

GRADE 5 GENERAL SCIENCE EOT1 PRACTICE QUESTIONS

Practice Question Number	Example	Unit and Page
	MCQ	
1	 Three-Dimensional Thinking 1. How does matter change from one state to another? Circle all that apply. A. adding energy B. removing energy C. adding mass D. removing volume 2. Liquid has _____. Circle all that apply. A. definite volume B. definite shape C. no definite volume D. no definite shape	Unit 1 pg 63

PAGE KEELEY
SCIENCE
PROBES

LESSON 1 LAUNCH

Is it Matter?



Four friends were talking about matter. They each had different ideas about the kinds of things that are matter. This is what they said:

Abe: I think something needs to be solid to be matter.

Kayla: I think matter can be a solid or a liquid.

Curtis: I think matter can be a solid, liquid, or gas.

Lori: I think matter can be a solid, liquid, or gas, but it doesn't include living things.

Who do you agree with most? _____

Explain why you agree.

3	1. Think about an inflated balloon with a small bag of marbles that is half its size. Which one has more volume? Explain your answer. 2. Which one has more mass? Explain your answer.	Unit 1 pg 10
4	Define the following terms: matter, mass, volume.	Unit 1 pg 10
5	Gases have no definite shape or volume. The particles in a gas are much farther apart than particles in solids or liquids. They can move around each other very easily. Gases spread out and completely fill a closed container. If you make the container bigger, the same amount of gas will expand to fill it. Read the passage above then use it to answer the following questions: - Which comparison between gases and solids is correct? - Gas particles are farther apart than solid particles. - Gas particles are closer together than solid particles. - Gas particles cannot move while solids can. - Gas particles have a fixed shape while solids do not. - Which best explains why gases can be compressed more easily than solids or liquids? - Gas particles are very far apart with lots of empty space - Gas particles are tightly packed together - Gas particles cannot move at all - Gas particles are heavier than solids	Unit 1 pg 56

	Use the following passage to answer questions 6, 7 and 8 Changes in Matter Think about the ways the banana was changing. Matter can be changed in many ways. A physical change begins and ends with the same kind of matter. A chemical change—also called a chemical reaction—is a change that produces new matter with different properties from the original matter. The law of conservation of mass states that matter is neither created nor destroyed during a physical change or chemical reaction. For example, when you mix baking soda with vinegar, particles in the baking soda and vinegar link up in new ways. During the chemical change, bubbles form and a solid is left behind. The new substances formed have different properties than the starting materials.  GO ONLINE Watch the video <i>Identifying Chemical Changes</i> to learn more about how to recognize a chemical change.	Unit 1 pg 40
6	Summarize: What is a chemical change? What is a physical change?	pdf

Visualize:

