Blizzard Bag Day #1 6th Grade

Snow Date_____

Due Date_____

6th grade reading

Blizzard bag day #1: Read *Matter is Everywhere* (nonfiction) and answer questions 1-10.

Learning targets:

6.RI.1 I can cite textual evidence to support analysis of the text.

6.RI.3 I can analyze how an idea is introduced, illustrated, and elaborated in an informational text.

6.RI.4 I can determine the figurative, connotative, or technical meaning of a word or phrase.

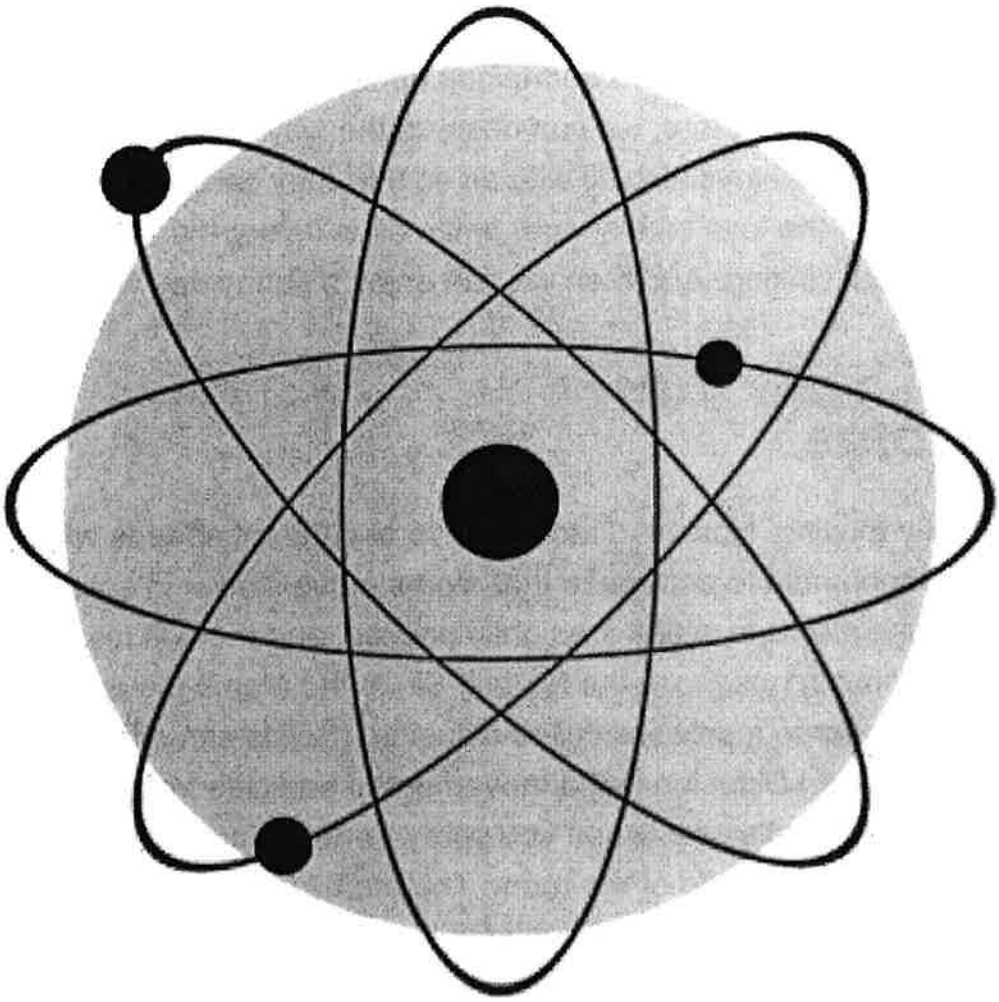
6.RI.5 I can analyze how a particular sentence contributes to the overall structure of a text and contributes to the development of the ideas.

6.RI.6 I can determine the author's purpose.

