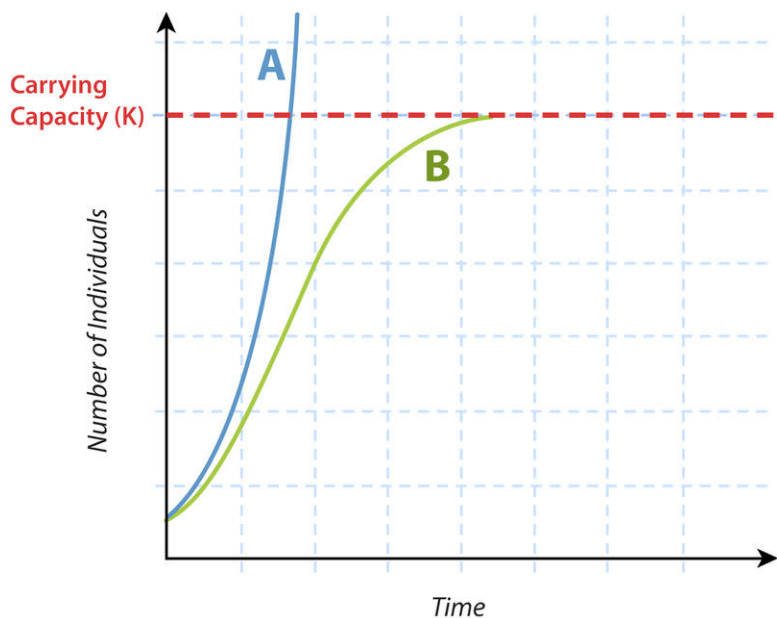
Population Growth

Whether its populations are growing or shrinking in size may be another indicator of a species' health. Individuals may be added to a population through births and the migration of individuals into the population. Individuals may be lost from a population through deaths and the migration of individuals out of the population.

The population growth rate is how quickly a population changes in size over time. The rate of growth of a population may be positive or negative. A positive growth rate means that the population is increasing in size because more people are being added than lost. A negative growth rate means that the population is decreasing in size because more people are being lost than added.

Populations may show different patterns of growth. The growth pattern depends partly on the conditions under which a population lives. Two common growth patterns are exponential growth and logistic growth. Both are represented in **Figure 15.4**.

- With exponential growth, the population starts out growing slowly. As population size increases, the growth rate also increases. The larger the population becomes, the more quickly it grows. This type of growth generally occurs only when a population is living under ideal conditions. However, it can't continue for very long.
- With logistic growth, the population starts out growing slowly, and then the rate of growth increases—but only to a point. The rate of growth tapers off as the population size approaches its carrying capacity. Carrying capacity is the largest population size that can be supported in an area without harming the environment. This type of growth characterizes many populations.

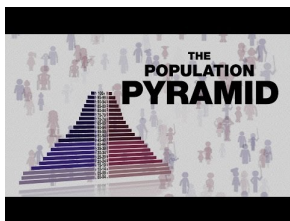
**FIGURE 15.4**

Curve A represents exponential population growth. Curve B represents logistic population growth.

Population Age and Sex Structure

Another way of describing a population is its age-sex structure. This refers to the numbers of individuals of each sex and age in the population. The age-sex structure of a population may influence the population growth rate. This is because only individuals of certain ages are able to reproduce, and because individuals of certain ages may be more likely to die. For example, if there are many individuals of reproductive age, there are likely to be many births, causing the population to grow rapidly.

The age-sex structure of a population is often represented with a special bar graph called a population pyramid. You can see an example of a population pyramid in **Figure 15.5**. The graph in the figure actually has a pyramid shape because the bars become narrower from younger to older ages. However, this is not always the case. In some populations, for example, there may be more people at older than younger ages, resulting in a top-heavy population pyramid. Learn more about population pyramids and what you can learn from them, watch this TED video: <http://www.youtube.com/watch?v=RLmKfXwWQtE> .



MEDIA

Click image to the left or use the URL below.

URL: <http://www.ck12.org/flx/render/embeddedobject/140774>

The Human Population

Human beings have been called the most successful weed species on Earth. Like garden weeds, populations of human beings grow quickly and disperse rapidly. Human beings have colonized almost every terrestrial part of the planet. Overall, the human population has had a pattern of exponential growth, as you can see in **Figure 15.6**. The early human population grew very slowly. However, as the population grew larger, it started to grow more rapidly.

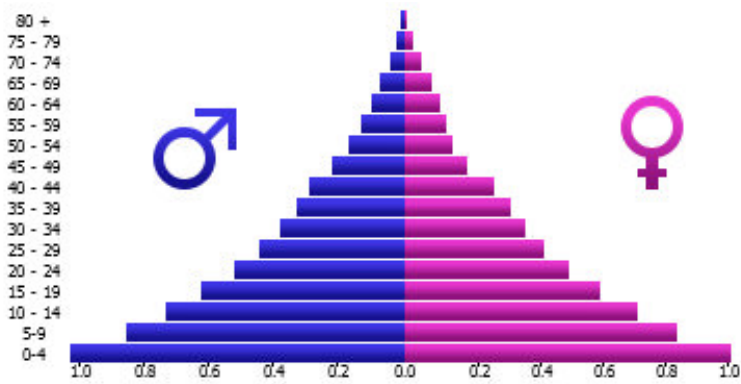


FIGURE 15.5

A population pyramid shows the age-sex structure of a population. This population pyramid represents the human population of the African country of Angola in 2005.

