

# INFERENCES-NONFICTION



**GRADE 4**

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# Classroom Procedure:

1. Ask students: If a visitor walks into the classroom with wet hair and clothing, what can you say about the weather? Why?
2. Allow for responses and discussion. What supports your guess? Could the person be wet for another reason? Why or why not? Is the reason he or she is wet going to be 100% correct at all times? Why or why not?
3. Allow for responses and discussion. (Suggest other ways the person may have become wet- from a hose, water fountain, etc.) Display the word *inference*. Ask students if they have ever seen the word or if they know its meaning.
4. Allow for responses and discussion. Introduce *Inferences-Nonfiction-Grade 4* to the class.
5. Distribute *Inferences-Nonfiction-Grade 4* content pages. Read and review the information with the students. Discuss with students that an inference can later be determined as incorrect, but when using the supporting evidence and reasoning, it is usually unlikely. Save the final question for the lesson closing. Use the additional resources to enhance understanding.  
  
Distribute Activity page. Read and review the instructions. Pair students. Distribute a passage of nonfiction text or use current nonfiction textbooks or other informational text sources. Give all students the same text passage(s). Allow sufficient time for chart completion.
6. Once completed, conduct a class discussion allowing each pair of students to contribute to the discussion.
7. Distribute Practice page. Check and review the students' responses.
8. Distribute the Homework page. The next day, check and review the students' responses.
9. In closing, ask students: *Describe a time when you made an inference about a situation in real-life, but later found out you were wrong. Why was your inference wrong?*
10. Allow for responses and discussion. You may share an example with the students in your own life. Make up some examples to share with students, especially those that may occur in school. (student called to the office and others believing he/she is in trouble, a person late for school and others believing he/she may have slept in, etc.)

**Approximate Grade Level:** 4

**Objectives:** The students will be able to refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

**State Educational Standards\***

LB.ELA-LITERACY.RI.4.1

**Class Sessions (45 minutes):**

At least 2 class sessions.

**Teaching Materials/Worksheets:**

*Inferences-Nonfiction-Grade 4* content pages (2), Activity page, Practice page, Homework page

**Student Supplies:**

Passage for activity, handouts

**Prepare Ahead of Time:**

Pair students for activity. Copy handouts.

**Options for Lesson:** Students may work alone or in groups for the activity. Use newspaper/ Internet news articles for the activity. For the activity, use two different texts, once completed, students meet with another pair of students to compare responses. Students write a passage of nonfiction text; another student uses the text to identify and support inferences. Discuss the problems with making inferences without evidence or reasoning.

\*Lessons are aligned to meet the education objectives and goals of most states. For more information on your state objectives, contact your local Board of Education or Department of Education in your state.



# Teacher Notes

Students make inferences throughout the day in real-life situations. The lesson helps students use details and examples of informational text to help them make inferences. Students often believe an inference is simply a guess, but an inference must be supported by explicit details from the text. Understanding how to make an inference is a critical skill for reading comprehension, but students must also limit making inferences if there is nothing to support it, in real-life or while reading informational text.

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# What is an Inference?

Imagine waking into your home after school and the house is filled with the aroma of freshly baked chocolate chip cookies. Your mouth begins to water because in a few moments you will likely be enjoying one or more of the cookies. However, since you have yet to see the cookies, how do you know you will be eating one soon?

The answer: You have made an **inference**. An inference is a conclusion based on evidence and reasoning. You are using facts to predict that you will soon be enjoying a freshly-baked chocolate chip cookie. What are the facts? First, the house is filled with the aroma of fresh-baked cookies, and second, it is likely you have returned home from school before and there were cookies waiting for you.

An inference is not a guess. A guess is usually not based on facts, reasoning, or evidence. The inference you made about eating a cookie soon is based on evidence and your reasoning related to the known facts. An inference is a conclusion that requires facts, evidence, and reasoning.

The evidence may be something you recall from the past, current known facts or details, and other helpful information which will lead to a logical and sensible inference.

