

Melt Test Detectives

Plan a fair test and collect data.

2.1.b.i “planning and carrying out investigations with guidance, plan and conduct simple investigations to produce data”

NAME _____ DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the question Mina investigated. Number 1, 2, and 3 beside the three sentences that begin First, Next, and Last, then circle all the conditions that stayed the same. These marks show how a plan can produce useful data.

Ice Cube Test

- ① Mina wondered, “How does the remaining ice height after ten minutes compare in sun and shade?” With her teacher, she planned a fair test. They chose two same-size ice cubes, two matching plates, and sunny and shady places. They decided to check each cube after ten minutes.
- ② First, Mina put one plate in sun and one in shade. Next, she used a ruler to measure the height of each ice cube after ten minutes. Last, she wrote both measurements in a chart.
- ③ Mina repeated the test two more times. Each time, she used same-size cubes, matching plates, and ten minutes. Her chart showed that the sunny ice cube was shorter each time. The data helped her answer her question.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What question did Mina investigate?

2 What data did Mina write in her chart?

3 What three conditions stayed the same each time?

3 YOUR TURN _____ Your own words

With your teacher, test a wet paper towel near a sunny window and one in shade. Plan what stays the same. Use equal towels and water. Start together. Check every 5 minutes. On extra paper, record when each is first dry, or 'not dry at 60 minutes.' Which dried first? Use your results.

PLACE	WHAT STAYS THE SAME	DATA I WILL COLLECT

PART 1 • READ AND MARK

Underline the question Mina investigated. Number 1, 2, and 3 beside the three sentences that begin First, Next, and Last, then circle all the conditions that stayed the same. These marks show how a plan can produce useful data. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What question did Mina investigate?	How does the remaining ice height after ten minutes compare in sun and shade?
2	What data did Mina write in her chart?	She wrote the height measurements of both ice cubes after ten minutes.
3	What three conditions stayed the same each time?	She used same-size ice cubes, matching plates, and ten minutes.

PART 3 • YOUR TURN (SAMPLE ANSWER)

PLACE	WHAT STAYS THE SAME	DATA I WILL COLLECT
Sunny window	Two matching paper towels, 2 spoonfuls of water, and the same start time	Minutes until the towel is dry
Shady spot	Two matching paper towels, 2 spoonfuls of water, and the same start time	Minutes until the towel is dry

Accept equivalent wording for Mina's question, measurements, and controlled conditions. For the open task, accept any reasonable shared conditions and a measurable data choice, such as minutes until dry. Require actual setup, equal towels/water amounts and simultaneous start, repeated same-interval checks, a dated two-row results chart and evidence-based comparison. Teacher pretests the two safe locations and reads directions/supports time recording. No prescribed faster location: accept ties and either or both not dry at 60 minutes; those incomplete outcomes cannot prove which would dry first. Five-minute checks estimate drying time only to that interval. Example ONLY if observed: first dry check 25 minutes versus 40 minutes, window towel first. Different locations may differ in more than light, so do not claim isolated sunlight causation from this trial. Original planned conditions remain valid. The introductory test measures remaining height at a fixed time, not melting time or a mass-loss rate. Preserve that distinction; the later actual investigation has its own measurements. Teacher procedure: use two equal-size pieces of the same paper towel on matching plastic trays. Select safe stable locations. Add two level 5 mL spoonfuls of tap water to each and start together. Use the same gentle-touch/visible-dampness criterion at each five-minute check; stop after 60 minutes. Record first dry check or not dry at 60 in a separate results chart. Help students record times. Wipe spills and wash hands; no heat source or unsafe window access.