

Ice Melt Detectives

Plan a fair test, share jobs, and use results as evidence.

5.1.b.i “planning and carrying out investigations collaboratively plan and conduct investigations to produce data”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the test question. Circle the factor the team changed, then number three details that helped the team collect fair, dependable data.

A Team Tests Ice

- ① Four classmates wanted to find out whether the color of a paper cup changes how quickly ice melts. First, they made a testable question: Does ice melt at different rates in black and white paper cups? They agreed to change only cup color. They would keep the ice cube size, cup size, room, and starting time the same.
- ② Next, the group planned a fair way to collect data. Maya would label cups. Leo would place one equal-sized ice cube in each cup. Sam would use a timer and record the minutes until each cube disappeared. Priya would check that both cups stayed on the same table. They planned three trials because repeated trials can make results more dependable.
- ③ During each trial, the team started both timers together. They wrote each result in a shared data chart. In all three trials, ice in the black cup melted before ice in the white cup. The students compared their results and stated a claim supported by the data. Under these conditions, the black cup was linked to faster melting. They knew more trials could strengthen the claim.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What testable question did the classmates plan to investigate?

2 What factor did the team change, and name two factors they kept the same?

3 How did the group share jobs to collect data? Give two examples.

4 What claim did the students make, and what data supported it?

3 YOUR TURN _____ Your own words

Plan a fair team investigation about how sunlight affects bean plant height. Use the five rows to state the question, the change, what stays the same, team jobs, and a data plan with repeated trials.

PLAN PART	DETAILS

PART 1 • READ AND MARK

Underline the test question. Circle the factor the team changed, then number three details that helped the team collect fair, dependable data. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What testable question did the classmates plan to investigate?	Does ice melt at different rates in black and white paper cups?
2	What factor did the team change, and name two factors they kept the same?	They changed cup color. They kept the ice cube size, cup size, room, and starting time the same. Any two kept-the-same factors are correct.
3	How did the group share jobs to collect data? Give two examples.	Maya labeled cups, Leo placed ice cubes, Sam timed and recorded minutes, and Priya checked the cup location. Any two examples are correct.
4	What claim did the students make, and what data supported it?	They claimed that the black cup was linked to faster melting. In all three trials, ice in the black cup melted before ice in the white cup.

PART 3 • YOUR TURN (SAMPLE ANSWER)

PLAN PART	DETAILS
Question	Does the number of hours of sunlight each day affect bean plant height after seven days?
Change	Give one group 2 hours of sunlight each day and another group 6 hours.
Keep the Same	Use the same type of bean, soil, pot size, water amount, and starting plant size.
Team Jobs	One student waters plants, one measures height, one records data, and one checks that the plan is followed.
Data Plan	Measure each plant's height in centimeters after seven days. Use three plants in each group and compare the group results.

Accept equivalent descriptions of the controlled factors and team roles. For the open task, accept any safe, testable plan that changes one factor, keeps relevant factors the same, assigns jobs, and describes repeated data collection.