

Salt and Seeds

Read a scientific report for evidence, limits, and next steps.

LS.1.f.i "obtaining, evaluating, and communicating information read scientific texts, including those adapted for classroom use, to obtain scientific and/or technical information"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline observations or measured results. Circle statements that explain what the results do or do not show, then number the steps that would strengthen the evidence.

Testing Salt Runoff

- ① In a classroom investigation, students asked whether salt from road runoff affects radish seed germination. They placed 20 radish seeds on damp paper towels in each of three containers. One container received plain water. The other two received water containing either 0.5 percent or 1.0 percent salt. All containers stayed near the same window, and students added the same amount of liquid each day. After seven days, they counted seeds with visible roots. They treated these seeds as germinated.
- ② Results showed a pattern. In the plain-water container, 17 of 20 seeds germinated. In the 0.5 percent salt container, 11 seeds germinated. Only 4 seeds germinated in the 1.0 percent salt container. The students also recorded that roots in the salt containers looked shorter, but they did not measure root length. Because the groups began with equal numbers of seeds and received the same daily liquid amount, the salt concentration was the planned difference between groups.
- ③ From this evidence, the students can conclude that higher salt concentrations were associated with fewer radish seeds germinating in this investigation. However, one small classroom test cannot show whether every kind of road salt has the same effect outdoors. Repeating the test with more containers and measuring root length would make the evidence stronger. A reader should separate the counted results from broader conclusions and proposed next steps when judging this report and planning future investigations.

2 ANSWER WITH EVIDENCE Use the passage

1 What scientific question did the students investigate?

2 Give two numerical results that support the pattern described in the report.

3 What observation did the students not measure? Why does this limit the information in the report?

4 Why does the report describe salt concentration as the planned difference between the groups?

3 YOUR TURN Your own words

Write exactly three sentences for a school grounds manager. State the investigation's supported conclusion, name one limit of the evidence, and propose one next step without adding claims not supported by the report.

PART 1 • READ AND MARK

Underline observations or measured results. Circle statements that explain what the results do or do not show, then number the steps that would strengthen the evidence. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What scientific question did the students investigate?	They investigated whether salt from road runoff affects radish seed germination.
2	Give two numerical results that support the pattern described in the report.	Answers may include: 17 of 20 seeds germinated with plain water, 11 germinated with 0.5 percent salt, and 4 germinated with 1.0 percent salt.
3	What observation did the students not measure? Why does this limit the information in the report?	They did not measure root length. Therefore, the report has no numerical evidence showing how much shorter the roots were.
4	Why does the report describe salt concentration as the planned difference between the groups?	Each group started with the same number of seeds and received the same daily amount of liquid, while the salt concentration changed.

PART 3 • YOUR TURN (SAMPLE ANSWER)

This investigation found that radish seed germination was lower in containers with higher salt concentrations. It was a small classroom test, so it cannot predict the effects of every road salt outdoors. A follow-up investigation should use more containers and measure root length.

Accept equivalent wording that accurately distinguishes counted evidence from a broader conclusion. For Part 3, accept any supported conclusion, one stated limitation, and a reasonable next step named in the passage.