

Sunlight Temperature Detectives

Use thermometer data to show how sunlight changes objects.

S3P1.b "Plan and carry out an investigation to gather data using thermometers to produce tables and charts that illustrate the effect of sunlight on various objects."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the steps that make the test fair. Circle each temperature measurement, then number the data steps in the order they happen.

Testing Objects in Sunlight

- ① Mina wanted to find out how sunlight changes the temperature of different objects. She chose a square of black paper, a square of aluminum foil, and a wooden block. She put one thermometer on each object. All three objects started in the shade, so Mina could check that their starting temperatures were close.
- ② Mina moved the objects into the same sunny spot at 10:00. She kept the objects the same size and used the same kind of thermometer each time. After ten minutes, she read each thermometer and wrote the data in a table. The table helped her compare the temperature changes fairly.

MINA'S TEMPERATURE DATA

Object	Start, °C	After 10 Minutes, °C	Change, °C
Black paper	20	31	11
Aluminum foil	20	24	4
Wooden block	21	27	6

- ③ Mina used the table to make a bar chart. Each bar showed how many degrees Celsius an object warmed. The black paper had the tallest bar, so it warmed the most during the test. Mina could repeat the investigation on another sunny day to see whether she gets similar results.

2 ANSWER WITH EVIDENCE Use the passage

1 What did Mina keep the same to make her investigation fair? Name two things.

2 Which object had the greatest temperature change? Use data from the table.

3 How much did the wooden block warm during the ten-minute test?

4 What could Mina do to check whether her results are similar on another day?

3 YOUR TURN Your own words

Plan and carry out a fair sunlight test with two safe objects. Put each object in sunlight and shade for ten minutes, use thermometers, and record your data in the table.

OBJECT	PLACE	START, °C	AFTER 10 MINUTES, °C	CHANGE, °C

PART 1 • READ AND MARK

Underline the steps that make the test fair. Circle each temperature measurement, then number the data steps in the order they happen. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What did Mina keep the same to make her investigation fair? Name two things.	She kept the objects the same size, used the same kind of thermometer, and put them in the same sunny spot. Any two are correct.
2	Which object had the greatest temperature change? Use data from the table.	Black paper had the greatest change. It warmed 11 °C.
3	How much did the wooden block warm during the ten-minute test?	The wooden block warmed 6 °C.
4	What could Mina do to check whether her results are similar on another day?	She could repeat the investigation on another sunny day and compare the data.

PART 3 • YOUR TURN (SAMPLE ANSWER)

OBJECT	PLACE	START, °C	AFTER 10 MINUTES, °C	CHANGE, °C
Black paper	Sunlight	20	30	10
Black paper	Shade	20	21	1
Aluminum foil	Sunlight	20	24	4
Aluminum foil	Shade	20	21	1

Accept safe objects and reasonable measured temperatures. Students should use the same time period and thermometer method for all trials, and their change values should equal the ending temperature minus the starting temperature.