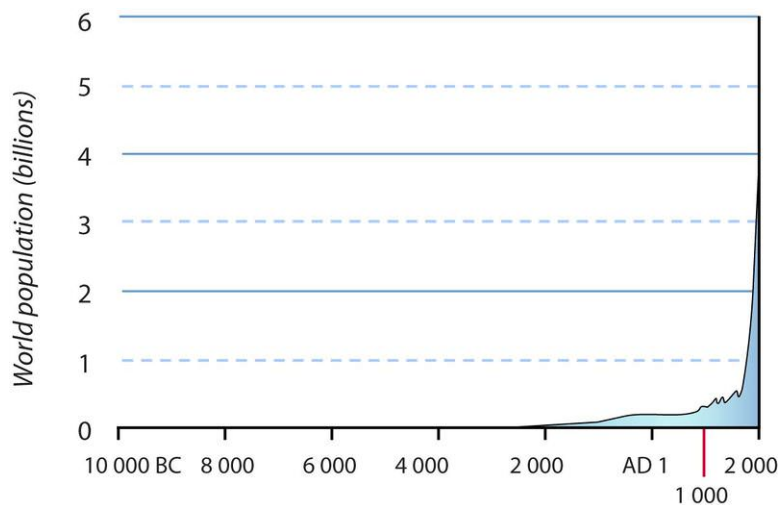


FIGURE 15.6

Growth of the Human Population.

Early Population Growth

The earliest members of the human species evolved around 200,000 years ago in Africa. Early humans lived in small populations of nomadic hunters and gatherers. Human beings remained in Africa until about 40,000 years ago. After that, they spread throughout Europe, Asia, and Australia. By 10,000 years ago, the first human beings colonized the Americas. During this long period of time, the total number of human beings increased very slowly. Birth rates were fairly high but so were death rates, producing low rates of population growth.

Human beings invented agriculture about 10,000 years ago. This provided a bigger, more dependable food supply. It also allowed people to settle down in villages and cities for the first time. Birth rates went up because there was more food and settled life had other advantages. Death rates also rose because of crowded living conditions and diseases that spread from domestic animals. Because the higher birth rates were matched by higher death rates, the human population continued to grow very slowly.

Demographic Transition

Major changes in the human population first began in the 1700s. These changes occurred mainly in Europe, North America, and a few other places that became industrialized. First death rates fell. Then, somewhat later, birth rates also fell. These changes in death and birth rates affected the rate of population growth and are referred to as the

demographic transition. The graph in **Figure 15.7** shows the stages in which the demographic transition occurred. You can learn more about the stages by watching this video: <http://education-portal.com/academy/lesson/what-is-demographic-transition-definition-stages.html>

The Stages of the Demographic Transition.

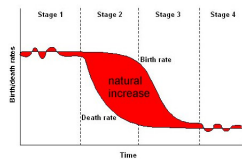


FIGURE 15.7

The demographic transition occurred in the stages shown in this graph.

In Stage 1, both birth and death rates were high so population growth was slow. In Stage 2, death rates fell while birth rates remained high. Why did death rates fall? There were several reasons, including new scientific knowledge of the causes of disease. Water supplies were cleaned up and sewage was disposed of more safely. Better farming techniques and machines increased the food supply and the distribution of food. For all these reasons, death rates fell, especially in children. Birth rates, on the other hand, remained high. This resulted in faster population growth.

Before long, birth rates also started to fall. People started having fewer children because large families became too expensive. For example, with better farming machines, farm families no longer needed as many children to work in the fields. Laws were also passed that required children to go to school. They could no longer work and help support the family. Having many children became too costly. Eventually, birth rates fell to match death rates (Stage 4). As a result, population growth slowed down.

Recent Population Growth

Just as they did in Europe and North America, death rates have fallen throughout the world. No country today remains in Stage 1 of the demographic transition. However, birth rates are still high in many of the poorest countries of the world. These populations seem to be stuck in Stage 2 or 3 of the demographic transition. They have high population growth rates because low death rates are not matched by equally low birth rates. Whether these populations will ever enter Stage 4 and attain very low rates of population growth is uncertain.

Future Population Growth

As of 2014, there were more than 7 billion human beings on planet Earth. That number is increasing rapidly. More than 200,000 people are added to the human population each day! At this rate, the human population will pass 9 billion by 2050.

Many experts think that the human population has reached its carrying capacity. It has already harmed the environment. An even larger human population may cause severe environmental problems. It could also lead to devastating outbreaks of disease, starvation, and war. To solve these problems, two approaches may be needed:

- Slow down human population growth so there are fewer people.
- Distribute Earth's resources more fairly so that everyone has enough.

Hopefully, we will act before it's too late. Otherwise, the planet may be ruined for future generations of human beings and other species.

Lesson Summary

- A population is a group of individuals of the same species that live in the same area.
- Populations can be described in terms of size, density, and distribution. Population growth may be exponential or logistic. The age-sex structure of a population affects the rate of population growth.
- The world's human population has shown exponential growth. It grew very slowly for tens of thousands of years. Then it started growing very rapidly as many populations reached and remained in Stage 2 or 3 of the demographic transition. At the current rate of growth, the human population is predicted to pass 9 billion by 2050.

Lesson Review Questions

Recall

1. Define population.
2. What is a population pyramid?
3. What are some changes that caused the original demographic transition?

