

GRADE 2

Patterns & Sequences

Fun • Think • Find the Rule • Continue • Create

★	●	★	●	★	●	?
2	4	6	8	10	12	?
▲	▲	■	▲	▲	■	?

Name: _____ Date: _____

A classroom-ready worksheet pack for recognising, extending, explaining and creating patterns.

1. Pattern Detectives

Look carefully. Find what repeats or changes in each pattern. Then continue it.

1. ★ ● ★ ● ★ ● ____
2. ▲ ▲ ■ ▲ ▲ ■ ____
3. 2, 4, 6, 8, ____, ____,
4. 5, 10, 15, 20, ____, ____,
5. 30, 28, 26, 24, ____, ____,
6. 100, 90, 80, 70, ____, ____,

Challenge: Circle the pattern that changes by the same amount each time: 3, 6, 9, 12, 15.

2. Find the Rule

A pattern has a rule. The rule tells us how the numbers change.

Pattern	Rule	Next two numbers
4, 8, 12, 16, ...	_____	_____
25, 30, 35, 40, ...	_____	_____
60, 55, 50, 45, ...	_____	_____
3, 6, 9, 12, ...	_____	_____
90, 80, 70, 60, ...	_____	_____

Think: How can you check that your rule works for every step?

3. Skip-Counting Sequences

Complete each sequence. Think about the number you add or subtract each time.

Count by 2: 14, 16, ____, ____, 22, ____
Count by 5: 25, 30, ____, 40, ____, 50
Count by 10: 40, ____, 60, ____, 80, ____
Count by 3: 6, 9, ____, 15, ____, 21
Count backwards by 2: 20, 18, ____, ____, 12, ____
Count backwards by 5: 50, 45, ____, 35, ____, 25

Super challenge: Start at 7 and count forward by 3. Write the next six numbers.

4. Missing Numbers

Use the pattern rule to find the missing numbers.

12, 16, ____, 24, 28, ____
50, ____, 40, 35, ____, 25
7, 14, 21, ____, 35, ____
100, 90, ____, 70, ____, 50
11, ____, 15, 17, ____, 21
32, 29, ____, 23, ____, 17

Explain one: My missing numbers are _____ because the rule is _____.

5. Growing & Shrinking Patterns

Some sequences grow and some shrink. Complete them and write the rule.

Sequence	Next number	Growing or shrinking?
8, 12, 16, 20, ____	_____	_____
45, 40, 35, 30, ____	_____	_____
10, 20, 30, 40, ____	_____	_____
72, 64, 56, 48, ____	_____	_____
15, 18, 21, 24, ____	_____	_____

Write one of your own shrinking patterns:

6. Shape & Colour Patterns

Look for the repeating part. Continue each pattern.

★ ★ ● ★ ★ ● ____
▲ ■ ● ▲ ■ ● ____
● ● ▲ ● ● ▲ ____
■ ◆ ◆ ■ ◆ ◆ ____
Blue Yellow Yellow Blue Yellow Yellow ____

Create: Draw your own repeating pattern using 3 shapes. Repeat it at least twice.

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7. Patterns in a Table

Complete each number machine. Look for the relationship between the two rows.

Input	1	2	3	4	5	6
Output	3	6	9	12	—	—

Rule: multiply by 3

Input	1	2	3	4	5	6
Output	5	10	15	20	—	—

Rule: multiply by 5

Input	10	20	30	40	50	60
Output	20	30	40	50	—	—

Rule: add 10

Your turn: Make an input-output rule using “add 4”. Choose four inputs and fill in the outputs.

8. Patterns in Real Life

Patterns are all around us. Read each situation and complete the pattern.

1. A child saves \$2 each week: \$2, \$4, \$6, \$8, ____, ____.
2. A plant grows 3 cm each week: 5 cm, 8 cm, 11 cm, ____, ____.
3. A bus arrives every 10 minutes: 8:00, 8:10, 8:20, ____, ____.
4. A game gives 5 points for each round: 5, 10, 15, 20, ____, ____.
5. A shop has 100 stickers and sells 10 each day: 100, 90, 80, ____, ____.

Challenge: Write a real-life pattern you have noticed:

9. Pattern Puzzles

Be a pattern detective! Solve each puzzle.

1. I start at 6. My rule is $+4$. What is my 5th number? _____
2. I start at 40. My rule is -5 . What is my 6th number? _____
3. 3, 6, 9, 12, _____, _____ — What is the rule? _____
4. 50, 45, 40, _____, _____ — What is the rule? _____
5. A pattern is 2, 5, 8, 11, ... What are the next two numbers? _____
6. Which number does NOT belong? 10, 15, 20, 25, 31, 35. Explain:

Super challenge: Create a 6-number sequence that follows the rule “ $+7$ ”.

10. Super Pattern Challenge

Show what you know! Try these mixed pattern challenges.

1. 4, 8, 12, ____, ____, 24 → Rule: _____
2. 75, 70, ____, 60, ____, 50 → Rule: _____
3. 1, 3, 5, 7, ____, ____ → What comes next?
4. 20, 30, 40, 50, ____, ____ → What comes next?
5. Create a pattern that starts at 9 and increases by 6: _____
6. Create a pattern that starts at 50 and decreases by 4: _____
7. Draw a repeating pattern using ▲, ● and ■: _____
8. Explain your favourite pattern in one sentence: _____

11. Teacher Answer Key

Suggested answers are provided below. Open-ended tasks may have many correct answers.

1. Pattern Detectives

1) ★ ● 2) ▲ ▲ 3) 10, 12 4) 25, 30 5) 22, 20 6) 60, 50. Challenge: the given sequence.

2. Find the Rule

+4 → 20,24; +5 → 45,50; -5 → 40,35; +3 → 15,18; -10 → 50,40.

3. Skip-Counting

18,20,24; 35,45; 50,70,90; 12,18; 16,14,10; 40,30. Challenge: 10,13,16,19,22,25.

4. Missing Numbers

20,32? Correction: sequences are +4 → 20,32; 50,45,40,35,30,25; 7,14,21,28,35,42; 100,90,80,70,60,50; 11,13,15,17,19,21; 32,29,26,23,20,17.

5. Growing & Shrinking

24 growing; 25 shrinking; 50 growing; 40 shrinking; 27 growing.

6. Shape & Colour Patterns

★ ★ ●; ▲ ■ ●; ● ● ▲; ■ ◆ ◆; Blue Yellow Yellow.

7. Patterns in a Table

×3: 15,18. ×5: 25,30. +10: 60,70. Student-created +4 table: answers vary.

8. Patterns in Real Life

\$10,\$12; 14 cm,17 cm; 8:30,8:40; 25,30; 70,60.

9. Pattern Puzzles

22; 15; +3; -5 with 35,30; 14,17; 31 does not fit +5.

10. Super Pattern Challenge

+4; -5; 9,11; 60,70; examples: 9,15,21,27,33,39 and 50,46,42,38,34,30; last two vary.