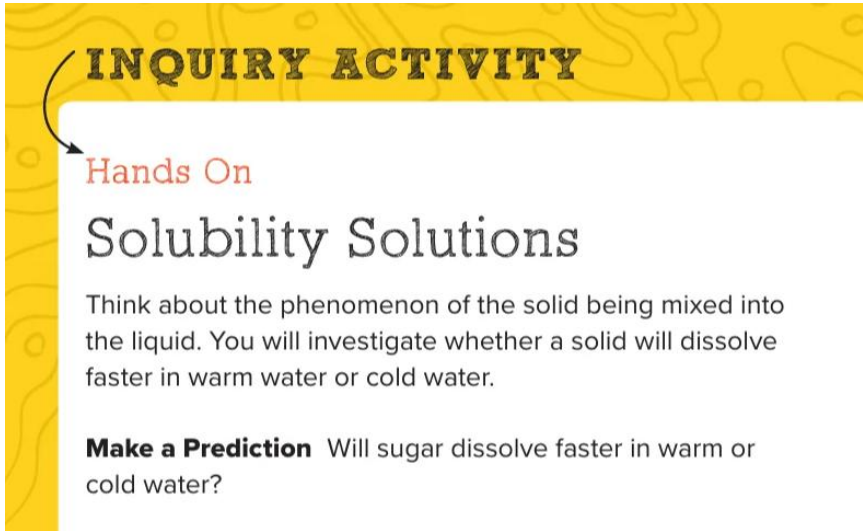
Identify as physical or chemical change

I	 Combustion	
II	 Rusting	
III	 Digestion	
IV	 Boiling	

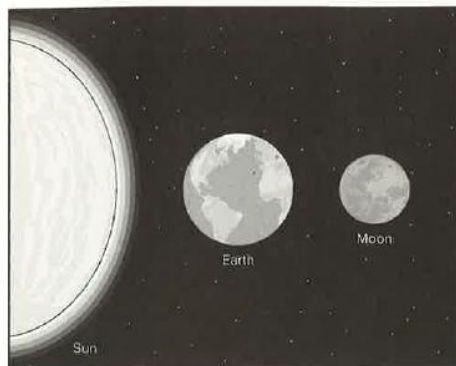
8	You combine 500 g of one material and 200 g of another in a closed container. A chemical change occurred. What can you say about the masses of the materials after the chemical change? What law are you using?	
9	Salt and Water  A spoonful of salt has a mass of 10 grams. A cup of water has a mass of 300 grams. What do you predict will be the total mass of the saltwater when the salt is dissolved in the water? Circle the answer that best matches your thinking. A. more than 300 grams B. less than 300 grams C. 300 grams Explain your thinking. What reasoning did you use to make your prediction?	Unit 1 pg19

10a	 Three-Dimensional Thinking . Which mixture is most likely a solution? A. muddy water B. cranberry juice C. potting soil D. milk	Unit 1 pg 31
10b	. How are mixtures formed and separated? 	Unit 1 pg 31

11	Describe at least three physical properties that can help identify copper.	Unit 1 pg 17
12	Signs of Chemical Change Chemical changes produce new substances. Often you can see, hear, or smell the formation of new substances as a chemical change occurs. Below are some possible signs of chemical change. Change in Color The change from shiny metal to rust and tarnish shows that certain metals have chemically changed. Describe 4 additional possible signs of chemical change.	Unit 1 pg 42-43

13	 INQUIRY ACTIVITY Hands On Solubility Solutions Think about the phenomenon of the solid being mixed into the liquid. You will investigate whether a solid will dissolve faster in warm water or cold water. Make a Prediction Will sugar dissolve faster in warm or cold water? Explain why.	Unit 1 pg 22
14	Describe how the moon's gravity causes Earth's tides. Earth's gravity affects the Moon. The Moon's gravity also affects Earth. The Moon's gravitational force causes Earth's tides, or the regular rise and fall of water along the shore. Earth's water bulges on the Moon-facing side of Earth. A bulge also forms on the side facing away from the Moon. The water level rises where the bulge is and the level lowers where it is not. This bulge of water causes changing tides as the Moon travels around the Earth.	Unit 1 pg 13

Phases of the Moon



Look at the diagram of the Sun, Earth, and Moon. What would a nighttime observer on Earth see? Circle the answer that best matches your thinking.

A.



A full moon

B.



A crescent moon

C.



A quarter moon

D.



No moon is seen

Explain why you agree.



Three-Dimensional Thinking

1. Based on the data table, what conclusion can you draw?

Planet	Length of Day (hours)	Length of Year (Earth years)	Distance from the Sun (AU)
Mercury	1,408	0.2	0.4
Venus	5,832	0.6	0.7
Earth	24	1.0	1.0
Mars	25	1.9	1.5
Jupiter	10	11.9	5.2
Saturn	10	29.4	9.5
Uranus	17	84.0	19.2
Neptune	16	164.8	30.0

- A. The farther a planet is from the Sun, the longer its day.
- B. The farther a planet is from the Sun, the longer its year.
- C. A day on Earth is longer than a day on Venus.
- D. Uranus is the coldest of all the planets.

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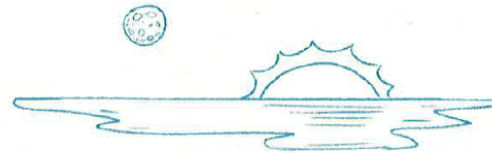
2. A planet is a large, round space object that _____ the Sun.

- A. attracts
- B. orbits
- C. follows
- D. reflects

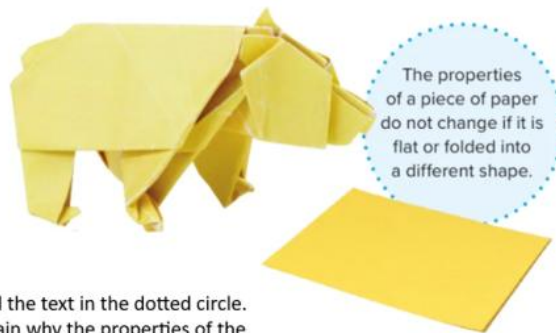
3. Circle all that apply.

