Unit 7 Lesson 2: Study Types

1 What's Different About These Questions? (Warm up)

Student Task Statement

For each question, determine whether it is a statistical question. If it is a statistical question, determine whether an experimental study, observational study, or survey would be best at providing data to answer the question. Explain your reasoning.

1. Do dogs who eat only Brand A of dog food have more health problems than those who eat a variety of food brands?
2. Do people who sit for at least 8 hours per day have more health problems than those who sit for fewer than 8 hours per day?
3. Which brand of dog food has the most protein per serving?
4. Do people who eat a low-fat diet feel healthier than those who eat a variety of foods?

2 Study Type Matching

Student Task Statement

Take turns with your partner to determine whether a survey, observational study, or experimental study would be the best way to collect data to answer the question.

- For each study type that you match, explain to your partner why you think this is the best type of study.
- For each study that your partner matches, listen carefully to their explanation. If you disagree, discuss your thinking and work to reach an agreement.

1. Do smokers get in more car accidents than non-smokers?
2. What is the students' favorite type of sport at this school?
3. Do people who chew gum while studying do better on tests when they chew gum while taking the test than when they don't chew gum while taking the test?
4. How has the percentage of the world's wealth owned by the top 1% of individuals changed over the past 300 years?
5. Do strawberry plants produce more fruit when growing in a greenhouse or outside?
6. What are the most important issues for voters in a district at the moment?

3 Relaxing Television

Student Task Statement

A study of 1,000 people aged 20–30 asked how much television each person watches each night and how each person would rate their energy level in the evenings. The study showed that people who watch television for at least 2 hours every night have lower energy in the evening than people who do not watch as much television.

1. Is this study a survey, observational study, or experimental study? Explain your reasoning.
2. Does this mean that watching television for at least 2 hours every night lowers energy in the evening? Explain your reasoning.
3. If you were to do your own experiment to determine if watching television for at least 2 hours every night lowers energy in the evening, how would you set up the experiment?