

Feeder Data Detectives

Use evidence from a table to evaluate a feeder design.

LS.1.c "interpreting, analyzing, and evaluating data identify, interpret, and evaluate patterns in data construct, analyze, and interpret graphical displays of data compare and contrast data collected by different groups and discuss similarities..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline statements that describe patterns in the data, circle the limits of the investigation, and number the three actions that would make the next test stronger.

Which Feeder Works Best?

- ① At Riverside Middle School, two eighth-grade classes compared three bird-feeder designs: a wide tray, a small tray, and a tube. Each class placed one feeder at the same school garden location for six spring mornings. Students counted bird visits for 30 minutes and weighed seed that landed below each feeder. Their mean results are shown in the table.

MEAN RESULTS FROM EACH CLASS

Feeder design	Class A mean visits	Class B mean visits	Seed spilled, grams
Wide tray	18	17	9
Small tray	15	16	5
Tube	11	12	1

- ② Both classes recorded the most visits at the wide tray and the fewest at the tube. Their counts differed by only one visit for each design, so the overall pattern was consistent across groups. However, the tray attracted birds while spilling much more seed. The tube reduced waste, but it also had lower bird traffic.
- ③ Six mornings may not represent other seasons, and one garden location may have unusual bird activity. Students could miss quick visits or weigh seed inconsistently. For a stronger test, teams could repeat trials on more days, use shared observer rules, and test a tray with a seed-catching rim. Then compare bird visits and spilled seed before choosing a design.

2

ANSWER WITH EVIDENCE

Use the passage

1

What pattern in bird visits appears when you consider results from both classes?

2

How similar were the two classes' visit results? Use numerical evidence from the table.

3

Why should the team use the seed-spill data instead of choosing a feeder by bird visits alone?

4

Name one limitation of this investigation and one step that would improve precision or accuracy.

3

YOUR TURN

Your own words

Create a fair two-design follow-up plan for the tray feeder. In each row, describe a different seed-catching rim, identify what stays the same, list the data to record, and state how many repeated trials you would use.

RIM DESIGN	KEPT THE SAME	DATA TO RECORD	REPEATED TRIALS

PART 1 • READ AND MARK

Underline statements that describe patterns in the data, circle the limits of the investigation, and number the three actions that would make the next test stronger. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What pattern in bird visits appears when you consider results from both classes?	Both classes recorded the most visits at the wide tray, fewer at the small tray, and the fewest at the tube.
2	How similar were the two classes' visit results? Use numerical evidence from the table.	The classes differed by only 1 mean visit for every feeder design: 18 and 17, 15 and 16, and 11 and 12.
3	Why should the team use the seed-spill data instead of choosing a feeder by bird visits alone?	The wide tray had the most visits but spilled 9 grams of seed. The tube spilled only 1 gram, so the team must consider both bird traffic and waste.
4	Name one limitation of this investigation and one step that would improve precision or accuracy.	Accept one limitation, such as only six mornings, one location, missed visits, or inconsistent seed weighing, plus a matching improvement such as more trial days or shared observer rules.

PART 3 • YOUR TURN (SAMPLE ANSWER)

RIM DESIGN	KEPT THE SAME	DATA TO RECORD	REPEATED TRIALS
2-cm mesh rim	garden location, 30-minute morning count, feeder seed amount, and observer rules	bird visits and grams of spilled seed	10 mornings
4-cm solid rim	garden location, 30-minute morning count, feeder seed amount, and observer rules	bird visits and grams of spilled seed	10 mornings

Accept evidence-based answers that identify the consistent visit pattern and the trade-off between visits and spilled seed. In the follow-up plan, accept any two rim variations if the student controls key conditions, records both measures, and includes repeated trials.