

Pattern Number Paths

Grow and shrink number patterns to 20.

GRADE 2 • 2.PAR.4.2

2.PAR.4.2 "Identify, describe, and create growing patterns and shrinking patterns involving addition and subtraction up to 20."

NAME _____

DATE _____

SPOT THE RULE

A growing pattern adds the same number each time. A shrinking pattern subtracts the same number each time. Look at how one number changes to the next number.

WORKED EXAMPLE

A bead tray holds 2, 7, 12, 17 beads. What is the rule?

1. $7 - 2 = 5$

2. $12 - 7 = 5$

3. $17 - 12 = 5$

4. The pattern adds 5 each time.

Answer: Add 5 each time.

PRACTICE 5 problems

- 1** Three toy boxes hold 3, 5, 7, __ cars. What number comes next?

ANSWER _____

- 2** A stack of books has 16, 15, 14, __ books on its shelves. What number comes next?

ANSWER _____

- 3** A game score pattern is 13, 14, 15, __ points. Write the next score and the rule.

ANSWER _____

- 4** A puppy gets 19, 16, 13, __ treats in a shrinking pattern. What number comes next?

ANSWER _____

- 5** Make a growing pattern for sticker sheets. Start with 1 sticker and add 4 each time. Write four numbers.

ANSWER _____

APPLY IT Show your work

- 1** At the skate park, Sam earns 4 points in one game, 6 points in the next game, and 8 points in the next game. He earns 2 more points each game. How many points will he earn in the next game?

WORK SPACE

ANSWER _____

- 2** A pet has 19 treats on Monday, 16 treats on Tuesday, and 13 treats on Wednesday. The number of treats shrinks by 3 each day. How many treats will it have on Thursday?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A robot has 8, 9, __, __ bolts in four boxes. Write the next two numbers. Then explain the rule.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Three toy boxes hold 3, 5, 7, __ cars. What number comes next?	9
2	A stack of books has 16, 15, 14, __ books on its shelves. What number comes next?	13
3	A game score pattern is 13, 14, 15, __ points. Write the next score and the rule.	16, add 1 each time.
4	A puppy gets 19, 16, 13, __ treats in a shrinking pattern. What number comes next?	10
5	Make a growing pattern for sticker sheets. Start with 1 sticker and add 4 each time. Write four numbers.	1, 5, 9, 13

PART 2 • APPLY IT

1. **10 points** The points grow by 2 each game. Add 2 to 8 to get 10.
2. **10 treats** The treats shrink by 3 each day. Subtract 3 from 13 to get 10.

CHALLENGE

10, 11. Add 1 each time.

Accept number words or numerals when the value is correct. For rule answers, accept equivalent language such as “plus 1 each time” or “one more each time.”