While reading fiction or nonfiction texts, stories, articles or other content, the author will expect that you make inferences as you read. For example, in your science textbook, you may find the following passage:

*Gravity is the force that makes everything fall towards Earth or towards other planets or objects in space. Gravity or gravitational force attracts all objects towards each other. It is the force by which a planet or other body draws objects toward its center. It is gravity that keeps the planets in orbit around the Sun.*



The main topic of the passage is gravity, but the author does not include additional information about the other objects in space, which could include asteroids. You can use an inference to answer the following question: *Does gravity keep an asteroid in its orbit around the Sun?*

The answer, of course, is yes. Though the passage does not tell you asteroids can orbit the Sun because of gravity, you can make that inference using the evidence given by the writer: *Gravity or gravitational force attracts all objects towards each other.* You can infer that if planets orbit and are drawn to the Sun then asteroids will react the same way due to gravity.

The writer does not specifically state that asteroids orbit the Sun or are drawn to the Sun, but you are reasoning by using evidence and facts from the passage to make the inference. *All objects and other bodies* would include asteroids.

As you read informational nonfiction text, it is important to make inferences as you read. Again, you are not guessing. You must use reasoning, facts, and evidence to make inferences. You must be able to refer to details and examples from the text and explain what the text says to draw an inference from the text.



# Using and Supporting Inferences

Though you make inferences while reading fictional text like in stories and novels, you also need to draw inferences from nonfiction informational text as well. This would include what you read in textbooks, on the Internet, in magazines, or from other places informational text is presented.

**Read the following passage and review the notes related to inferences as you read.**

*1. A famous Native American, Sacagawea, is best known as an interpreter and guide and the only woman to accompany the Lewis and Clark Expedition. 2. The expedition explored the western half of the United States in the early 1800s. 3. The goal of the expedition was to explore newly acquired western lands and find a route to the Pacific Ocean. 4. Sacagawea had extensive knowledge of the Shoshone language which would help Lewis and Clark during their travel to the west. 5. Other ways she helped included showing the men how to find edible roots and serving as a symbol of peace because she was a woman traveling with a newborn child.*

**Did Lewis and Clark meet other Native Americans during the trip West?** You can infer that they did because in sentence 1 the writer tells you Sacagawea was an interpreter, and in sentence 4, he tells you that she had knowledge of the Shoshone language. Because of these details, you can infer that they met and communicated with other Native Americans.

**Where is the Pacific Ocean- east or west?** The passage is not specific, but the details in sentence 3 help you to infer it is in the west because they were in search of a route to the Pacific Ocean.

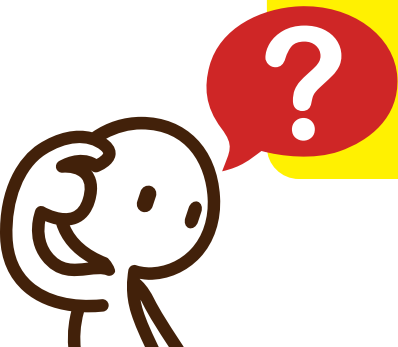
**Were women treated better than men by rival Native Americans?** Yes, you can infer they were because the writer tells you Sacagawea was helpful as a “symbol of peace” in line 5. She likely drew less suspicion and was trusted because of the newborn child as well.

You can also infer that the men ate plants during the expedition because she helped them find edible roots. You can also infer that she likely delivered the newborn child during the journey as well. In addition, you may use previous knowledge and infer that the western lands were explored as a way to find new places for the settlers from the East to live in the early 1800s.

Writers cannot include everything related to a topic. They know that readers will make inferences. The inferences will then help readers better understand and comprehend the informational text. Without inferences, the number of pages in textbooks or other books would need to be doubled or tripled.

Finally, as you read, remember to “fill in the blanks” using inferences, but be sure they are based on facts, evidence, and reasons. And of course, remember, an inference is NOT a guess.

