Spot the Link

Compare group rates in categorical data.

8A.DSP.C.39.c "Identify possible associations and trends in categorical data."

NAME _____ DATE _____

POSSIBLE ASSOCIATION

The fraction choosing an outcome differs between the two groups. The data suggest a possible link, but they do not show that one thing caused the other.

Of 10 hikers with maps, 8 pick the ridge trail; of 10 hikers without maps, 2 pick the ridge trail.

NO ASSOCIATION SHOWN

The fraction choosing an outcome is the same in both groups. These data do not suggest a link.

Of 10 people wearing hats, 4 choose lemonade; of 20 people without hats, 8 choose lemonade.

1 SORT

8 items

For each item, circle LINK or NO LINK, then choose one item from each category and explain each choice by comparing the fractions or percents.

1.	Of 20 students who walk to school, 16 pack lunch; of 20 who ride the bus, 4 pack lunch.	LINK NO LINK
2.	Of 10 families with a garden, 6 compost; of 10 without a garden, 2 compost.	LINK NO LINK
3.	Of 15 students in band, 9 like puzzles; of 20 not in band, 12 like puzzles.	LINK NO LINK
4.	Of 30 students in art club, 18 choose tea; of 30 not in art club, 6 choose tea.	LINK NO LINK
5.	Of 10 students who play soccer, 5 prefer apples; of 20 who do not, 10 prefer apples.	LINK NO LINK
6.	Of 16 students who have a bike, 8 like podcasts; of 10 without a bike, 5 like podcasts.	LINK NO LINK
7.	Of 15 students who wear glasses, 12 prefer science fiction; of 15 without glasses, 4 prefer science fiction.	LINK NO LINK
8.	Of 12 students who own a pet, 3 choose swimming; of 12 without a pet, 9 choose swimming.	LINK NO LINK

2 PROVE IT

Explain your thinking

Choose one item from each category and explain each choice by comparing the fractions or percents.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write one new two-group count example that shows LINK and one that shows NO LINK; for each example, give the size of both groups and how many in each group chose the same outcome.

LINK

NO LINK

CHALLENGE

Can different numbers of people choose an outcome in two groups and still show NO LINK? Write counts for two groups and explain using percents.

ANSWER KEY # Spot the Link

GRADE 8 · 8A.DSP.C.39.c

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Of 20 students who walk to school, 16 pack lunch; of 20 who ride the bus, 4 pack lunch.	**LINK**	The rates are 80% and 20%.
2	Of 10 families with a garden, 6 compost; of 10 without a garden, 2 compost.	**LINK**	The rates are 60% and 20%.
3	Of 15 students in band, 9 like puzzles; of 20 not in band, 12 like puzzles.	**NO LINK**	Both rates are 60%.
4	Of 30 students in art club, 18 choose tea; of 30 not in art club, 6 choose tea.	**LINK**	The rates are 60% and 20%.
5	Of 10 students who play soccer, 5 prefer apples; of 20 who do not, 10 prefer apples.	**NO LINK**	Both rates are 50%.
6	Of 16 students who have a bike, 8 like podcasts; of 10 without a bike, 5 like podcasts.	**NO LINK**	Both rates are 50%.
7	Of 15 students who wear glasses, 12 prefer science fiction; of 15 without glasses, 4 prefer science fiction.	**LINK**	The rates are 80% and about 27%.
8	Of 12 students who own a pet, 3 choose swimming; of 12 without a pet, 9 choose swimming.	**LINK**	The rates are 25% and 75%.

PART 2 · PROVE IT

Task: Choose one item from each category and explain each choice by comparing the fractions or percents.
Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **LINK**: Of 10 students who take dance, 8 choose a museum visit; of 10 who do not take dance, 3 choose a museum visit.
- **NO LINK**: Of 12 students who have a sibling, 6 choose a board game; of 12 without a sibling, 6 choose a board game.

Challenge: Of 10 students who take the train, 4 choose a movie; of 20 who travel by car, 8 choose a movie. Both groups have 40% choosing a movie, so the data show NO LINK.

For the explanations, accept any one LINK item and any one NO LINK item if the student compares the correct group rates. Different counts alone do not establish a link when group sizes differ.