6. RI.10 I can read and comprehend grade level appropriate informational text.

Matter Is Everywhere!

by ReadWorks



Everything around us is made of matter-your clothes, the trees, even the water you drink! We divide matter into four major categories, which are called the four states of matter: liquid, gaseous, solid, and plasma. However, we will focus on the first three. Whatever the state of matter may be, all matter is made of tiny particles called atoms. These particles are too tiny to see with the naked eye; they're even too small to see with a regular microscope. If you line up a million atoms next to each other, they will be as thick as a single piece of human hair. So, we can only look at atoms through very powerful tools, one of them being the "scanning tunneling" microscope.

How Do We Know?

We can easily see liquids and solids around us, but most gases aren't visible. We can't see the air around us, but it is still made of atoms that constantly move around freely in space. How can we tell?

Take a balloon, for example. When we pump air into a balloon, it visibly inflates. That means that gaseous matter is filling the balloon and taking up space. The more air we blow into the balloon, the bigger it gets. Therefore, we can observe the way gas moves around space. In the same way, inflatable pool toys also fill with air so that they can float on water. When we fill the plastic shells with air, the toys take shape. Since air is lighter than water, the pool toys can rest on the water without sinking. And then we can enjoy a sunny day while floating in a pool!

Moving Atoms

Atoms are constantly moving. However, atoms move at different speeds within different states of matter. We have been able to determine that atoms move slower in solids than they do in liquids. That's because atoms in solids are tightly packed, and there is less space to move around freely. The atoms in gas move the fastest. Since the atoms move more freely in liquids and gases, they can undergo a process called diffusion. (Solids can diffuse as well, although it's a much longer process.) Diffusion is the movement of particles from a higher concentration to a lower concentration. That's why, when you spray perfume in a corner of a room, you will eventually smell it on the other side of the room. The atoms from the perfume diffuse through the air. Because of this diffusion, the perfume scent is spread.

Identification

We can identify materials according to a variety of properties. Scientists have determined several different measurements to help label materials. Some examples are temperature, hardness, color and length. Usually, these are used to measure solids, like rocks and minerals. However, temperature can be used to measure liquids as well. When geologists study rocks, they often use the Mohs scale of mineral hardness. This scale allows us to characterize the scratch resistance of various minerals. A diamond is described as hard because it is extremely difficult to scratch. Scientists can measure hardness with the Mohs scale and compare minerals to other minerals.

Scientists always use various methods to group materials together-that way, it's easier to study and compare them. That's another reason why we differentiate between liquids, gases, solids and plasmas!

Name: _____ Date: _____

1. Everything around us is made of

A. liquids

B. matter

C. plasma

D. gas

2. Why does the author describe the balloon and inflatable pool toys filling up with air?

A. in order to explain that it is impossible to observe the way gas moves around space

B. in order to explain that air is not made of atoms that take up space

C. in order to explain that air is made of atoms that take up space even though air is invisible

D. in order to prove that these are fun objects to inflate

3. Atoms move slower in solids than they do in liquids. Which evidence from the passage best supports this statement?

A. Solids, liquids, and gases can all undergo the process of diffusion.

B. Diffusion is the movement of particles from a higher concentration to a lower concentration.

C. The atoms in gas move the fastest.

D. Atoms in solids are more tightly packed than atoms in liquids, so there is less space to move around freely in solids.

4. Based on the passage, the corner where a perfume is initially sprayed has

A. has no concentration of perfume particles

B. has the same concentration of perfume particles as the rest of the room

C. a lower concentration of perfume particles than the other corners of the room

D. a higher concentration of perfume particles than the other corners of the room

5. What is this passage mainly about?

A. matter and the properties it has in certain states

B. the process of diffusion

C. the different measurement scientists use to label materials

D. the inflation of balloons and pool toys

6. Read the following sentences from the passage: "Whatever the state of matter may be, all matter is made of tiny particles called atoms. These particles are too tiny to see with the naked eye; they're even too small to see with a regular microscope. If you line up a million atoms next to each other, they will be as thick as **a single piece of human hair.**"

The author uses the example of **"a single piece of human hair"** to illustrate

A. how atoms can be seen with a regular microscope

B. how tiny atoms actually are

C. how hairy atoms actually are

D. how much they look like hair

7. Choose the answer that best completes the sentence below.

Scientists group materials together _____ it is easier to compare and study them that way.