**Describe a time when you made an inference about a situation in real-life, but later found out you were wrong. Why was your inference wrong?**





Cooperatively work with your partner. Use the informational text passage or book provided by the teacher to complete the chart. Specifically, identify the details and evidence from the text to support five inferences. Finally, make other inferences based on the passage that is only supported by your past knowledge related to the topic(s).

Inference	Supporting Details and Evidence from the Text

**Explain Other Inferences Supported Only by Past Knowledge Related to the Topic(s)**



**Read the passage and use inferences to answer the questions that follow.**

*Sleep is a condition of the body and mind when each night the nervous system is mostly inactive. The eyes are closed, muscles relax, and a person is unconscious for several hours. The average amount of sleep many people get each night should be about 8 hours, which is one-third of a day. Every living thing needs sleep and rest.*

*A good night's sleep leads to better physical, mental, and emotional health. A person may often feel cranky and tired, have a short temper, and are unable to think clearly without enough sleep. A person may struggle with following instructions, have an argument with a parent or friend, and have difficulty doing things that are usually easy to do. It becomes difficult to concentrate and to remember things.*

*In addition, the lack of sleep can affect growth and the immune system. A person could more easily become sick, and it takes longer to heal from a cold, flu, injuries, and other illnesses. Though scientists don't completely understand everything about sleep, they do know that most people have typical sleep patterns which include four stages or cycles of normal sleep.*

1. Do dogs and cats need sleep? \_\_\_\_\_

\_\_\_\_\_

2. Would getting eight hours of sleep the night before you take a test be helpful? Why or why not?

\_\_\_\_\_

\_\_\_\_\_

3. Why would young people need more sleep than older people? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Tell whether each statement is True (T) or False (F).**

4 \_\_\_\_\_ Inferences can only be drawn from fictional texts.

5 \_\_\_\_\_ An inference is a conclusion based on evidence and reasoning.

6 \_\_\_\_\_ An inference will be correct 100% of the time.

7 \_\_\_\_\_ Evidence may include something you recall from the past.

8 \_\_\_\_\_ An inference is the same as a good guess.





# Homework

Name \_\_\_\_\_ Date \_\_\_\_\_



## Read the passage.

*The human body is amazing. Day after day, it works hard digesting food, pumping blood and oxygen, sending signals from our brains and much more. But there is a group of tiny invaders that can make our bodies sick; they are called germs. Some people may think that germs are bugs or cooties or other gross stuff. Actually, germs are tiny organisms, or living things, that can cause disease. Germs are so small and sneaky that they creep into our bodies without being noticed. In fact, germs are so tiny that you need to use a microscope to see them.*

*Germs have favorite places to live, preferred ways to travel, and if they are harmful, their own unique ways of causing disease. Germs can live in or on dirt, water, countertops, our skin, our intestines, and in many other places around us. Some germs can survive on their own while others prefer living in people or animals. Some germs live only in hot areas of the world while others live only in cold areas. When germs find a place that is good for them, they multiply and set up a home for themselves.*

## Use an inference based on details in the passage to tell why each statement is true.

1. A germ can enter a person’s body through the mouth or nose. \_\_\_\_\_

2. Germs in bodies can be eliminated or killed from countertops using the proper cleaning supplies. \_\_\_\_\_

3. Germs may live in Iceland and Greenland and in countries along the Equator. \_\_\_\_\_

4. A pet in a home can pass a germ along to a person who lives in the same house. \_\_\_\_\_

5. Taking baths and showers regularly can help prevent the spread of germs. \_\_\_\_\_

## What inference would you make?

You are exploring a mountaintop near your home and discover several broken seashells. You wonder about the source of the shells. The mountaintop is 1,000 miles from the nearest ocean.