Apply Concepts

4. Describe the growth of a population that in a given year has 10 births, 8 deaths, and no migration.
5. If the human population reaches predicted levels by 2050, how do you think this may affect the environment?

Think Critically

6. Compare and contrast the concepts of population density and population distribution.
7. Relate carrying capacity to logistic growth of a population.

Points to Consider

A population doesn't exist alone. It is part of a community.

1. What is a community?
2. How might populations in a community interact?

ESSENTIAL QUESTION

Why does conflict develop?

Anglo-Saxon Early Law

DIRECTIONS: Study the following excerpt and answer the accompanying questions.

EXPLORE THE CONTEXT: This passage was written around the year 930 C.E. It comes from a collection of laws created by the Anglo-Saxon government officials. These two paragraphs represent two of the laws that people of England were required to follow.



PRIMARY SOURCE: EXTRACTS FROM EARLY LAWS OF THE ENGLISH

“If any one [when summoned] fail to attend the gemot thrice [three times], let him pay the king’s ‘oferhynes,’ and let it be announced seven days before the gemot is to be. But if he will not do right, nor pay the ‘oferhynes,’ then let all the chief men belonging to the ‘burh’ ride to him, and take all that he has, and put him in ‘both.’ But if any one will not ride with his fellows, let him pay the king’s ‘oferhynes.’ . . .

And let the hundred gemot be attended as it was before fixed; and thrice in the year let a burh-gemot be held; and twice, a shire-gemot; and let there be present the bishop of the shire and the ealdorman, and there both expound as well the law of God as the secular law from Select Charters and Other Illustrations of English Constitutional History from the Earliest Times to the Reign of Edward the First.”

—from *Select Charters and Other Illustrations of English Constitutional History from the Earliest Times to the Reign of Edward the First*, c. 930 C.E.

VOCABULARY

Gemot: a meeting
Both: debt
Burh-gemot: a town council meeting

Oferhynes: penalties for disobedience
Burh: a town or city
Shire-gemot: a county meeting

1 ANALYZING SOURCES What type of document is this? How does knowing this help you understand the document?

Copyright © McGraw-Hill Education; TEXT: Stubbs, William. 1900. *Select Charters and Other Illustrations of English Constitutional History from the Earliest Times to the Reign of Edward the First*. London: MacMillan and Co.

2 IDENTIFYING EFFECTS According to the law, what is the punishment for missing one of the king's meetings?

3 HISTORY What can you tell from the document about the system the king used to communicate with the people of his kingdom?

4 EVALUATING EVIDENCE What can you tell about civil society, or the relationship between government and citizens, from reading this document?

ESSENTIAL QUESTION

Why does conflict develop?

VOCABULARY

Conquest: the triumph of William the Conqueror

victuals: food

tumults: chaos

exchequer: the government office responsible for collecting taxes and paying the king's bills

Richard of Ely on Tax Collection

DIRECTIONS: Study the following excerpt and answer the accompanying questions.

EXPLORE THE CONTEXT: Historians believe that this document was created in 1178. The author is Richard, son of Bishop Nigel of Ely. Both Richard and his father were important officials at the exchequer. Richard created the document as part of his work for the government. The “Conquest” he refers to is the conquest of England by William of Normandy in 1066 C.E. William is credited with introducing European feudalism to England.

SECONDARY SOURCE: BOOK

“VII. By whom, or for what purpose, the testing of silver was instituted.

In the primitive state of the kingdom after the Conquest, as we have learned from our fathers, not weights of gold or silver, but solely victuals were paid to the kings from their lands, from which the necessaries for the daily use of the royal household were furnished. And those who had been appointed for this purpose knew how much came from the separate estates. . . . This arrangement, however, continued during the whole time of King William I, and up to the time of King Henry, his son; so that I myself saw some people who had seen victuals carried at stated times from the estates of the crown to the court: and the officials of the royal household knew from which counties corn and from which different kinds of meat, or fodder for horses, or any other necessary things, were due. . . . But as time went on, when the same king was occupied across the channel and in remote places, in calming the tumults of war, it came about that the sum necessary for meeting these expenses was paid in ready money.”

—from *The Dialogue Concerning the Exchequer. First Book, Chapter VII, 1178 C.E.*

1 DRAWING CONCLUSIONS What economic system did the English use during most of the reign of King William I?

2 CITING TEXT EVIDENCE What change in society does the author record in the passage?

3 HISTORICAL CONTEXT What were the likely causes and effects of the change to cash payments for taxes?

4 HISTORICAL INFERENCE How do the details in the document help you understand feudal England?

5 CONNECT TO TODAY Do you ever barter for goods? How is a barter system better or worse than exchanging money?

F.I.T.T.

- Frequency (how often) - exercise 3 times a week
- Intensity (how hard) - your heart rate should be between 120-160 beats per minute.
 - Level 1-little exertion; little perspiration
 - Level 2-able to speak without gasping; increase in heart rate
 - Level 3-sweating, breathing heavily; increase in heart rate
- Time (how long) - 20-30 minutes of continuous aerobic activity
- Type (what) - walking, running, jump roping, push ups, sit ups, planks, workout video, etc

Please practice social distancing when participating outside in fitness activities.

Physical Activity Log Instructions

How to fill out the log:

- Write the date
- Write in the type of activity
- Write in the total number of minutes you were active
- Write in the intensity level
 - Level 1-little exertion; little perspiration
 - Level 2-able to speak without gasping; increase in heart rate
 - Level 3-sweating, breathing heavily; increase in heart rate

Date	Activity	Number of Minutes	Intensity Level

Dance



Since ancient times, people have danced. Cave and rock paintings from as far back as 3300 B.C. show people dancing. People have danced for ritual, for celebration, and also just for fun!

