

Clock Watch Detectives

Plan observations and measure how long an investigation lasts.

3.1.b.v "planning and carrying out investigations measure elapsed time"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each clock time in the passage. Number the times 1, 2, and 3 to show the order of Jada's investigation.

Ice Cube Check

- ① Jada planned an investigation to find out whether sun or shade changes how fast an ice cube melts. She used two same-size cubes on two plates. Before starting, she wrote a question and chose a timer. She also planned to check both cubes at the same times. Keeping the cubes alike helped her make a fair comparison.
- ② At 1:10 p.m., Jada placed one plate in sunlight and one under a shady tree. She started her timer right away. At 1:25 p.m., she looked at both cubes and wrote what she saw. She checked again at 1:40 p.m. At each check, she recorded the clock time, the place, and whether each cube was still whole.
- ③ Measuring elapsed time tells how long something takes. To find it, compare a start time and an end time. For example, a timer that starts at 9:00 and stops at 9:10 shows ten minutes. Jada's notes will help her compare changes at matching times rather than guessing about which cube changed faster. She can study her notes carefully.

2

ANSWER WITH EVIDENCE

Use the passage

1

What time did Jada start her investigation?

2

How many minutes passed from 1:10 p.m. to 1:25 p.m.?

3

How many minutes passed between Jada's first check and her second check?

4

How many minutes had passed when Jada made her second check at 1:40 p.m.?

3

YOUR TURN

Your own words

With teacher approval, plan and carry out a 20-minute observation of an ice cube on a spill tray. Use a classroom clock and timer. Record the actual start reading, a check near ten minutes and the final reading near twenty minutes; at each check calculate the elapsed time from your actual start and describe what you observe. If a check is late, record its real time. Use extra paper for your plan.

INVESTIGATION	ACTUAL CLOCK TIME	ELAPSED FROM START	WHAT I OBSERVED

PART 1 • READ AND MARK

Underline each clock time in the passage. Number the times 1, 2, and 3 to show the order of Jada's investigation. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What time did Jada start her investigation?	1:10 p.m.
2	How many minutes passed from 1:10 p.m. to 1:25 p.m.?	15 minutes
3	How many minutes passed between Jada's first check and her second check?	15 minutes
4	How many minutes had passed when Jada made her second check at 1:40 p.m.?	30 minutes

PART 3 • YOUR TURN (SAMPLE ANSWER)

Illustrative example of completed records; real observations and times may differ.

INVESTIGATION	ACTUAL CLOCK TIME	ELAPSED FROM START	WHAT I OBSERVED
Ice cube	10:00 a.m.	0 min	Solid cube on tray
Ice cube	10:10 a.m.	10 min	Water around a smaller cube
Ice cube	10:20 a.m.	20 min	More water; some ice remains

Accept equivalent clock-time calculations for the questions. For the open task, accept any safe investigation with three time-ordered checks and accurate elapsed times, including actual start, intermediate and end readings; the planned end is near 20 minutes. Teacher setup: provide a clock, timer, ice cube and spill tray; agree on the start and supervise actual checks. Observe learners reading the clock/timer and compare recorded elapsed times with their actual readings. Accept late checks with correctly calculated real durations and any accurate observation, including little change; melting completely is not required.