\_\_\_\_\_  
\_\_\_\_\_



**Read the passage and use inferences to answer the questions that follow.**

*Sleep is a condition of the body and mind when each night the nervous system is mostly inactive. The eyes are closed, muscles relax, and a person is unconscious for several hours. The average amount of sleep many people get each night should be about 8 hours, which is one-third of a day. Every living thing needs sleep and rest.*

*A good night's sleep leads to better physical, mental, and emotional health. A person may often feel cranky and tired, have a short temper, and are unable to think clearly without enough sleep. A person may struggle with following instructions, have an argument with a parent or friend, and have difficulty doing things that are usually easy to do. It becomes difficult to concentrate and to remember things.*

*In addition, the lack of sleep can affect growth and the immune system. A person could more easily become sick, and it takes longer to heal from a cold, flu, injuries, and other illnesses. Though scientists don't completely understand everything about sleep, they do know that most people have typical sleep patterns which include four stages or cycles of normal sleep.*

1. Do dogs and cats need sleep? **Yes, you can infer this because the writer makes the statement that "Every living thing needs sleep and rest." and dogs and cats are living things.**

2. Would getting eight hours of sleep the night before you take a test be helpful? Why or why not?

**Yes, because you can infer it because without a good night's sleep a person may not think clearly, struggle with instructions, and have difficulty concentrating and remembering things; all needed for tests.**

3. Why would young people need more sleep than older people? **You can infer this is true because the writer states that sleep can affect growth and young people are always growing, so without enough sleep their growth can be affected. Young people may get sick more often too and will need the sleep.**

**Tell whether each statement is True (T) or False (F).**

4   F   Inferences can only be drawn from fictional texts.

5   T   An inference is a conclusion based on evidence and reasoning.

6   F   An inference will be correct 100% of the time.

7   T   Evidence may include something you recall from the past.

8   F   An inference is the same as a good guess.



## Read the passage.

*The human body is amazing. Day after day, it works hard digesting food, pumping blood and oxygen, sending signals from our brains and much more. But there is a group of tiny invaders that can make our bodies sick; they are called germs. Some people may think that germs are bugs or cooties or other gross stuff. Actually, germs are tiny organisms, or living things, that can cause disease. Germs are so small and sneaky that they creep into our bodies without being noticed. In fact, germs are so tiny that you need to use a microscope to see them.*

*Germs have favorite places to live, preferred ways to travel, and if they are harmful, their own unique ways of causing disease. Germs can live in or on dirt, water, countertops, our skin, our intestines, and in many other places around us. Some germs can survive on their own while others prefer living in people or animals. Some germs live only in hot areas of the world while others live only in cold areas. When germs find a place that is good for them, they multiply and set up a home for themselves.*

## Use an inference based on details in the passage to tell why each statement is true.

1. A germ can enter a person's body through the mouth or nose. **The passage states that germs are so small they can creep into our bodies, which infers openings in the body such as the mouth or nose.**
2. Germs in bodies can be eliminated or killed from countertops using the proper cleaning supplies. **The passage states that germs are living things, so they can be eliminated like other living things, and based on past knowledge, I know there are cleaning supplies that can be used to eliminate germs.**
3. Germs may live in Iceland and Greenland and in countries along the Equator. **The passage states that germs can live in hot or cold areas, which infers they can live in cold places like Greenland and Iceland and warm countries along the Equator.**
4. A pet in a home can pass a germ along to a person who lives in the same house. **This can be inferred because germs prefer living in people and animals, so an animal with a germ can pass it onto a person in the home. I know germs can be contagious based on past knowledge.**
5. Taking baths and showers regularly can help prevent the spread of germs. **The passage states that Germs live on skin, so one can infer that bathing or showering will clean the germs from the skin.**

## What inference would you make?

You are exploring a mountaintop near your home and discover several broken seashells. You wonder about the source of the shells. The mountaintop is 1,000 miles from the nearest ocean. **(will vary)**

**Millions of years ago the ocean water may have covered the area, the elevation may have been lower. Someone may have lost the seashell pieces, or a person purposely placed them on the mountaintop.**