Every culture has its own dance styles, and its own reasons for dancing. In ancient Greece, citizens would dance to honor gods and celebrate events. Ancient Egyptian women danced at funerals to express sadness. It was around Renaissance times that dance became something that people did for enjoyment.

In the 1600s, King Louis XIV of France enjoyed ballet, which helped make it popular with the public. Pretty soon, people were going to the theater to watch people dance, and it became into a true performing art. Now, there are all different styles of dance, from jazz to tap to hip-hop to salsa...and that's just in the Western world. All over the globe, there are countless styles of dancing, and countless reasons for it.

Make up a dance to a favorite song. Draw each step in the boxes below.

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Now make up a dance that tells a story. Pick a favorite book or a famous fairy tale.

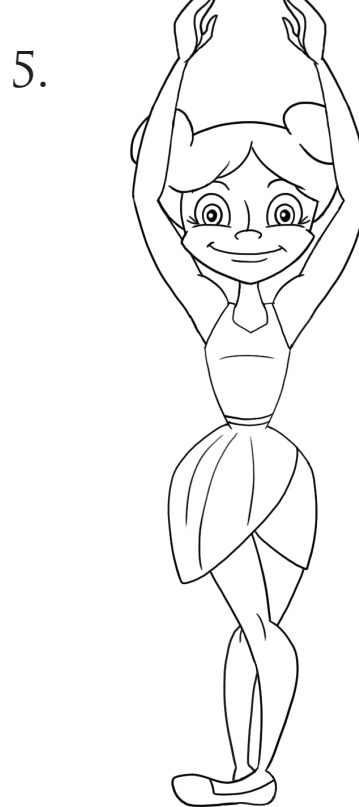
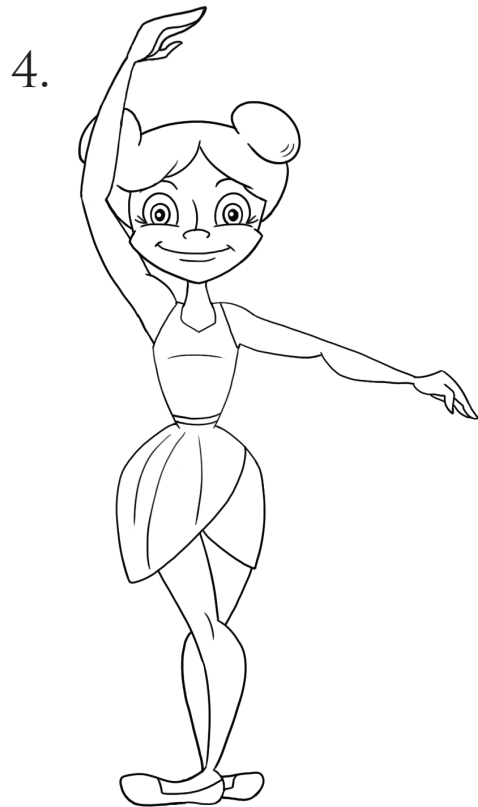
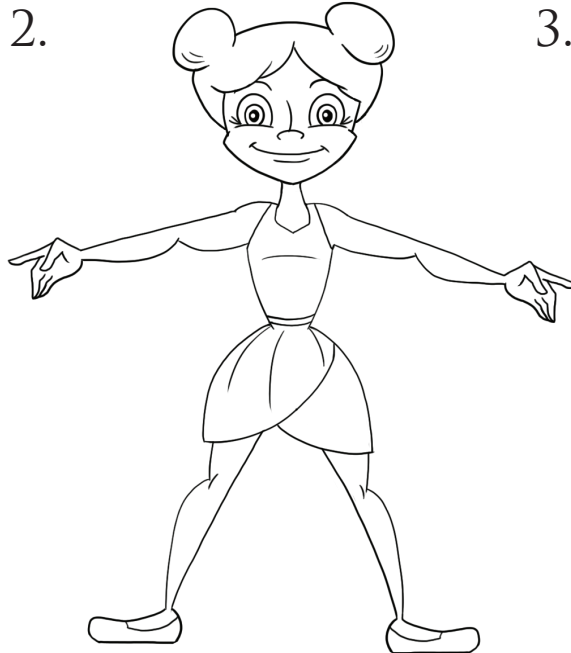
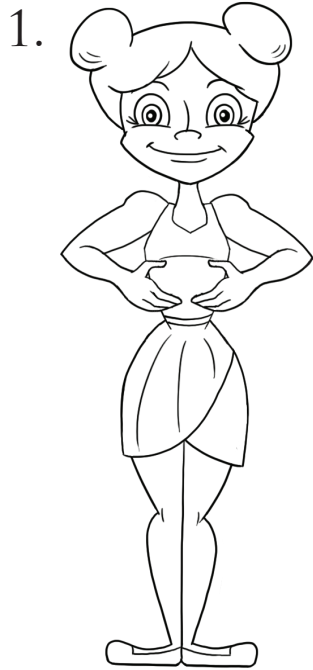
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BALLET

BALLET

Keep all text and illustrations within the 0.5" margin.





