



GRADE 3 / WATCH MR DJ SOLVE

**ARITHMETIC PATTERNS**

Start with the same example used in the lesson slides.

**WATCH MR DJ SOLVE**

Continue by adding 3: 0, 3, 6, 9, \_\_, \_\_.

- 1 Each jump adds 3.
- 2  $9+3=12$ .
- 3  $12+3=15$ .

Answer: **12, 15****REMEMBER** describe arithmetic patterns and explain them with equal groups.

Read each step and explain why it is valid. The next pages demonstrate the methods in more detail. Then use the large work areas on the numbered practice pages.



GRADE 3 / WORKED METHODS

# ARITHMETIC PATTERNS

Read a complete example before trying the matching method.



Use these examples as a reference. Keep each quantity and its unit visible. A different valid method is welcome unless a question specifically requests one.

## A constant jump

### 0,3,6,9,12 adds 3

1. Begin at 0.
2. Each new group contributes 3.
3. The fifth listed value is 4 groups of 3.



Add 3 for each equal jump



GRADE 3 / WORKED METHODS

## ARITHMETIC PATTERNS

Read a complete example before trying the matching method.



Use these examples as a reference. Keep each quantity and its unit visible. A different valid method is welcome unless a question specifically requests one.

### Even groups

**$4 \times 1, 4 \times 2, 4 \times 3$  are all even**

1. Four objects make two pairs.
2. Every new group adds two more pairs.
3. No unpaired object is left.

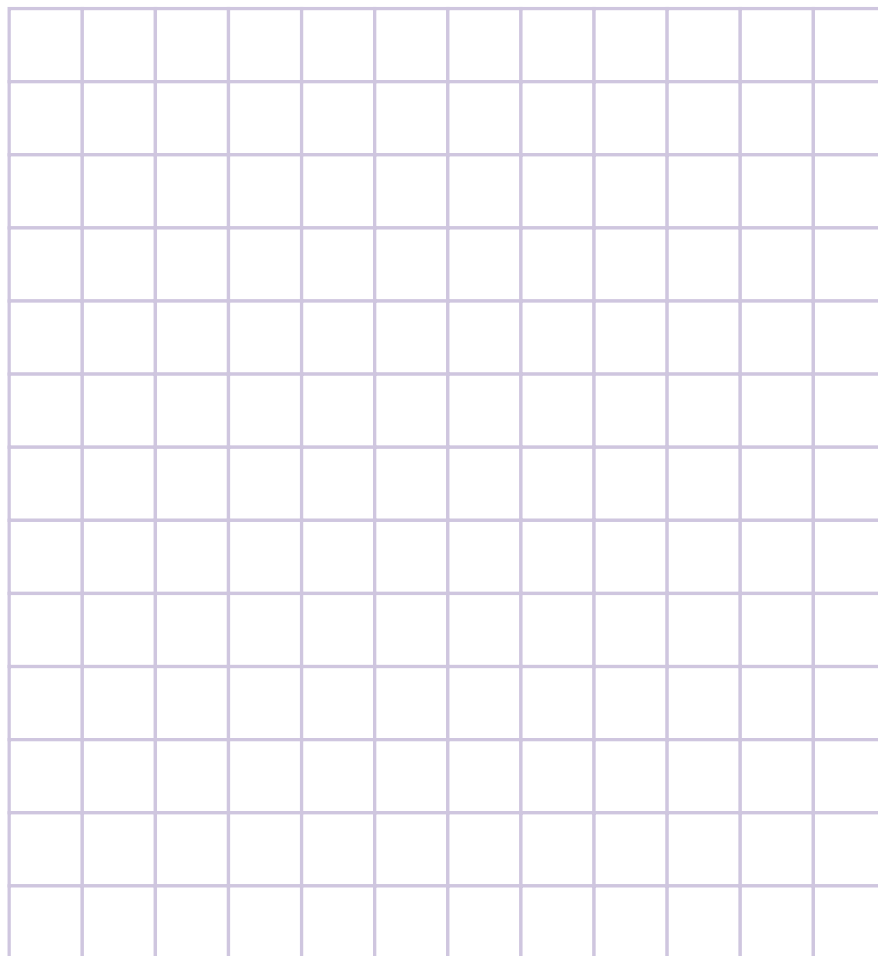
GRADE 3 / MATHEMATICAL WORK TOOL

**ARITHMETIC PATTERNS**

Use labels and a clear scale.



Draw and label a model. Choose what one unit square means.



## GRADE 3 / PRACTICE

# ARITHMETIC PATTERNS

Show the method, label your work, and explain the reasoning requested.



Use the worked-method reference when helpful. Use the included method reference. Show the requested method, then check your answer. Reasoning questions need evidence and an explanation.

**Mild** 1. Find the next two multiples: 4, 8, 12, \_\_, \_\_.

My answer / conclusion: \_\_\_\_\_

**2. Compare  $3 \times 4$  and  $3 \times 5$ . How much does the product grow?**

My answer / conclusion: \_\_\_\_\_

**GRADE 3 / PRACTICE**

# ARITHMETIC PATTERNS

Show the method, label your work, and explain the reasoning requested.



Use the worked-method reference when helpful. Use the included method reference. Show the requested method, then check your answer. Reasoning questions need evidence and an explanation.

**Medium** 3. List the first five multiples of 6. What even/odd pattern do you see?

My answer / conclusion: \_\_\_\_\_

**Medium** 4. List five multiples of 7. Describe their even/odd pattern.

My answer / conclusion: \_\_\_\_\_



Date \_\_\_\_\_

# ARITHMETIC PATTERNS

A cartoon fox mascot with orange fur, large eyes, and a purple scarf, holding a yellow pencil.

Use the worked-method reference when helpful. Use the included method reference. Show the requested method, then check your answer. Reasoning questions need evidence and an explanation.

5. Make a table for  $0 \times 3$  through  $5 \times 3$ . Label the two columns.

My answer / conclusion: \_\_\_\_\_



Date \_\_\_\_\_

# ARITHMETIC PATTERNS

A cartoon fox mascot with orange fur, large eyes, and a purple scarf, holding a yellow pencil.

**Spicy** 6. Digit says the 6 times-table has odd answers when the factor is odd. Test and explain.

My answer / conclusion: \_\_\_\_\_



Date \_\_\_\_\_

# ARITHMETIC PATTERNS

A cartoon fox mascot with orange fur, large eyes, and a purple collar, holding a yellow pencil.

🔥🔥🔥 **Spicy** 7. Compare  $2 \times 4$ ,  $4 \times 4$  and  $6 \times 4$ . Explain the jump without calculating each from scratch.

My answer / conclusion: \_\_\_\_\_



**Name** \_\_\_\_\_ **Date** \_\_\_\_\_



## GRADE 3 / PRACTICE

# ARITHMETIC PATTERNS

Show the method, label your work, and explain the reasoning requested.

Use the worked-method reference when helpful. Use the included method reference. Show the requested method, then check your answer. Reasoning questions need evidence and an explanation.

🌶️🌶️🌶️🌶️ **Extra Spicy**

8. Make an addition pattern that starts at 3 and grows by 4. Could a different start use the same rule? Explain.

My answer / conclusion: \_\_\_\_\_