

# Fair Test Talks

Compare evidence and agree on a stronger investigation method.

**SC.6.N.1.4** "Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation."

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## 1 READ AND MARK \_\_\_\_\_ Read it twice

**YOUR JOB** Underline each group's method, circle each result, and number the explanations or decisions the groups discuss so you can compare their evidence.

### Salt and Melting Ice

- ① Three groups investigated whether salt changes how fast an ice cube melts. Each group used equal-sized ice cubes, plastic cups, and a room-temperature table. Group Cedar placed one teaspoon of salt on top of its cube. Group Maple mixed one teaspoon of salt with two teaspoons of water before pouring the mixture on the cube. Group Pine sprinkled salt beside, not on, the cube. All groups started at the same time and recorded the minutes until no solid ice remained.
- ② Cedar reported 18 minutes, Maple reported 12 minutes, and Pine reported 25 minutes. Cedar and Maple both observed salty liquid touching the ice. Pine saw less liquid near its cube. Maple said its salt dissolved first, so salt water reached more of the ice and sped melting. Cedar agreed that contact mattered but wondered whether pouring water also affected the result. Pine explained its slower result by saying that most salt never touched the ice. The groups had one investigation goal, but their methods did not test it in exactly the same way.
- ③ During a class meeting, students compared their steps, results, and explanations. They agreed that Maple had the fastest melting time, but they did not agree at first about the cause. After discussing Cedar's concern, they decided that adding water made Maple's method different from Cedar's. The groups negotiated a new test: each group would put one teaspoon of salt directly on an equal-sized cube, use no added water, and repeat the trial three times. This shared method would help them compare results more fairly and support a stronger explanation.

**2 ANSWER WITH EVIDENCE** \_\_\_\_\_ Use the passage

**1** How was Maple's method different from Cedar's method, and what concern did Cedar raise about that difference?

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**2** Which group had the fastest melting result, and which group had the slowest result? Include both times.

**3** Compare Maple's explanation with Pine's explanation for their results.

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**4** What new method did the groups negotiate, and why would it make their comparison fairer?

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**3 YOUR TURN** \_\_\_\_\_ Your own words

Three groups test whether stirring changes how fast sugar dissolves. A and B use 100 mL of room-temperature water and one teaspoon of sugar, A stirs continuously and dissolves the sugar in 35 seconds, B does not stir and dissolves it in 95 seconds, and C stirs continuously but uses 200 mL of water and dissolves it in 25 seconds. Write exactly four sentences that compare the methods and results, give a possible explanation, and state a fair method the groups could agree to use next.

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**PART 1 • READ AND MARK**

Underline each group's method, circle each result, and number the explanations or decisions the groups discuss so you can compare their evidence. Accept any marking that follows this job and points at the right text.

**PART 2 • ANSWERS**

| # | QUESTION                                                                                                      | ANSWER                                                                                                                                                                                                            |
|---|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | How was Maple's method different from Cedar's method, and what concern did Cedar raise about that difference? | <b>Maple mixed salt with water and poured it on the cube, while Cedar put dry salt directly on the cube. Cedar wondered whether the added water affected the melting result.</b>                                  |
| 2 | Which group had the fastest melting result, and which group had the slowest result? Include both times.       | <b>Maple was fastest at 12 minutes. Pine was slowest at 25 minutes.</b>                                                                                                                                           |
| 3 | Compare Maple's explanation with Pine's explanation for their results.                                        | <b>Maple explained that dissolved salt water touched more ice and sped melting. Pine explained that its cube melted more slowly because most of its salt did not touch the ice.</b>                               |
| 4 | What new method did the groups negotiate, and why would it make their comparison fairer?                      | <b>They agreed to put one teaspoon of salt directly on equal-sized ice cubes, add no water, and repeat three trials. This keeps the method more alike among groups and allows a fairer comparison of results.</b> |

**PART 3 • YOUR TURN (SAMPLE ANSWER)**

Groups A and B differed only in stirring, and A's sugar dissolved 60 seconds faster than B's. This result supports the explanation that stirring can speed dissolving. Group C's result cannot be compared fairly because it used more water. The groups should use 100 mL of room-temperature water and one teaspoon of sugar, change only stirring, and repeat each trial.

Accept equivalent comparisons that accurately identify the method difference, results, and a supported explanation. For Part 3, accept any fair negotiated plan that controls water amount, temperature, and sugar amount while changing only stirring.