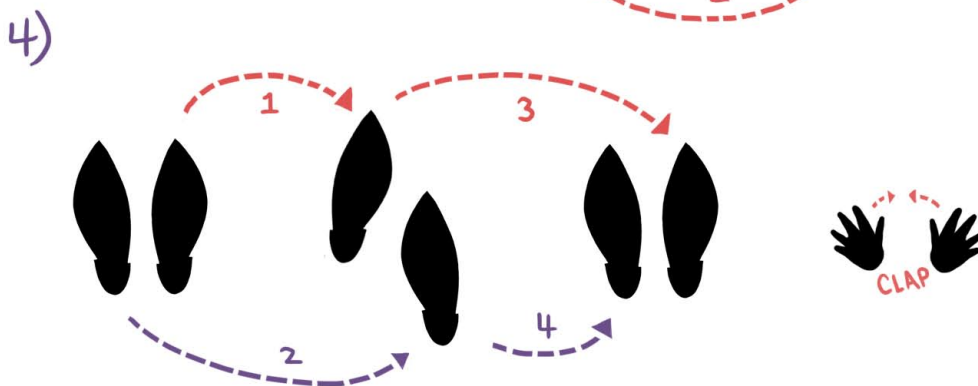
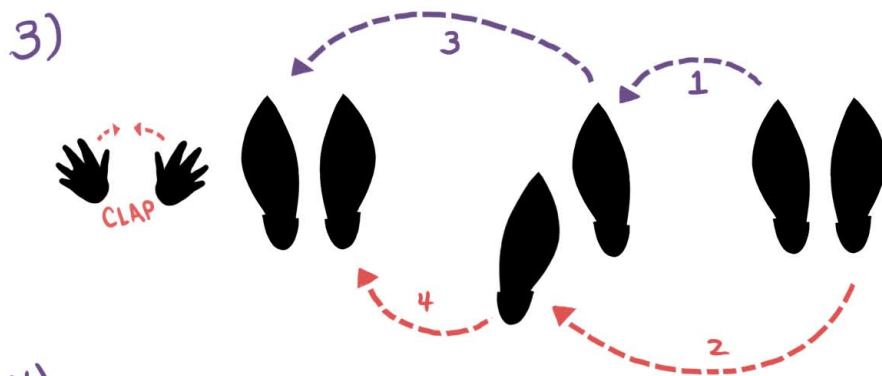
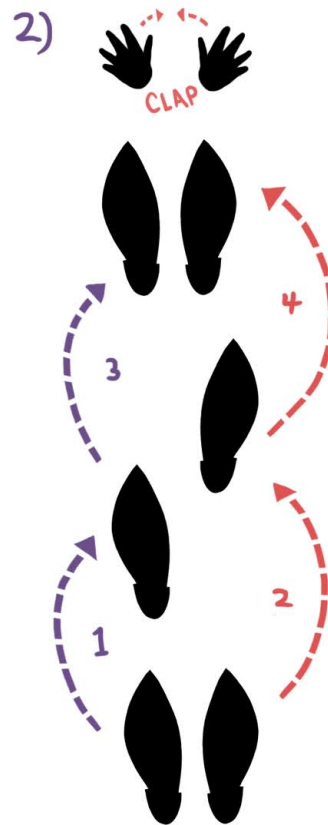
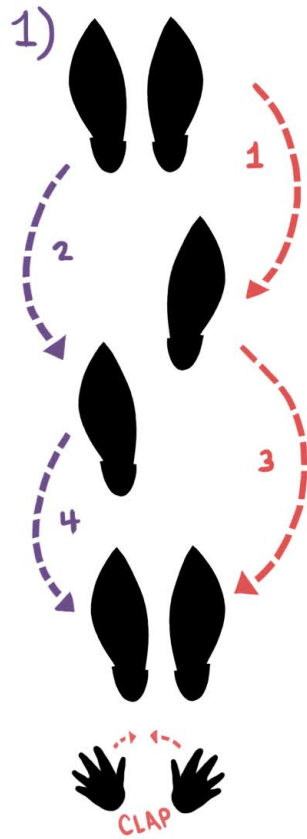
DANCES FROM HISTORY



DISCO DANCE

CALIFORNIA HUSTLE

CIRCA 1970



Stand-Up



Stand-up is a kind of comedy where a person gets up on stage and tells jokes straight to an audience. Stand-up comedy started in the music halls of Britain and on the vaudeville stages of America. Comedy acts were by far the most popular kinds of acts in those shows, and the emcee, or host, would tell jokes to warm up the audience.

Stand-up comedy was at its peak in the '60s, '70s, and '80s. Some of the most famous actors and comedians of all time, like Bill Cosby, Woody Allen, and Jerry Seinfeld, got their start in stand-up.

Stand-up comedy can be performed anywhere, for anyone – from paying ticketholders in a theater to guests in a coffee shop to soldiers overseas. The jokes in stand-up can be told in many different ways, but they almost always poke fun at everyday life.

There are many different ways to tell a joke in stand-up. Try coming up with a joke for each of the joke types below. Then perform it them for your friends and family!

A **monologue** (mon-o-log) is basically a funny story. A comedian will spend a minute or two talking about something funny that happened to him or her. (Psst...it doesn't have to be true!)

A **one-liner** is a short joke that is one or two sentences long.

Physical comedy (fizz-ick-al com-eh-dee) is acted out instead of told.

Prop comedy uses props, or items, in a funny way.