A. however

B. but

C. although

D. because

8. Explain why atoms move at different speeds depending on whether they are in liquids or solids.

9. What is diffusion?

10. Explain whether smoke filling up a room is diffusion or not.

6th Grade
Blizzard Bag Math
Day #1 – Ratios & Rates

Name_____

NAME _____ DATE _____ PERIOD _____

Test, Form 2B

SCORE _____

Write the letter for the correct answer in the blank at the right of each question.

1. One bus leaves a stop every 9 minutes. A second bus leaves the stop every 15 minutes. If they both leave at 1:25 P.M., at what time will they next leave together?

   A. 1:40 P.M. **B.** 1:49 P.M. **C.** 2:10 P.M. **D.** 2:25 P.M. 1. _____

2. In an art class, there are 32 pens to 40 brushes. What is the ratio of pens to brushes written as a fraction in simplest form?

   F. $\frac{4}{5}$ **G.** $\frac{2}{5}$ **H.** $\frac{8}{10}$ **I.** $\frac{5}{4}$ 2. _____

3. The table shows the number of votes each student received for class president. What is the ratio of votes for Hatim to the total number of votes?

Students Class Presidential Votes	
Candidate	Number of Votes
Brown	15
Shui	29
Hatim	16

   A. $\frac{15}{4}$ **B.** $\frac{4}{11}$ **C.** $\frac{4}{15}$ **D.** $\frac{1}{4}$ 3. _____

For Exercises 4 and 5, what is each rate written as a unit rate?

4. 180 miles on 6 gallons

   F. $\frac{1 \text{ mi}}{3 \text{ gal}}$ **G.** $\frac{1 \text{ mi}}{9 \text{ gal}}$ **H.** $\frac{30 \text{ mi}}{1 \text{ gal}}$ **I.** $\frac{90 \text{ mi}}{1 \text{ gal}}$ 4. _____

5. $120 for 15 books

   A. $\frac{\$8}{1 \text{ book}}$ **B.** $\frac{1 \text{ book}}{\$8}$ **C.** $\frac{\$15}{1 \text{ book}}$ **D.** $\frac{1 \text{ book}}{\$15}$ 5. _____

6. It took Cedric 42 minutes to jog 12 laps. At this rate, how many minutes did it take to jog each lap?

   F. 2.28 min **G.** 3.5 min **H.** 4 min **I.** 4.5 min 6. _____

7. Julia can type 150 words in 5 minutes. At this rate, how many words can she type in 1 minute?

   A. 30 words **B.** 40 words **C.** 50 words **D.** 60 words 7. _____

Name _____ Date _____

Lesson 1: Ratios

Exit Ticket

1. Write a ratio for the following description: Kaleel made three times as many baskets as John during basketball practice.

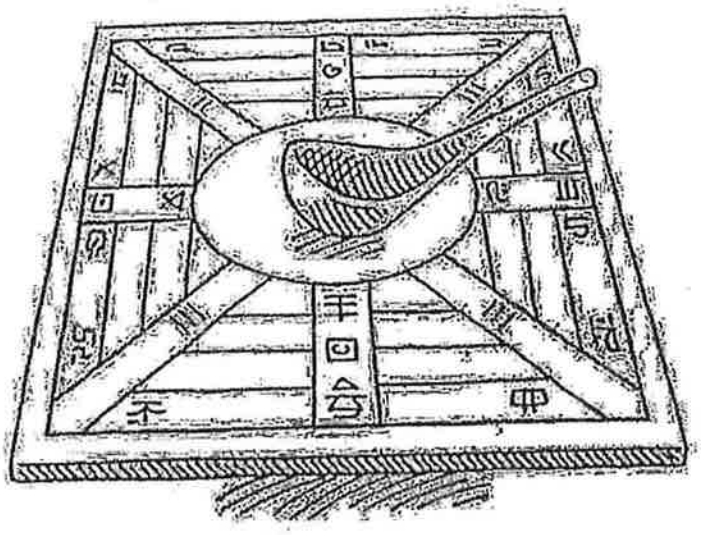
2. Describe a situation that could be modeled with the ratio 4: 1.

