SCIENCE • GRADE 4

Check Understanding Assessments

FOCUScurriculum

Curriculum materials for **your** content standards
33 Milford Drive, Suite 1, Hudson, OH 44236
866-315-7880 • www.focuscurriculum.com

Introduction

Published by FOCUScurriculum

33 Milford Drive, Suite 1

Hudson, OH 44236

866-315-7880

www.focuscurriculum.com

Created by Kent Publishing Services, Inc.

Designed by Signature Design Group, Inc.

Check Understanding Assessments

The following is a sampling of assessments found in each *Focus on New York Standards* book. Theyare designed to assist you in evaluating your students' knowledge of New York's Core Curriculum in Science. Check Understanding assesses the content of each *Focus on New York Standards* book. You will find multiple choice and short answer questions that assess literal and interpretive comprehension of each book's content. In addition, these assessments will evaluate your students' ability to synthesize and apply the content and concepts identified in the New York Elementary Science Core Curriculum. Students will obtain valuable practice in answering 1-point and 2-point response questions they will encounter on the New York Grade 4 Elementary-Level Science Test.

Below Level

STANDARD 4: The Physical Setting

NYC • Grade 4 • Unit 3: Properties of Water	
Key Idea 3	Performance Indicator 3.1 Performance Indicator 3.2

Assessments

Physical Properties of Water

Print pages 20–22 of this PDF for the assessments.

Physical Properties of Water

Check Understanding

Shade the circle next to the correct answer.

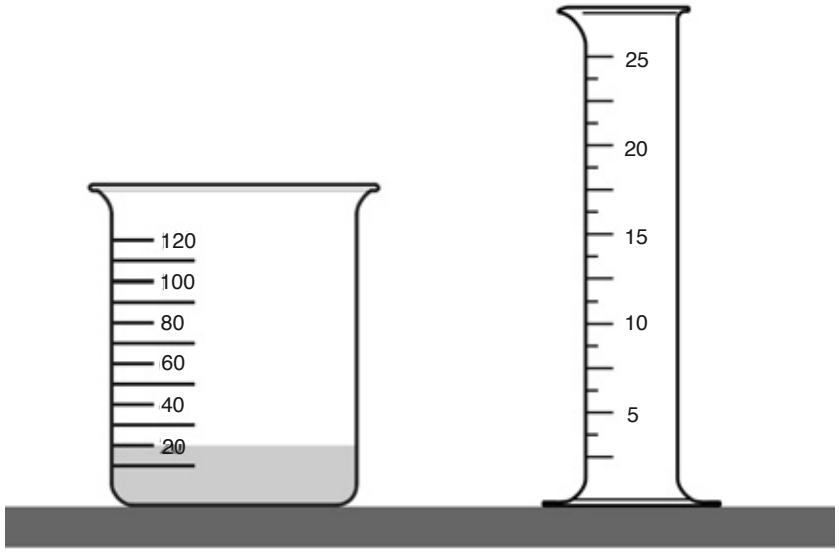
1. Which tool should you use to measure milliliters of water?

Ⓐ graduated cylinder

Ⓑ ruler

Ⓒ thermometer

The diagram below shows two measuring containers, A and B. Use this diagram to answer questions 2 and 3.



Note that question 2 only has three choices.

2. Container A contains 20 milliliters (mL) of water. If all the water from container A is poured into container B, how much water will be in container B.

Ⓐ 10 milliliters

Ⓑ 20 milliliters

Ⓒ 30 milliliters

3. When all of the water from container A is poured into container B, does the volume of the water change? [1]

Circle one: Yes No

Explain your answer. [1]

_____

_____

_____

_____

Physical Properties of Water

Check Understanding

Shade the circle next to the correct answer or write your answer on the lines provided.

4. What force causes a boat to float on a lake?

Ⓐ friction
Ⓑ gravity
Ⓒ bouyancy
Ⓓ magnetism

5. If a student drops a rock into a glass of water, what will happen to the water level? [1]

_____

6. Which is ***not*** a form water can take?

Ⓐ bouyancy
Ⓑ liquid
Ⓒ solid
Ⓓ gas

Note that questions 7 and 8 only have three choices.

7. A student has a ball of clay and wants to make it float in water. How should he shape the clay?

Ⓐ in a tight ball
Ⓑ in a perfect cube
Ⓒ in a wide bowl

8. A student stirs salt and water together. What happens?

Ⓐ The salt and water form a solution.
Ⓑ The salt sinks to the bottom.
Ⓒ The salt floats to the top.