Write a monologue about...*dealing with your brother, sister or other family member.*

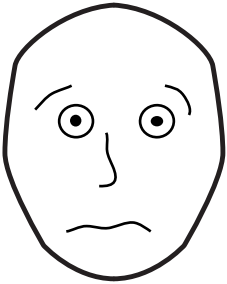
Write a one-liner about...*something you don't like.*

Do a physical joke about...*eating a school lunch.*

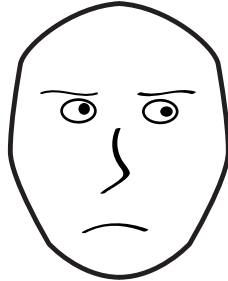
Do a prop joke about...*going to the dentist.*



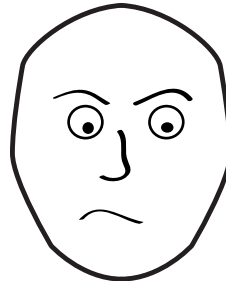
FACIAL EXPRESSIONS: Our expressions tell people what we're feeling.



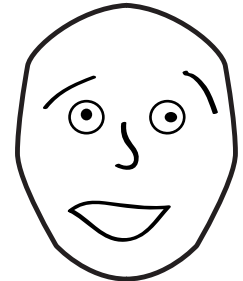
Embarrassed



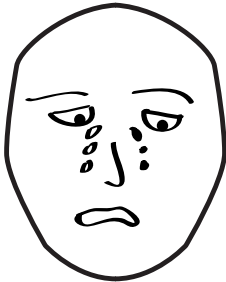
Bored



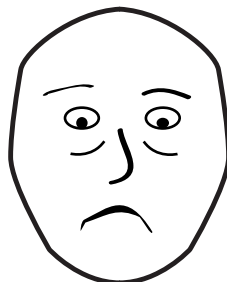
Annoyed



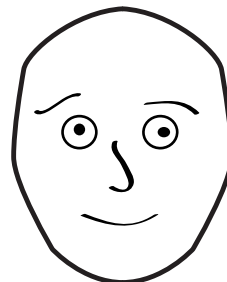
Excited



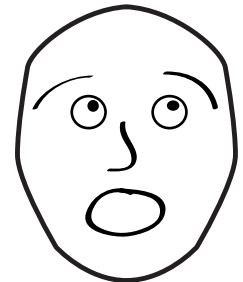
Crying



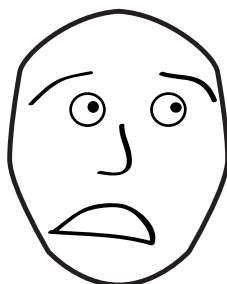
Sad



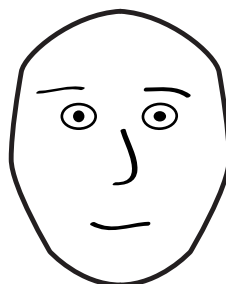
Happy



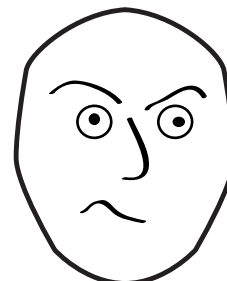
Surprised



Scared

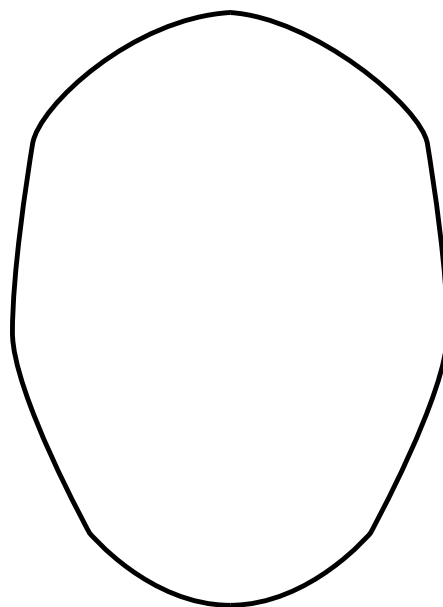
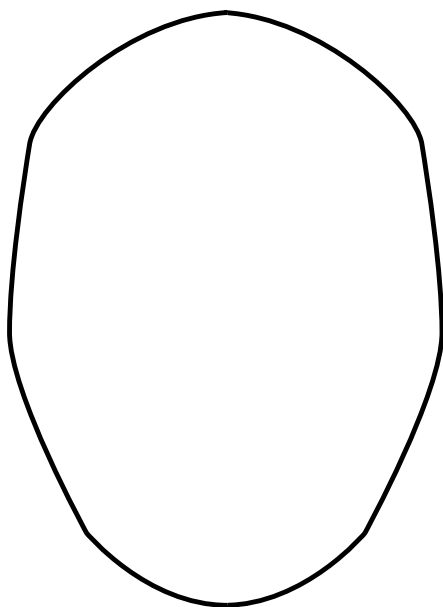
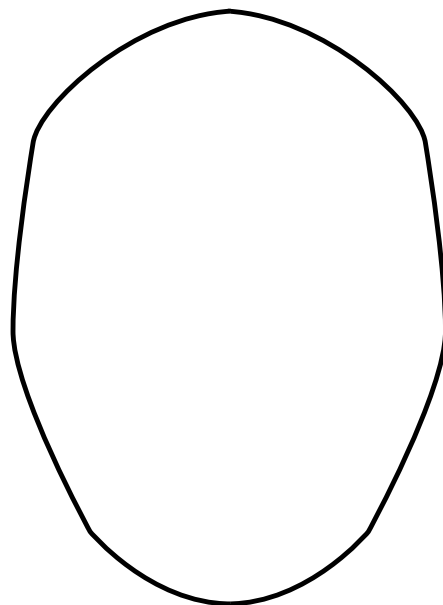
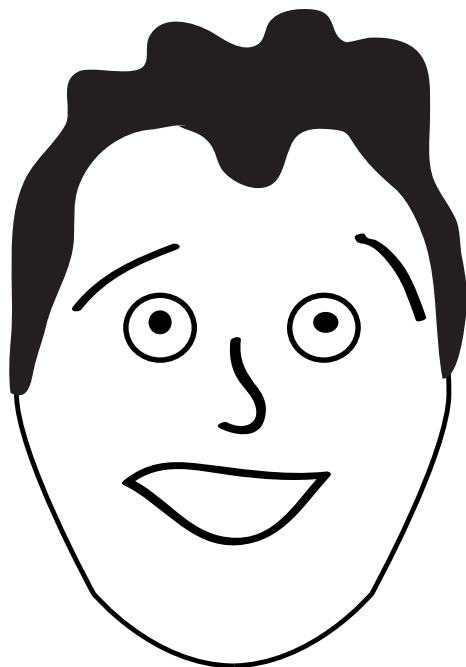