Stars appear to move in the sky because of Earth's _____.

- A. axis
- B. rotation
- C. poles
- D. galaxies
- E. revolution



17



The properties of a piece of paper do not change if it is flat or folded into a different shape.

Read the text in the dotted circle.
Explain why the properties of the piece of paper will not change.

Unit 1 pg 40

18	Identify states of matter represented with letters A, B, and C in the image below.	PDF
19	Summarize It Use what you have learned to explain what pulls objects toward Earth's surface.	Unit 4 pg. 20
20	EXPLAIN THE PHENOMENON Why are some stars brighter than others? Summarize It Use what you have learned to explain what stars are and why some appear brighter than others when we look at the night sky.	Unit 4 pg. 82

1

A

Unit 1 pg33

Chemical Change

Frying an egg	Tearing up paper	Burning wood
A nail rusting	Grilling a hamburger	Dissolving salt in water
Exploding fireworks	Melting butter	Baking a cake
Rotting banana	Mixing baking soda and vinegar	Evaporating water
Lighting a match	Crushing a sugar cube	Milk going sour

Changes in matter can be chemical or physical. Put an X in any of the boxes that are examples of chemical changes.

Explain your thinking. How did you decide if something is a chemical change?

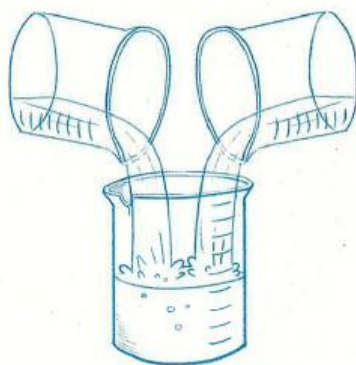
B



Three-Dimensional Thinking

Think about a scenario for an experiment. You combine 500 g of one material and 200 g of another in a closed container. A chemical reaction occurs. What can you say about the mass of the materials after they combine and go through the reaction? Choose a simple mathematical equation to support your answer.

- A. $500\text{ g} - 200\text{ g} = 700\text{ g}$
- B. $500\text{ g} + 200\text{ g} = 700\text{ g}$
- C. $700\text{ g} - 500\text{ g} = 200\text{ g}$
- D. $500\text{ g} \times 200\text{ g} = 700\text{ g}$



Particles in Matter



Four friends were talking about the particles that make up matter and give matter its properties. They each had different ideas. This is what they said:

Joyce: I think you can't see the particles that make up solids, liquids, and gases. They are too small to see.

Harold: I think you can see the particles that make up solids, liquids, and gases.

Royce: I think you can see the particles that make up solids and liquids, but you can't see the particles that make up gases.

Benito: I think you can see the particles that make up solids, but you can't see the particles that make up liquids and gases.

Who do you agree with most? _____

Explain why you agree.

THINK ABOUT IT:

Look at the enquiry activity below. If you were to carry out the activity, what results would you obtain? Fill in the table headed 'Record Data'

INQUIRY ACTIVITY

Hands On

Test Matter's Properties

Think about the egg cracking. The egg has many different properties. All matter has different properties based on how it interacts with other matter.

Make a Prediction How can we test the properties of matter?

Carry Out an Investigation

BE CAREFUL Wear safety goggles. Be careful with any sharp or pointy edges on the materials.

1. Hold one end of each object (one at a time) in the ice water for thirty seconds. Did the end you were holding get cold? Record the results in the table on the next page.
2. Pick up each object and gently try to bend it. Did it bend easily? Record the results.
3. Touch the magnet to each of the objects. Did it stick? Record the results.
4. Hold each object under a light. Is it shiny? Record the results.
5. Leave the last column empty for now. You will be revisiting this activity later in the lesson.



Materials



safety goggles



acrylic rod



paper clip



rubber eraser



aluminum foil



copper wire



wooden toothpicks



magnet



plastic bowl



ice cubes



water

Record Data

Object	Did it get cold?	Could you bend it?	Did the magnet stick to it?	Is it shiny?	What property does it have?
Acrylic Rod					
Paper Clip					
Rubber Eraser					
Aluminum Foil					
Copper Wire					
Wooden Toothpick					

