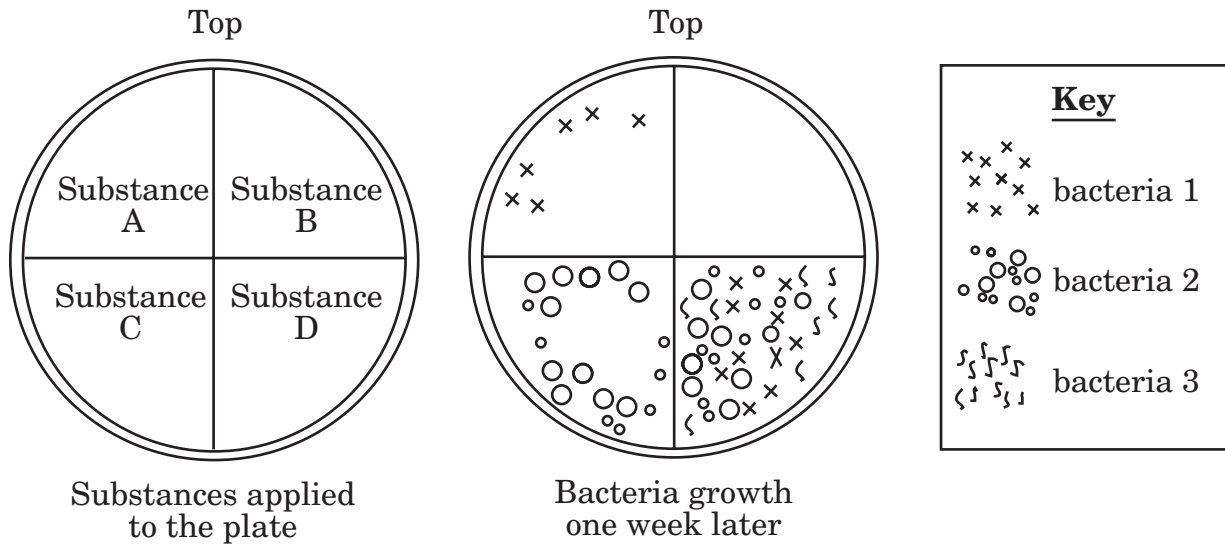


Grade 6 Science Sample Items

Use the following information to answer questions 1 and 2.

A microbiologist tested 4 substances to find out if they would kill certain types of bacteria. The substances were applied to a plate on which bacteria would normally grow. One week later, the scientist recorded the results in the diagram below.



1. Objective: 2.04
Thinking Skill: Analyzing

Which statement **best** describes the growth of bacteria 2?

- A no growth on the plate
- B growth in only one section of the plate
- * C growth in two sections of the plate
- D less growth than bacteria 3

2. Objective: 2.03
Thinking Skill: Evaluating

Based on the diagram, which conclusion is **most likely** to be correct?

- A Bacteria 1 is likely to appear in substance B after two weeks.
- B Bacteria 2 will only grow in the presence of bacteria 1.
- C Substance B was unable to kill any bacteria.
- * D Substance C was able to kill two of the three bacteria types.

3. Objective: 3.02
Thinking Skill: Analyzing

A planet's distance from the sun affects the time it takes the planet to complete an orbit around the sun. This distance from the sun also affects the planet's climate and temperature.

Data About the Solar System

Planet	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune	Pluto
Distance from Sun (in km)	69.7	109.0	152.1	249.1	815.7	1507.0	3004.0	4537.0	7375.0
Average Temperature	350°C	480°C	22°C	-23°C	-150°C	-180°C	-210°C	-220°C	-230°C

What could be concluded about the *general* relationship between a planet's distance from the sun and its temperature?

- A The closer the planet is to the sun, the colder it is on the planet.
- * B The further the planet is from the sun, the colder it is on the planet.
- C Pluto is the farthest planet from the sun.
- D The temperature on Pluto is the coldest.

4. Objective: 4.04
Thinking Skill: Evaluating

A class performs an experiment in which they place a bell in different situations.

DATA TABLE	
Arrangement of Bell	Volume of Sound
held against railroad track	ringing heard very clearly
in jar that has no air	no sound heard
held up in the air	ringing heard very faintly
held underwater	ringing heard well

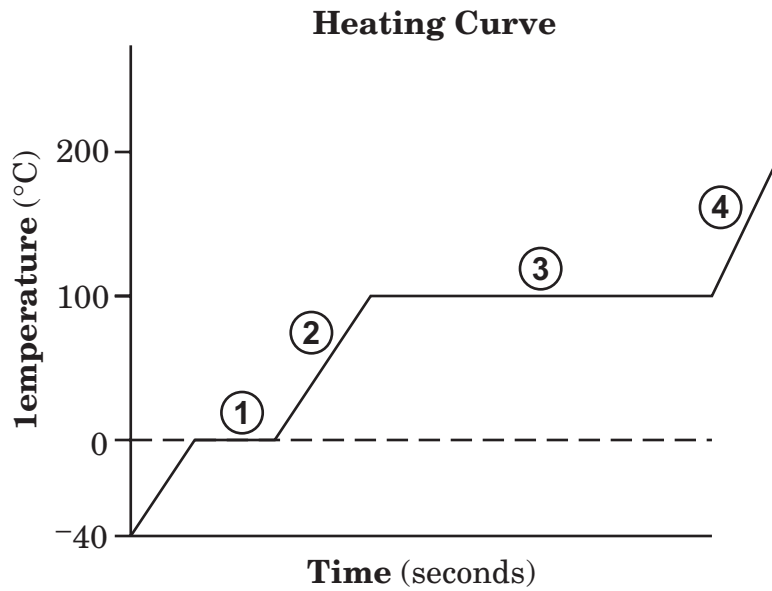
Which problem was being investigated in this experiment?

- A How does the pitch change when a bell is moving?
- B How much faster does light travel than sound?
- * C Through what materials does sound travel best?
- D What is the best material to use in musical instruments?

5. Objective: 4.04
Thinking Skill: Analyzing

The graph shows the temperature changes as a sample of ice is heated.

What is happening during time ①?



- A The liquid is evaporating.
- B The liquid is freezing.
- C The solid is freezing.
- * D The solid is melting.