Calm



Angry

FACIAL EXPRESSIONS: Use these empty heads to draw your own faces! Don't forget the eyebrows—they can be the most important part.



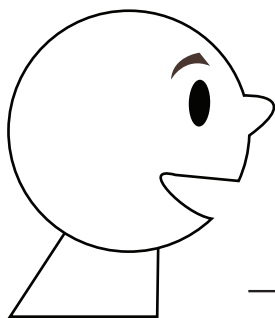
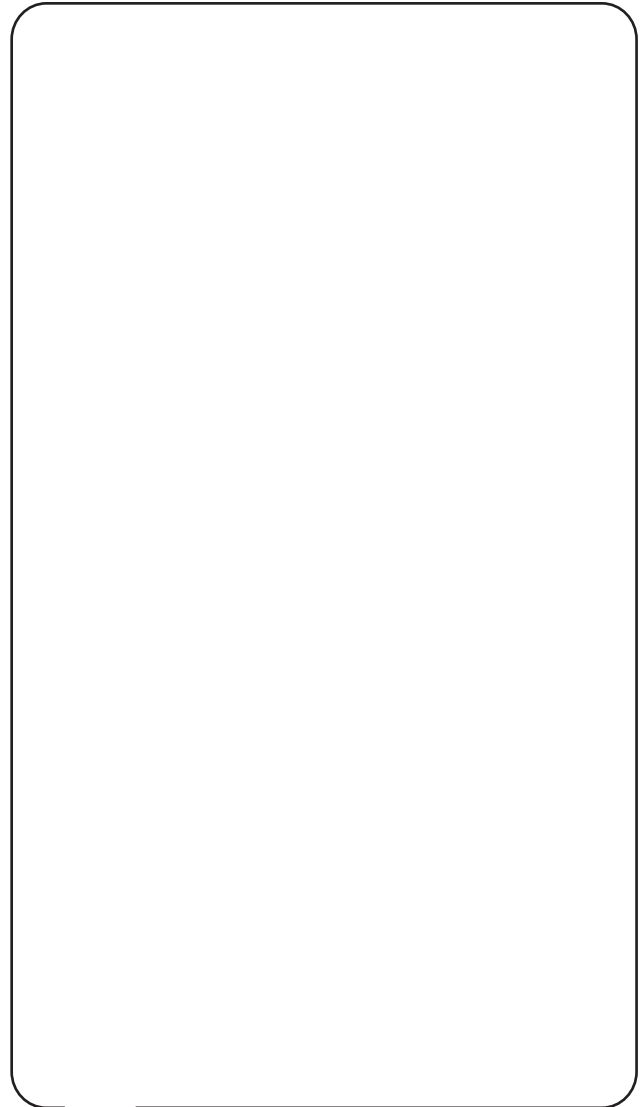
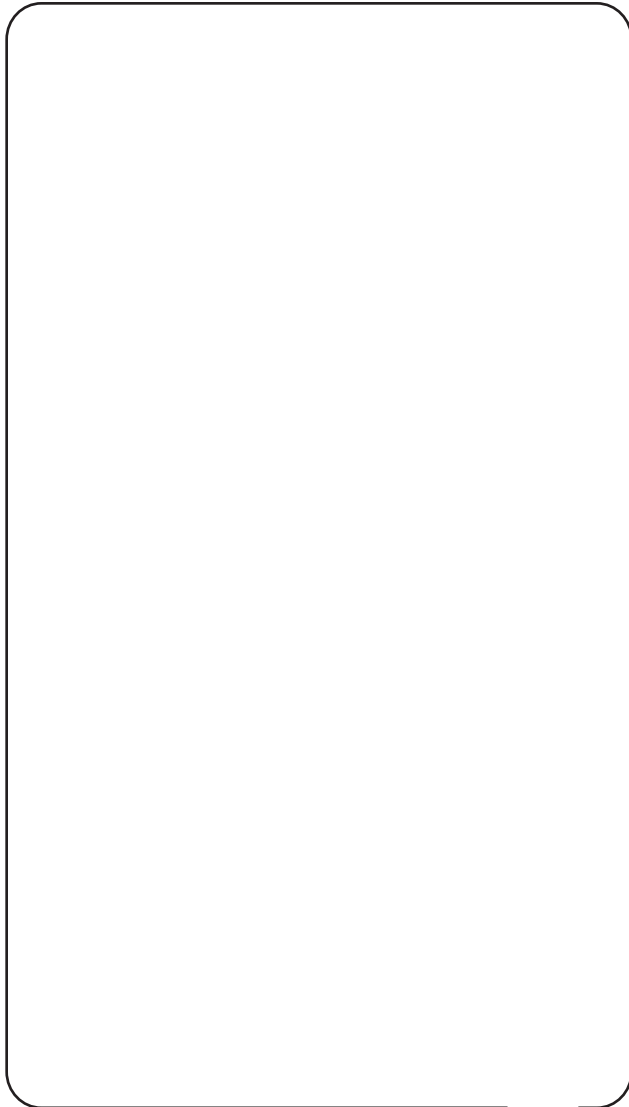
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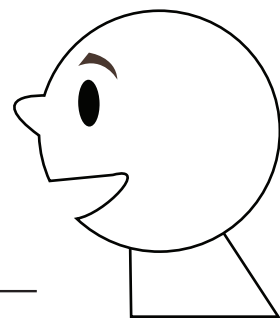
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Dialogue & Drama