3. Write a ratio for the following description: For every 6 cups of flour in a bread recipe, there are 2 cups of milk.

Theme	*Regions and People of the Eastern Hemisphere*
Strand	*History*
Topic	*Early Civilizations* The eight features of civilizations include cities, well-organized central governments, complex religions, job specialization, social classes, arts a architecture, public works and writing. Early peoples developed unique civilizations. Several civilizations established empires with legacies influencing later peoples.
Content Statement	2. *Early civilizations (India, Egypt, China and Mesopotamia) with unique governments, economic systems, social structures, religio technologies and agricultural practices and products flourished as a result of favorable geographic characteristics. The cultural practices and products of these early civilizations can be used to help understand the Eastern Hemisphere today.*

Day 1: WU: 55-57: Read selection and answer comprehension questions 1-6

Ancient Chinese Inventions



Ancient China was an advanced society. At one time, it was far ahead of other world civilizations in its knowledge. Its people created a number of things hundreds of years before the people in Europe did. Over time, Europeans took credit for many of these things. For example, the Chinese actually made the first magnetic compass. They made the first fishing reel 1,400 years before anyone else. Wheelbarrows, matches, and umbrellas all came from China.

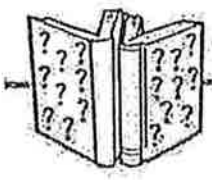
The Western world did not even know about these things for a long time. Why? Few people traveled between Europe and China. It was a long, hard, and dangerous trip. The Himalayas are the tallest mountain range on Earth. They stand between China and the rest of the continent. In 1274, an Italian named Marco Polo did go to China. He spent twenty-four years there. When he returned home, he wrote a book. He told about all of the amazing things he saw there. But almost no one in Europe believed him!

The Chinese had a complex written language with separate symbols for each word. It took a long time to learn how to read and write, and only scholars did so. These scholars are the reason that the Chinese have the longest recorded history in the world. Much is known about their civilization for thousands of years in the past. For example, we know that the Chinese created the first mechanical clock. They made a basic seismometer to measure earthquakes. They invented block printing. They made porcelain—what we call *china*—hundreds of years before anyone else knew how to make it.

Silk fabric, paper, and gunpowder are probably the best known of the Chinese inventions. The Chinese had paper as early as 105 CE. They started using the first paper money 700 years later. At about the same time, they invented gunpowder. However, in more recent times, the Chinese have not made as many advances.

No one is sure why, but around 1433, China entered a time of **isolation**. A Ming emperor decided China should not interact with the rest of the world. He ordered that all of the records of Zheng He, their great sea captain, be burned. Seaports closed to all but Asian traders. Things remained this way until 1853. At that time, a British steamboat entered the waters between China and Japan. The people were shocked by the "smoking dragon." They saw that their isolation had left them behind militarily.

How did this happen? During the 420 years of Chinese isolation, the rest of the nations in the world had kept trading with each other. This led to the free exchange of knowledge. People would see something they liked in another country and try to duplicate it in their own. When people share ideas, the rate of innovation moves fast. Thus, people in Europe, Africa, and the Middle East made many advances, while China remained nearly the same.



Ancient Chinese Inventions

Directions: Darken the best answer choice.

1. Who demanded that China cut itself off from trading with the rest of the world?
   - Ⓐ an emperor of the Ming dynasty
   - Ⓑ Zheng He
   - Ⓒ Marco Polo
   - Ⓓ an emperor of the Song dynasty

2. The word **isolation** means
   - Ⓐ joining together.
   - Ⓑ great invention.
   - Ⓒ financial hardship.
   - Ⓓ separation from all others.

3. What happened first?
   - Ⓐ The Chinese had paper money.
   - Ⓑ Marco Polo visited China.
   - Ⓒ The Chinese had paper.
   - Ⓓ Zheng He's records were destroyed.

