Grade 2 Mathematics: Algebra and Coding

Free sample lesson

Ontario curriculum: Mathematics (2020), Strand C: Algebra and Coding. 16 days.

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This is Lesson 1 of 12 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: Patterns in shapes and designs

1 day · about 40 minutes · C1.1

> **Learning goal**
>
> - We are learning to spot patterns in shapes and designs and say what we see.

> **Success criteria**
>
> - I can find a pattern in a design.
> - I can say what repeats.
> - I can tell how a pattern is made.

Materials

- Pattern blocks
- Coloured tiles
- Pictures of quilts, fences and woven bands
- Crayons

What students do with their hands

Students build patterns with pattern blocks and tiles, then hunt the classroom for patterns on floors, clothes and posters.

Minds On (8 min)

1. Show a woven band with a red circle, blue square, yellow triangle design. Ask: "What do you notice in this design?"
2. Students point to the shapes and say what they see.

Action (22 min)

1. Build a pattern with pattern blocks and name the part that repeats.

2. Partners make a pattern and swap seats to say what repeats in their friend's.

3. Complete the worksheet.

Consolidation (10 min)

1. Share patterns found around the room: floors, shirts, windows.
2. Exit: "What part repeats in this design?"

Questions to ask

- What do you see again and again?
- What is the same? What is different?

Watch for

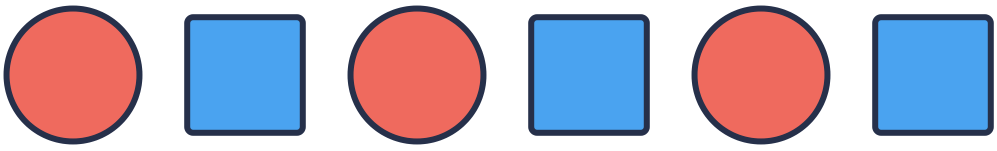
- Some students think any row of shapes is a pattern. Ask them to point to the part that repeats.

Differentiation

Support	Extend
Use two colours of one shape.	Look for a pattern in a design that uses more than one attribute, such as colour and shape.

Answer key: Find the pattern

1. Circle the part that repeats.



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> **Answer:** red circle and blue square.

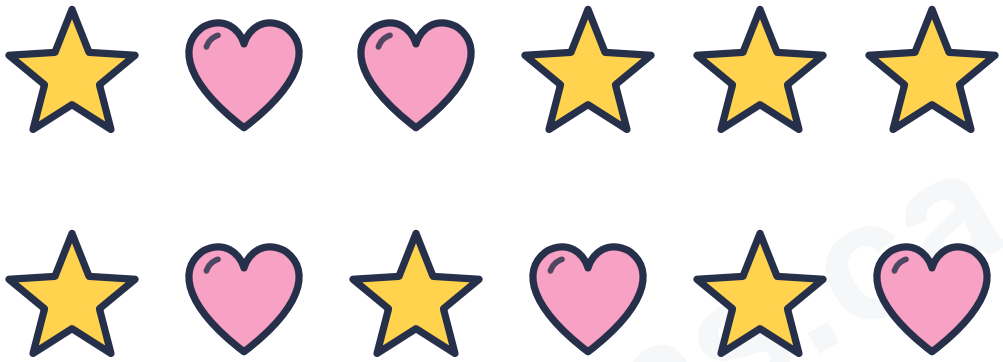
2. How many shapes repeat?



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> **Answer:** 3

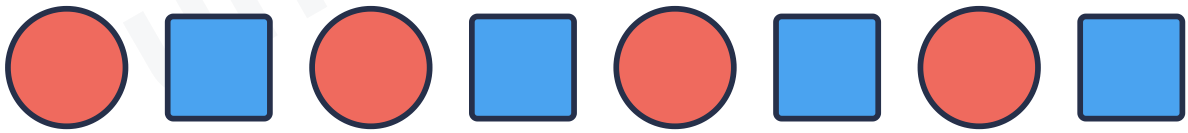
3. Circle the pattern that repeats.



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> **Answer:** The bottom one: star, heart repeats.

4. How many red circles?



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> **Answer:** 4

5. What comes next on the fence?



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> **Answer:** leaf.

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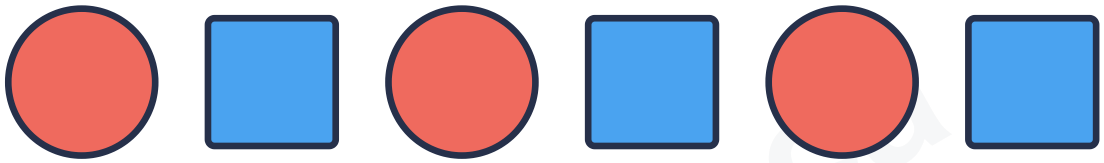
Student worksheet: Find the pattern

Success criteria

- I can find a pattern in a design.
- I can say what repeats.
- I can tell how a pattern is made.

Look at each pattern. Follow the question.

1 Circle the part that repeats.

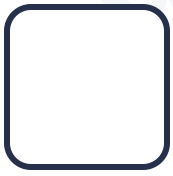


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2 How many shapes repeat?

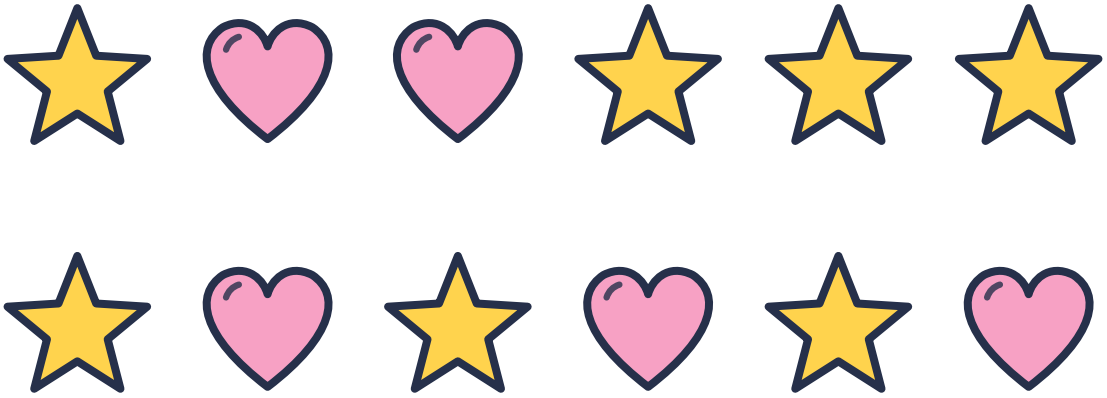


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3 Circle the pattern that repeats.



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4 How many red circles?



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5 What comes next on the fence?



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