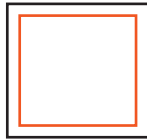

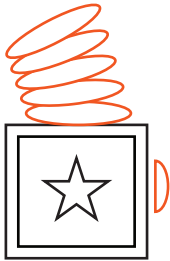
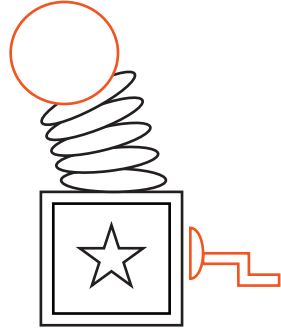
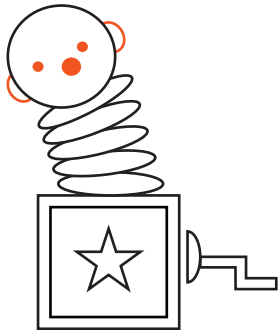
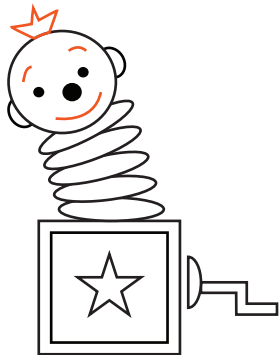
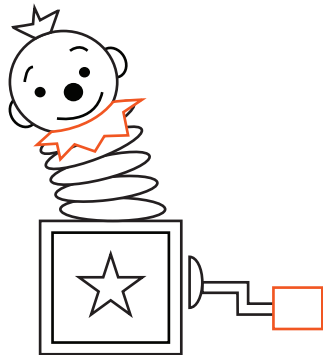
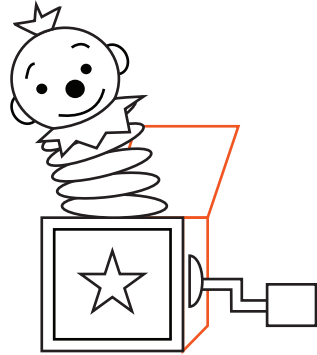
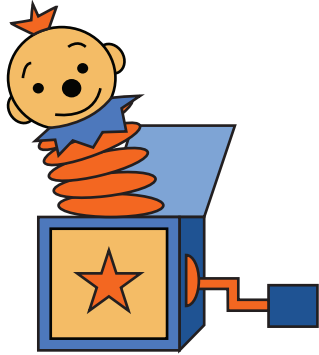
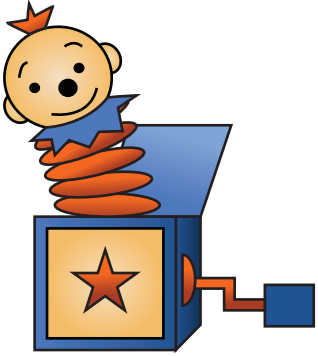
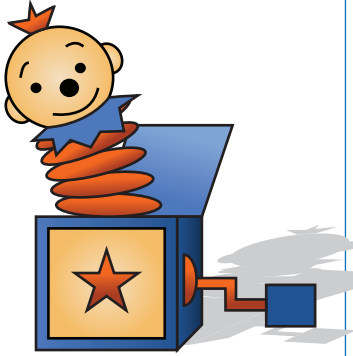


Think about the personal narrative you are writing. Think about two characters in your narrative. Write words that they can say to each other in the speech bubbles below.





By combining simple shapes, we can create complex drawings. Let's draw a jack-in-the-box toy!

 <p>Start with a square and add a smaller square inside.</p>	 <p>Now add a star in the middle to decorate it.</p>	 <p>Draw the some ellipses and a half circle for the lever.</p>	 <p>Add a circle for the head and a zigzag shape for the lever.</p>
 <p>Now add circles for the face and half-circles for the ears.</p>	 <p>Add curves for the eyebrows and a puff of hair.</p>	 <p>Let's add the handle and a decoration below the neck.</p>	 <p>Now extend the box and add the cover.</p>
 <p>Add some colors!</p>	 <p>Use darker colors and lighter colors to shade him.</p>	 <p>Then add a little shadow.</p>	<p>Great job! You are done!</p>