4. Which of these items was *not* invented by the Chinese?
   - Ⓐ matches
   - Ⓑ clay pottery
   - Ⓒ mechanical clock
   - Ⓓ silk fabric

5. Why did the Chinese realize that the "smoking dragon" was bad for their military?
   - Ⓐ It looked so terrifying that it would make the Chinese soldiers too afraid to fight.
   - Ⓑ It cost more to build a "smoking dragon" than a traditional Chinese ship.
   - Ⓒ It could move faster and overtake the Chinese boats, which used sail power.
   - Ⓓ It could destroy the whole nation of China before its army even had a chance to gather.

6. Which Chinese invention was made in response to a natural disaster?
   - Ⓐ the seismometer
   - Ⓑ the fishing reel
   - Ⓒ gunpowder
   - Ⓓ the wheelbarrow

Model Curriculum

Grade 6

Earth and Space Science (ESS) Blizzard Bag # 1

Topic: Rocks, Minerals and Soil

This topic focuses on the study of rocks, minerals and soil, which make up the lithosphere. Classifying and identifying different types of rocks, minerals and soil can decode the past environment in which they formed.

Content Statement

Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.

Most rocks are composed of one or more minerals, but there are a few types of sedimentary rocks that contain organic material, such as coal. The composition of the rock, types of mineral present, mineral arrangement, and/or mineral shape and size can be used to identify the rock and to interpret its history of formation, breakdown (weathering) and transport (erosion).

Content Elaboration

Grade 6 Concepts

Rock identification and classification must be experiential and investigative. Common samples to use in identification should be representative of each type of rock. Igneous samples must include varieties of granite, rhyolite, basalt, obsidian, pumice and andesite. Metamorphic samples must include varieties of schist, gneiss, slate, marble, anthracite and phyllite. Sedimentary samples must include varieties of limestone, sandstone, shale, conglomerate and breccia. Other rock samples such as bituminous coal, coquina and chert must be included in identification investigations, but these may not always fall neatly into one specific rock category. Proper safety protocol and testing procedures must be used.

It is important to use the identification of the minerals, mineral arrangement (within the rock) and quantifiable characteristics of the rock to identify the rock. Analysis of specific rock characteristics can be conducted in the classroom or in nature with rock samples. Technology can be used to research current identification methods and techniques and assist in methods of determining the quantifiable characteristics of specific rocks.

The purpose of rock identification must be related to understanding the environment in which the rock formed.

Read "The U.S. Army Corps of Engineers" p. 31 answer questions p. 33

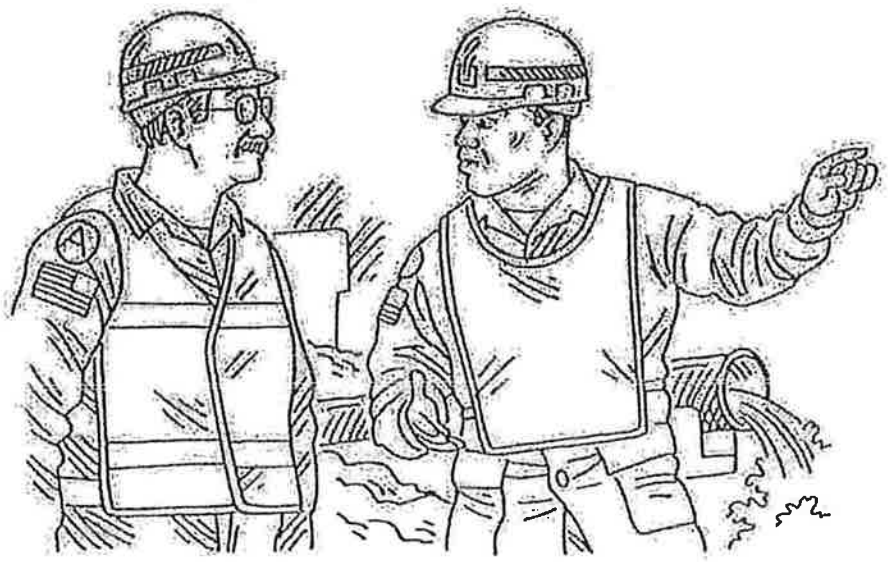
The U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers is a branch of the U.S. Army. During a war, Corps members build bridges, roads, airfields, and camps for the military. The Corps' combat engineers find or build ways to help troops cross rivers. They plant and remove land and water mines. They may wreck roads and bridges to prevent enemy troops from reaching their destination. As a result, enemy fire gets aimed at combat engineers. They know how to fight as ground troops.

