

TIMSS 2023 – Restricted Use Items

Science Grade 4

Benchmark 1

Content Domain: Physical Science

Cognitive Domain: Applying

Jenny stirs a pot of boiling soup and leaves her spoon in the pot.

Later, the spoon is too hot to pick up.

What material is the spoon most likely made from?

- A wood
- B rubber
- C plastic
- D metal

Benchmark 1

Content Domain: Earth Science

Cognitive Domain: Knowing

Harriet has a small vegetable garden.



Which natural resources does Harriet use to grow plants?

- A** water and soil
- B** water and wind
- C** soil and oil
- D** oil and wind

Benchmark 2

Content Domain: Life Science

Cognitive Domain: Applying

John investigated the effect of different amounts of light on two identical plants.

He put the plants in identical pots with the same kind of soil and the same amount of water.

John put Plant A near the window and put Plant B inside a closet with the closet door closed.

After two weeks, the plants looked like this:



Why is Plant B that was kept in the closet less healthy than Plant A that was kept by the window?

A is healthy because it had light

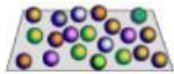
Benchmark 2

Content Domain: Physical Science

Cognitive Domain: Knowing

Joseph has several piles of objects to pick up. Which objects can he pick up using a magnet?

Click **all** the sets of objects that Joseph could pick up using a magnet.



glass marbles



iron filings



rubber bands



steel paperclips



wooden toothpicks



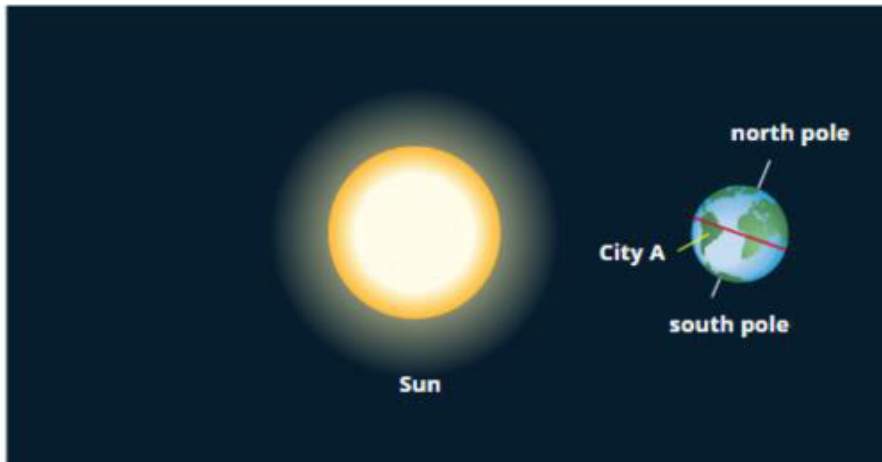
disk magnets

Benchmark 3

Content Domain: Earth Science

Cognitive Domain: Applying

The diagram shows the Earth orbiting the Sun.



What season is it in City A in this diagram?

- A winter
- B spring
- C summer
- D autumn

Benchmark 3

Content Domain: Life Science

Cognitive Domain: Knowing



George has a cold. He coughs into his hands to help stop spreading germs to his sister.

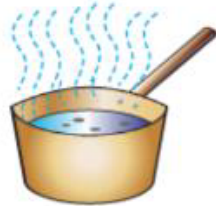
How could germs from George's cough still spread to his sister?

If George touches his sister, he will get his germs on her

Benchmark 4

Content Domain: Physical Science

Cognitive Domain: Applying



Water is heated in a metal pot and begins to boil.

Carla says that new materials are being created because the water is bubbling.

Is Carla correct?

- A** Yes, the hot metal in the pot is releasing a gas.
- B** Yes, the hot metal and hot water mix and release a gas.
- C** No, the hot water is turning into a gas.
- D** No, the air near the pot is mixing into the water.