Physical Properties of Water

Assessment Scoring Guidelines

1. A

2. B

3. No. The water changes shape but the volume stays the same.

4. C

5. The water level rises.

6. A

7. C

8. A

On Level

STANDARD 4: The Living Environment

NYC • Grade 4 • Unit 1:
Animals and Plants in Their Environment

Key Idea 5	Performance Indicator 5.2
Key Idea 6	Performance Indicator 6.1
Key Idea 7	Performance Indicator 7.1

Assessments

What Happens When Ecosystems Change?

Print pages 20–22 of this PDF for the assessments.

What Happens When Ecosystems Change?

Check Understanding

Shade the circle next to the correct answer or write your answers on the lines provided.

1. A forest fire often forces many plant-eating animals to move to a new habitat. What is likely to happen after the plant-eaters leave?

Ⓐ Predators will go hungry.

Ⓑ Plant-eaters will not survive.

Ⓒ Plant-eaters will be come predators.

Ⓓ Predators will become plant-eaters.

2. Soil in an empty field blows away during a strong wind. What is a possible change to the habitat that caused this soil to erode?

Ⓐ Earthworms moved into the area.

Ⓑ A beaver built a dam in a river nearby.

Ⓒ People cut down trees to build houses.

Ⓓ Plant-eating animals left the habitat.

3. Forest fires destroy habitats and force animals living there to search for a new habitat. However, forest fires also have benefits to habitats.

Identify **one** positive effect of a forest fire. [1]

_____

Explain how the effect of this forest fire benefits the habitat. [1]

_____

_____

_____

_____

_____

_____

_____

_____

Check Understanding

Shade the circle next to the correct answer or write your answers on the lines provided.

4. Habitats can change for a variety of reasons. Natural forces cause some changes. People cause other changes.

Identify **one** natural and **one** human change that can take place in a habitat. [1]

(1) _____

(2) _____

Explain how each change affected the habitat. [2]

(1) _____

_____

_____

_____

(2) _____

_____

_____

_____

5. Which tool would be most useful for observing a tornado?

Ⓐ thermometer

Ⓑ hand lens

Ⓒ binoculars

Ⓓ graduated cylinder

6. Students in New York were studying a population of deer near their school. Over two years, most of the deer had moved to another area. Identify two factors that might have caused the deer to move. [1]

(1) _____

(2) _____

7. Which human activity typically ***does not*** have a harmful effect on the environment?

Ⓐ using pesticides

Ⓑ clearing land

Ⓒ growing plants

Ⓓ burning fossil fuels

What Happens When Ecosystems Change?

Assessment Scoring Guidelines

1. Answer A is correct.

2. Answer C is correct.

3. The fire leaves behind burned wood and ashes.
   The burned wood and ashes provide nutrients to the soil helping new plants grow.

   More sunlight reaches the forest floor.
   The extra sunlight help new plants grow.

4. Students should identify one natural and one human change to an ecosystem and explain how they affect it. For example:

   Natural Changes
   Hurricanes—vegetation, wetlands, and wildlife are destroyed
   Tornados—vegetation and wildlife are destroyed
   Floods—wash away plants and shelters for animals, strips away topsoil leaving behind fewer nutrients for plants to grow; deposit rich topsoil in other areas
   Forest fires—destroy vegetation and shelter forcing animals to leave; adds nutrients and more sunlight to the forest floor
   Beaver dams—change the flow of water forcing changes to animals living in the water; remove trees allowing other plants to grow
   Earthworms—provide nutrients to the soil; can disrupt the forest floor protecting some trees and plants

   Human Changes
   Development—destroys vegetation and wetlands; causes soil erosion
   Pollution—creates acid rain damaging vegetation
   Transporting plants and animals—can introduce invasive species

5. Answer C is correct.

6. Trees and plants in the area were cleared away.
   Their source of water became polluted.
   Predators moved into the area.
   There was not enough food in the area to support all the deer.
   Acid rain destroyed many of the plants in the area.

7. Answer C is correct.

Above Level

STANDARD 4: The Physical Setting

NYC • Grade 4 • Unit 2: Electricity and Magnetism	
Key Idea 3 Key Idea 4 Key Idea 5	Performance Indicator 3.1 Performance Indicator 4.1 Performance Indicator 5.1, 5.2

Assessments

Electromagnetic Energy

Print pages 20–22 of this PDF for the reading activities.

Electromagnetic Energy

Check Understanding

Shade the circle next to the correct answer or write your answer on the lines provided.