The Corps was organized in 1802. That's when Congress set up West Point Military Academy to train a group of engineers. The U.S. Army Corps of Engineers constructed the Washington Monument in Washington, D.C. It helped to build the Chesapeake and Ohio Canal and the Panama Canal. Few people know that the Corps also supervised the Manhattan Project. This World War II project built the first atomic bomb.

During times of peace, the Corps plans and directs water resources for the federal government. It keeps rivers navigable and builds flood control structures. Such projects include stopping beach erosion, dredging harbors, and repairing dams and levees. The Corps manages and restores wetlands, too. It considers the impact that a new project will have on the environment. By law, the Corps does a study before beginning any project. The idea is to reduce harm to the plants and animals that live in the area.

When there is a natural disaster, the Corps must take action. It tries to control the damage. For example, the Mount St. Helens volcano eruption in 1980 caused an avalanche. Mud and debris clogged waterways. The Corps had to act quickly. It had to cut the risk of floods in populated areas downstream and restore the rivers so that boats could safely navigate through them. It also had to help the area recover from the mudflow. Within days of the eruption, Corps members started working. They worked around the clock to dredge rivers to remove the excess **sediment**. The extra sediment put too much pressure on levees. The Corps rushed to the levees. It built them up so that they would not burst.



So much debris from the volcano ended up in Spirit Lake that the lake's level rose 200 feet! A debris dam of dead trees also blocked the lake's outlet to the river. At some point, the water would burst through this blockage. There would be a big flash flood. The Corps had to drill a tunnel nearly two miles long to drain some of that water away to another creek. This prevented another disaster.

The U.S. Army Corps of Engineers

Directions: Darken the best answer choice.

1. Which of these is *not* something that the U.S. Army Corps of Engineers would do?
   - Ⓐ repair dams
   - Ⓑ restore wetlands
   - Ⓒ fight wildfires
   - Ⓓ dredge rivers

2. The word **sediment** means
   - Ⓐ a levee built of sandbags.
   - Ⓑ a mudslide.
   - Ⓒ a debris dam.
   - Ⓓ solids that settle to the bottom of a liquid.

3. What happened last in the history of the U.S. Army Corps of Engineers?
   - Ⓐ The Corps drained extra water from Spirit Lake.
   - Ⓑ The Corps built the Washington Monument.
   - Ⓒ The Corps dredged waterways near Mount St. Helens.
   - Ⓓ The Corps supervised the Manhattan Project.

4. The Corps wants to build a new dam for hydroelectric power. What is the first step it must take?
   - Ⓐ determine the dimensions of the dam needed to generate a certain amount of power
   - Ⓑ do an environmental study to find the best location for the dam
   - Ⓒ hire contractors and workers to construct the dam
   - Ⓓ figure out what materials are needed to build the dam

5. The Missouri River is nearing flood stage. What might members of the U.S. Army Corps of Engineers be doing?
   - Ⓐ building a temporary bridge over the river
   - Ⓑ directing traffic near the river
   - Ⓒ managing water flow at dams to control the river level
   - Ⓓ removing animals from nearby wetlands

6. In which situation might you see the U.S. Army Corps of Engineers at work?
   - Ⓐ studying the effects of a proposed dam on a swamp
   - Ⓑ constructing the foundation of a skyscraper
   - Ⓒ operating a sewage treatment plant
   - Ⓓ building a pedestrian walkway over an expressway