A

Define the terms: physical property, conductivity, reflectivity, solubility

PDF

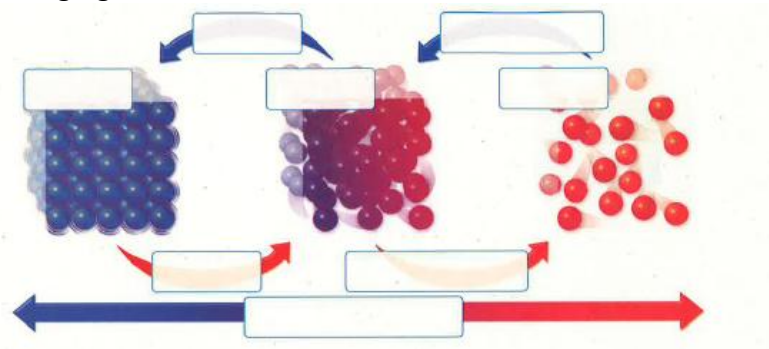
B

How can we use the properties of matter to identify materials

PDF

C

Changing states of matter.



Label a Diagram Use information that you read to label the states of matter in the diagram above. Label the process of how each state of matter changes from one to the other.

Unit 1 pg 58

Earth's Gravity

Eco



Four friends were talking about gravity. They each had a different idea.
This is what they said:

Angie: I think Earth's gravity only pulls on things that are close to Earth's surface.

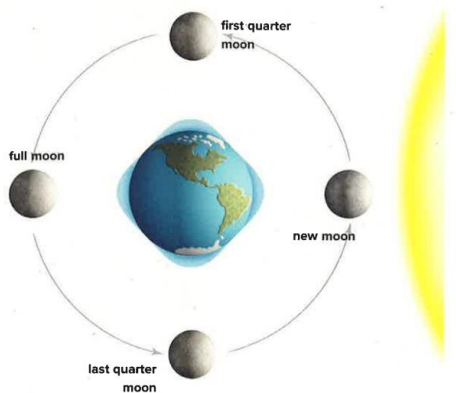
Tamara: I think Earth's gravity only pulls on things that are close to Earth and in Earth's atmosphere.

Carlos: I think Earth's gravity pulls on things close to Earth, including some things in space.

Mi-Ling: I think Earth's gravity pulls everything in the solar system toward it.

Who do you agree with most? _____

Explain why you agree.

B	Describe the effects of gravity. Use the text below. The Pull of Earth's Gravity ✓ Gravity is a force of attraction, or pull, between any two objects. The Barringer Crater is the result of gravity pulling a meteor to Earth's surface. ✓ The strength of gravity is affected by the total mass of the objects and the distance between them. ✓ The pull of gravity decreases when the total mass of the two objects decreases or they are further apart. ✓ On Earth, gravitational pull is the attraction between an object and Earth. ✓ No matter the location on Earth's surface, gravity pulls objects on all sides down toward the center. ✓ Every object that has mass experiences a gravitational pull. ✓ When an object is dropped from a certain height on Earth, it rushes downward due to gravity. 	Unit 4 pg 12
C	 Three-Dimensional Thinking The Moon orbits around Earth due to gravity. Throughout the Moon's orbit, there appears to be changes in Earth's water level. You have learned that these are called tides. 	Unit 4 pg 21

	Copyright © McGraw-Hill Education 1. Based on what you know about gravity, what causes Earth's changing tides? A. Tides are caused by tropical storms such as hurricanes. B. Tides are caused by the pull of gravity between Earth and the Moon. 2. What causes the tide to bulge on the side of Earth facing the Moon? A. Earth's water bulges on the side facing the Moon because of the pull of gravity. B. The Moon reverses its orbit and causes the tides to change.	
4A	Summarize It Explain how Earth moves through space and how it affects life on Earth.	Unit 4 pg. 40

B

a- Explain why the seasons in the Northern and Southern Hemisphere are always opposite.

b- Explain why in spring and autumn, the temperatures are similar in both hemispheres.

Use the text below:

Seasons

As Earth revolves around the Sun, the tilted axis always points in the same direction. When the Northern Hemisphere tilts away from the Sun, the Northern Hemisphere's surface does not receive as much energy, and temperatures are lower. In the Northern Hemisphere, this is winter.

At the same time, it is summer in the Southern Hemisphere. The Southern Hemisphere tilts toward the Sun, so Sun's energy is more concentrated. The surface receives more energy, and temperatures are warmer.

Because the tilt of Earth's axis always points in the same direction, the seasons in the Northern Hemisphere and the Southern Hemisphere are always opposite. In spring and autumn, both hemispheres receive equal warmth from the Sun, making temperatures similar in both hemispheres.

Unit 4 pg. 31

C

Unit 4 Pg. 60

Label the planets in the solar system.

