



**NEW ENGLAND
COMMON ASSESSMENT PROGRAM**

**Released Items
2014**

**Grade 4
Science**

Science

- 1 Four different objects were put under a hot lamp. After 30 minutes, changes to the objects were recorded in the table shown below.

Changes to Objects under a Hot Lamp

	Object			
	1	2	3	4
Temperature	✓	✓	✓	✓
Shape		✓		
Weight				✓
Color	✓			✓

Key

✓ = change

Which object is **most likely** ice cream?

- A. Object 1
 - B. Object 2
 - C. Object 3
 - D. Object 4
- 2 A student puts a 38°C metal spoon into a jar of 5°C water. What are the **most likely** temperatures of the metal spoon and the water after five minutes?
- A. metal spoon: 34°C, water: 6°C
 - B. metal spoon: 35°C, water: 4°C
 - C. metal spoon: 38°C, water: 5°C
 - D. metal spoon: 39°C, water: 4°C

- 3 Four sets of magnets are shown in the diagrams below.



Set 1



Set 2



Set 3

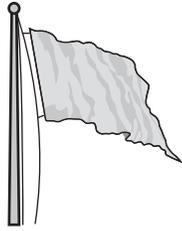


Set 4

The magnets in which sets will push each other apart?

- A. Sets 1 and 2
- B. Sets 1 and 4
- C. Sets 2 and 3
- D. Sets 2 and 4

- 4 A student sees a flag waving gently, as shown below.



The effects of different wind speeds are shown in the chart below.

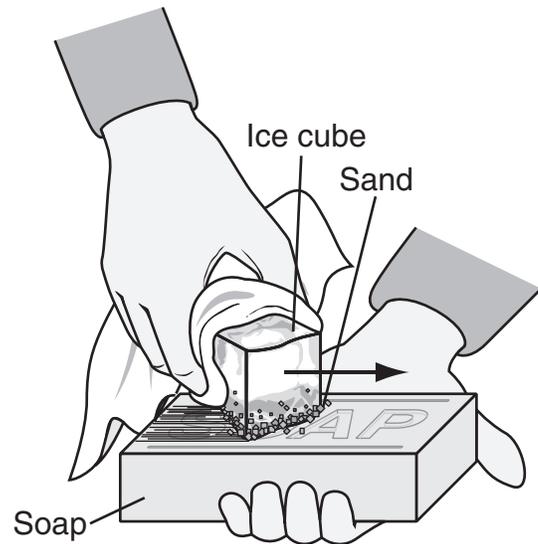
Effects of Wind Speeds

Wind Speed	Description of Wind Effects	Appearance of Wind Effects
4–7 mph	Smoke drifts with wind.	
13–18 mph	Loose paper blows around.	
25–31 mph	Umbrellas blow inside out.	
39–46 mph	Branches are ripped off trees.	
55–63 mph	Trees are snapped in half.	

Based on the wind chart, which wind speed is **most likely** causing the flag to wave gently?

- A. about 10 mph
- B. about 22 mph
- C. about 35 mph
- D. about 51 mph

- 5 A student is pushing an ice cube and sand across the top of a bar of soap to show how Earth's surface can be changed, as shown in the diagram below.



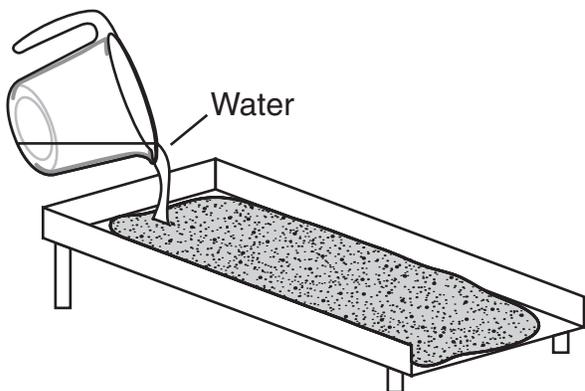
Which change to Earth's surface is the student **most likely** showing?

- A. how an island is formed by a river
- B. how a mountain is formed by a volcano
- C. how a sand dune is formed by wind
- D. how a valley is formed by a glacier

- 6 Granite is a rock found in New England. Which characteristics make granite a good material for the floors of buildings?

- A. Granite is lightweight and soft.
- B. Granite is shiny and bends easily.
- C. Granite is hard and lasts a long time.
- D. Granite is an inexpensive renewable resource.

- 7 A student sets up an experiment to show what happens to sand on a hill when it rains. In the experiment, the student pours one cup of water into a tray of dry sand, as shown below.



The student measures the amount of sand that washes out of the tray. The student repeats the experiment three times. The table below shows the results.

Results of Sand Test

Test	Amount of Sand That Washes Out
1	25 mL
2	27 mL
3	24 mL

- Describe **one** way the student could change the experiment so that more sand would wash out of the tray. Explain why more sand would wash out.
- The student repeats the experiment using gravel instead of sand. Predict how the results would compare to the results for sand. Explain your reasoning.

- 8 The table below lists some of the foods different kinds of birds eat.

Foods Birds Eat

Bird	Foods
Eagle	<ul style="list-style-type: none"> • Rabbits • Squirrels
Goose	<ul style="list-style-type: none"> • Plants • Grasses
Robin	<ul style="list-style-type: none"> • Worms • Fruit
Sparrow	<ul style="list-style-type: none"> • Seeds • Insects
Swan	<ul style="list-style-type: none"> • Plants • Grasses
Turkey	<ul style="list-style-type: none"> • Seeds • Insects • Salamanders

Based on the table, which birds **most likely** have similar beaks?

- A. eagle and turkey
- B. goose and swan
- C. robin and sparrow
- D. sparrow and turkey

- 9 A student put a bean plant in a dark room and watered it every other day. At the end of two weeks, the bean plant was dead.

Why did the bean plant die?

- A. It needed air.
- B. It needed energy.
- C. It needed space.
- D. It needed water.

- 10 A sparrow is a small bird that lives in New England. Bird-watchers counted sparrows one day every December for five years. The table below shows the data they collected.

Sparrow Data

Year	Number of Sparrows	Temperature
1	45	30°F
2	15	18°F
3	60	35°F
4	10	15°F
5	75	50°F

Based on the data, which conclusion is the **most** reasonable?

- A. Cold winters occur more often than warm winters.
- B. More sparrows survive during a warm winter than during a cold winter.
- C. More sparrow eggs hatch during a warm winter than during a cold winter.
- D. Cold winters have more snowfall than warm winters.