

APPENDIX C

Example Science Items Grade 4



The picture below shows a pond.



In the spaces provided below, list three living things and three non-living things shown in this picture.

Living things

1. frog
2. tree
3. turtle

Non-living things

1. sun
2. rock
3. cloud

S041003

Some animals are very rare. For example, there are very few Siberian tigers. If the only Siberian tigers left are female, what will most likely happen?

- (A) The females will find another type of male animal to mate with and produce more Siberian tigers.
- (B) The females will mate with each other and produce more Siberian tigers.
- (C) The females will only be able to produce female Siberian tigers.
- The females will not be able to produce more Siberian tigers, and they will die out.

S031266

Some of the materials below will burn and some will not. Put an X in the box next to the materials that will burn.

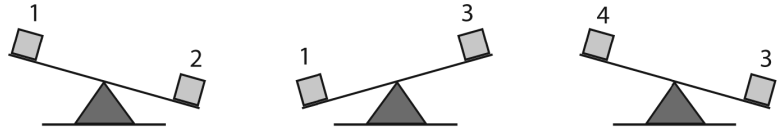
(You may put an X in more than one box.)

- water
- wood
- sand
- gasoline
- air

S031421

Stephanie has a balance and four cubes (1, 2, 3, 4). The cubes are made of different materials.

She puts two cubes at a time on the balance and observes the following results.



What can she conclude about the weight of cube 2?

- (A) It is heavier than cubes 1, 3, and 4.
- (B) It is heavier than cube 1 but lighter than cubes 3 and 4.
- (C) It is heavier than cube 3 but lighter than cubes 1 and 4.
- (D) It is heavier than cube 4 but lighter than cubes 1 and 3.

S041305

Water that has its salt removed before it can be used as drinking water is most likely to have come from

- (A) underground
- (B) a river
- (C) a lake
- (D) a sea

S041092



Example Science Items Grade 8

Some birds eat snails. A species of snail that lives in the forest has a dark shell. The same species of snail that lives in a field has a light-colored shell. Explain how this difference in shell colors helps the snails to survive.

The snails' shell color helps them to blend in with their surroundings and hide from predators.

S032451

Which of the following can provide the human body with long-term immunity against some diseases?

- (A) antibiotics
- (B) vitamins
- (C) vaccines
- (D) red blood cells

S032087

During which chemical process is energy absorbed?

- (A) iron nails rusting
- (B) candles burning
- (C) vegetables rotting
- (D) plants photosynthesizing

S042112

The table below shows some elements, compounds, and mixtures.

Classify them by putting an X in the appropriate column beside each one.

	Element	Compound	Mixture
Air			X
Sugar		X	
Salt		X	
Gold	X		
Sea water			X
Helium	X		

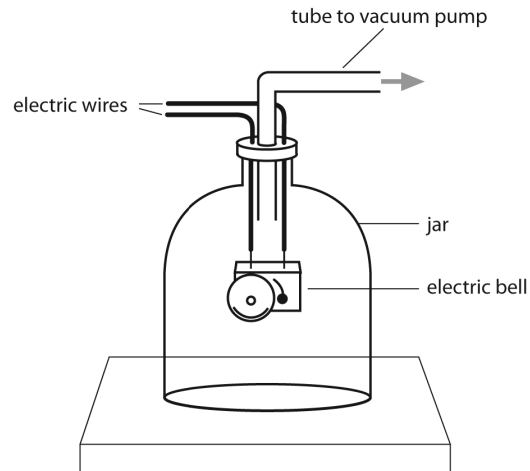
5042305

As a liquid changes into a gas, which characteristics or properties change and which stay the same?

In each row of the table below, put an X in the appropriate column.

	Changes	Stays the Same
Density	X	
Mass		X
Volume	X	
Size of molecules		X
Speed of molecules	X	

5042173



The diagram shows an electric bell inside a jar. The electric bell is switched on and a ringing sound is heard. The air is then pumped out of the jar.

What will happen to the sound of the bell when the air is pumped out of the jar? Explain your answer.

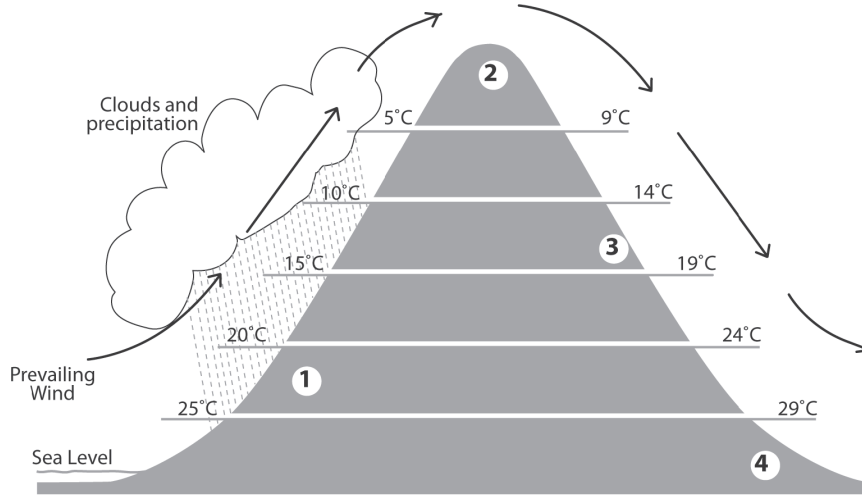
As the air leaves the jar, the sound will fade. Sound needs a medium like air to travel through. If there is no air, there is no sound.

S032369

S032160

What is the main difference between planets and moons in our solar system?

- (A) All planets can support life; moons cannot.
- (B) All planets have atmospheres; moons do not.
- All planets orbit the Sun; all moons orbit planets.
- (D) All planets are larger than all moons.



The diagram above shows the prevailing wind direction, precipitation, and average air temperatures at different elevations on both sides of a mountain. In which location are you most likely to find a jungle?

- location 1
- (B) location 2
- (C) location 3
- (D) location 4

S032654