1. A bell on a classroom wall rings with the help of an electromagnet. The bell converts electrical energy into

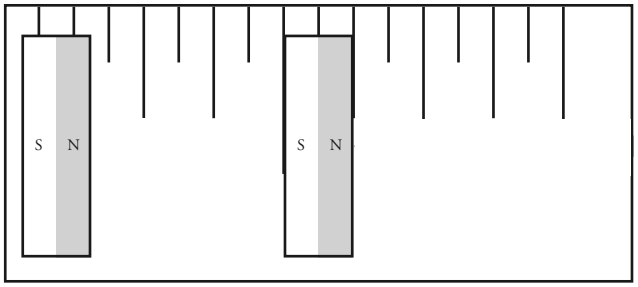
Ⓐ light energy

Ⓑ wind energy

Ⓒ thermal energy

Ⓓ sound energy

2. A student placed two magnets on a ruler as shown in the diagram below.

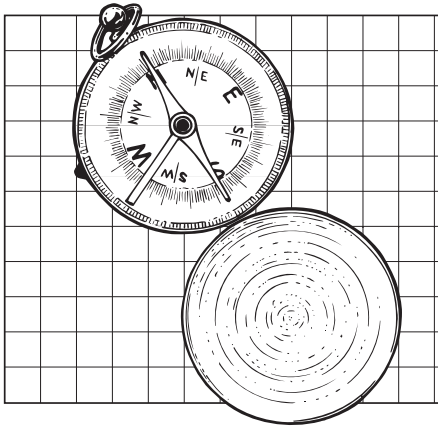


Explain what happened to the two magnets. [1]

_____

_____

3. The compass in the diagram below has a needle that is attracted to Earth's north pole. Explain **two** reasons why the needle does this. [2]



(1) _____

_____

_____

(2) _____

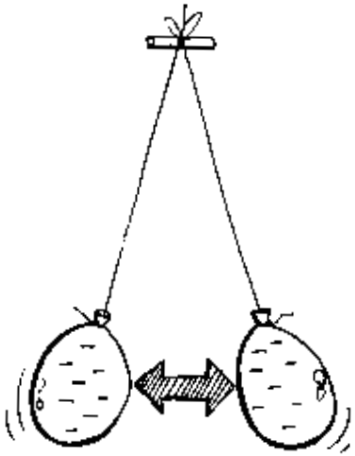
_____

_____

Check Understanding

Write your answer on the lines provided.

4. A student took two balloons and attached a string to each one. She rubbed the balloons on wool and then held the strings together. The balloons moved away from each other as shown in the diagram below.



Explain why the two balloons repelled each other. [1]

_____

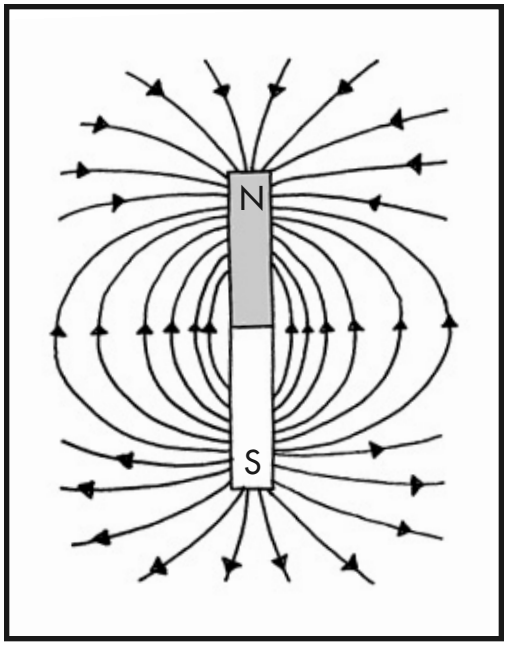
_____

_____

_____

_____

5. A magnetic field is an area in which magnetic forces can be detected. The diagram below illustrates the magnetic field of a bar magnet.



Where is the magnetic field of the bar magnet the strongest? [1]

_____

_____

Electromagnetic Energy

Assessment Scoring Guidelines

1. Answer D is correct.

2. The two magnets were attracted to each other because opposite poles of the magnets where facing each other.

3. The needle on the compass is a magnet.

The south pole of the compass needle is attracted to the north pole of Earth's huge magnet.

4. Rubbing the two balloons against wool gives them each a negative charge. Like charges repel each other.

5. The magnetic field is strongest at the north and south poles of the magnet.