Grade 3 Mathematics: Algebra and Coding

Free sample lesson

Ontario curriculum: Mathematics (2020), Strand C: Algebra. 17 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: Find the part that repeats

1 day · about 40 minutes · C1.1

> **Learning goal**
>
> - We are learning to spot the part of a pattern that keeps repeating.

> **Success criteria**
>
> - I can find the part that repeats.
> - I can tell what comes next.

Materials

- Linking cubes in two colours
- Pattern blocks
- Paper strips and crayons

What students do with their hands

Students build patterns with linking cubes and pattern blocks, then clap, stomp and snap the same patterns with their bodies and draw a bracket around the repeating part.

Minds On (8 min)

1. Clap, clap, stomp. Clap, clap, stomp. Students join in with their bodies.
2. Ask: "What comes next in apple, apple, star, apple, apple?"

Action (22 min)

1. Build a red, blue, red, blue cube pattern. Name the part that repeats, the pattern core.

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2. Partners build a new pattern, swap, and find each other's core.
3. Complete the worksheet, using cubes when they need them.

Consolidation (10 min)

1. Share two patterns. The class says the core out loud.
2. Exit: "What part repeats in apple, apple, star?"

Questions to ask

- What part repeats?
- How do you know what comes next?
- Where does the core start and stop?

Watch for

- Some students only look at the last item. Have them find the whole part that repeats.
- Some students start the core in the wrong place. Any starting spot works if the core is the same length.

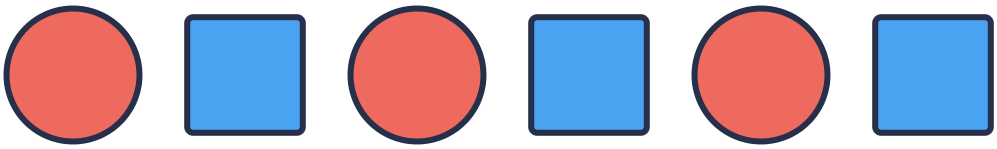
Differentiation

Support	Extend
Use two-item patterns (AB) with real cubes. Say the pattern aloud while pointing.	Make a pattern with three different parts and say its rule.

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Answer key: Find the core

1. Circle the part that repeats.



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> **Answer:** The core is: red circle, blue square.

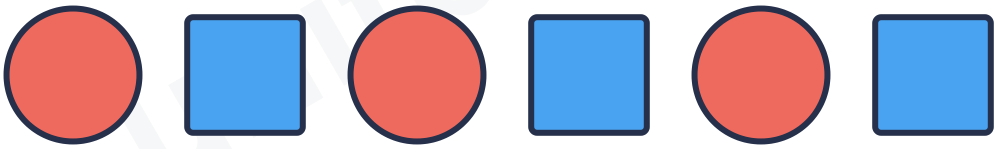
2. How many are in the part that repeats?



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> **Answer:** 3

3. What comes next?



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> **Answer:** A blue square.

4. Circle what comes next.



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> **Answer:** Choice 3: a yellow circle.

5. Do the sounds. What comes next?



> **Answer:** A clap.

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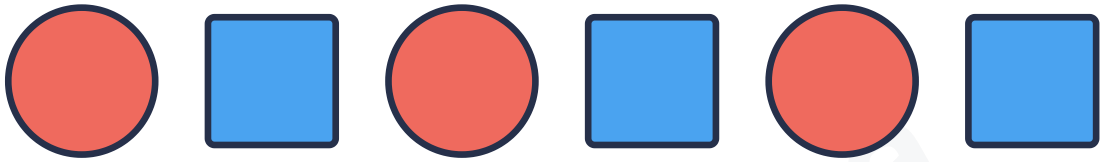
Student worksheet: Find the core

Success criteria

- I can find the part that repeats.
- I can tell what comes next.

Look at the pattern. Follow the question.

1 Circle the part that repeats.



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2 How many are in the part that repeats?

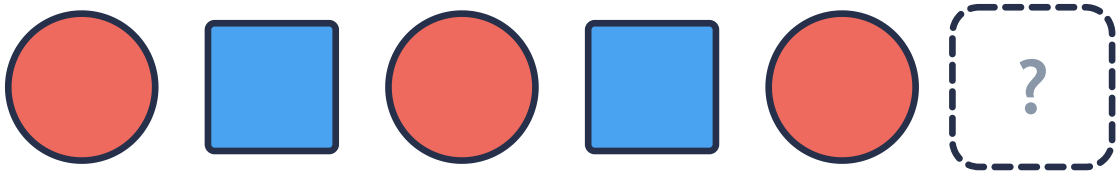


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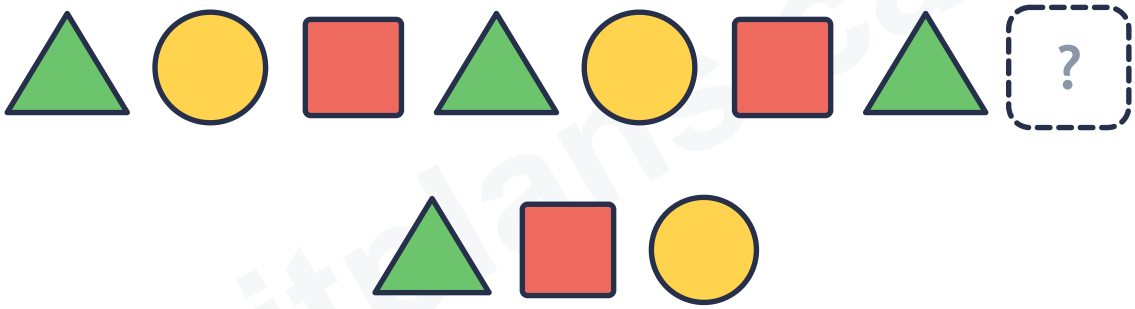
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3 What comes next?



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4 Circle what comes next.



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5 Do the sounds. What comes next?



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