# Grade 8 Mathematics: Data and Probability

## Free sample lesson

Ontario curriculum: Mathematics (2020), Strand D: Data. 16 days.

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This is Lesson 1 of 10 from the full unit, exactly as it appears in the Teacher Guide, followed by the student worksheet. The full unit is at unitplans.ca.

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# Lesson 1: One-variable and two-variable data



1 day · about 60 minutes · D1.1

> **Learning goal**
>
> - We are learning to tell when a question needs one-variable data and when it needs two-variable data.

> **Success criteria**
>
> - I can sort questions into one-variable and two-variable.
> - I can write a question that needs two-variable data.

## Materials

- Question cards for sorting
- Sticky notes

## Minds On (10 min)

1. Ask two questions: "What is the most common bedtime in our class?" and "Do students who go to bed later sleep less?" Students discuss what data each needs.

## Action (35 min)

1. Define one-variable and two-variable data; show that two-variable data come in pairs from the same person or thing.
2. Groups sort question cards and explain each choice.
3. Students complete the worksheet.

## Consolidation (15 min)

1. Students share their own two-variable questions; the class predicts what the relationship might be.
2. Exit: "Write one question about our school that needs two-variable data."

## Questions to ask

- Are you comparing two things about the same person?
- What would each pair of data look like?

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## Watch for



- Thinking any question with two categories (e.g. boys and girls) is two-variable.

## Differentiation

| Support | Extend |
|---|---|
| Use a sentence frame: "I would collect ___ and ___ from each ___." | Write a question that needs three variables and explain how you could show it. |

## Answer key: One or two variables?

1. What is the favourite sport of Grade 8 students?

   > **Answer:** 1: one variable (favourite sport)

2. Do students who sleep more get higher test scores?

   > **Answer:** 2: two variables (hours of sleep and test score for each student)

3. How tall are the students in our class?

   > **Answer:** 1: one variable (height)

4. Does the daily temperature affect ice cream sales?

   > **Answer:** 2: two variables (temperature and sales each day)

5. Explain when you need two-variable data.

   > **Answer:** Sample: When you want to know whether two things are related, so you need both measurements from each person or event.

6. Write a question about your school that needs two-variable data.

   > **Answer:** Sample: Do students who live farther from school spend more time travelling each morning?

# Student worksheet: One or two variables?



**Success criteria**

- I can sort questions into one-variable and two-variable.
- I can write a question that needs two-variable data.

Write 1 or 2 for each question and explain.

1. What is the favourite sport of Grade 8 students?

2. Do students who sleep more get higher test scores?

3. How tall are the students in our class?

4. Does the daily temperature affect ice cream sales?

5. Explain when you need two-variable data.

6. Write a question about your school that needs two-variable data.

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