

## Lesson 7

# Making Number Patterns

### Objectives

- Identify and continue a number pattern.
- Demonstrate the meaning of *one more* and *one less*.

### Books & Materials

- *Math in Focus* 1A
- *Workbook* 1A
- connecting cubes
- counters or small items such as coins, buttons, or beads

### Assignments

- Complete Warm-up.
- Read and complete pp. 20–25, *Math in Focus* 1A.
- Complete pp. 13–16, *Workbook* 1A.
- Complete Math Checkpoint.

## Warm-up

Say each sentence using the words **greater than**, **less than**, or **the same as**.

1. Six is \_\_\_\_\_ nine.
2. Two is \_\_\_\_\_ eight.
3. Five is \_\_\_\_\_ three.
4. One is \_\_\_\_\_ one.
5. Seven is \_\_\_\_\_ four.

## To the Learning Guide

Allow your student to use connecting cubes or small objects to model the sentences, if necessary.

## Instruction

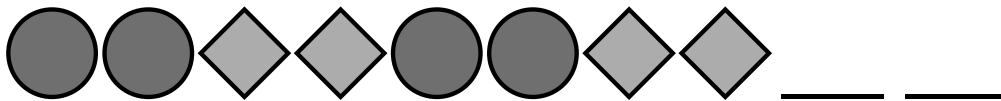
### Patterns

Look at the following **pattern**. A pattern is something that repeats over and over again. Which number will come next in the pattern?

1 2 1 2 1 2 1 2 1 \_

The number 2 will come next.

Now look at this pattern.



Which two shapes will come next?

Two circles will come next.

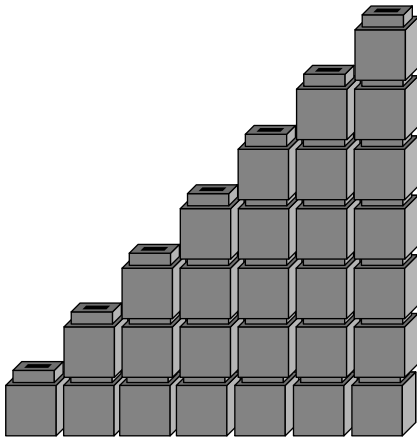


Today you will learn about **one more** and **one less** patterns.

## Using Connecting Cubes

Using connecting cubes to make a pattern, follow these instructions:

1. Take one connecting cube and set it down.
2. Take two more connecting cubes, join them together, and set them next to the first cube.
3. Take three connecting cubes, join them together, and set them next to the towers of one cube and two cubes.
4. Continue until you have seven towers. They will look like a set of stairs.



Look at the connecting cubes in the first and second towers.

There is **one more** connecting cube in the second tower. There is **one more** cube in the third tower than in the second tower.

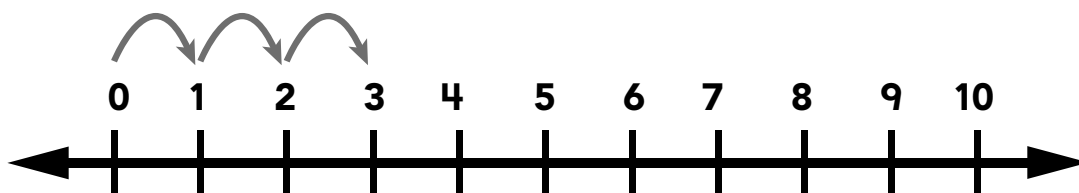
The pattern is to add 1 cube each time.

How many cubes will the eighth tower have?

It will have 1 more than the cubes in the seventh tower. The eighth tower will have 8 cubes.

## Using Number Lines

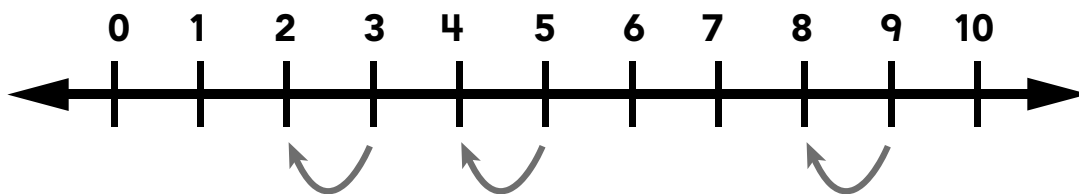
**Example 1:** Look at the following number line.



The number 2 is **one more** than 1. The number 3 is one more than 2. To continue the pattern, keep adding one more number.



**Example 2:** Now look at this number line. The arrows point to the number just before.



Two is one less than 3. Four is one less than 5. Eight is one less than 9. The pattern is **one less**.

### Finding the Missing Number

**Example 1:** Look at the following numbers. What number comes after 8?

2, 3, 4, 5, 6, 7, 8, \_\_\_\_\_

Look for a pattern first. Are the numbers becoming greater or less?

The numbers are becoming greater.

Each number is **one more** than the number before it. Three is one more than 2. Four is one more than 3. The pattern keeps going. The missing number is one more than 8.

The next number in the pattern is 9.

**Example 2:** What is the missing number for this set of numbers?

6, 5, \_\_\_\_\_, 3, 2

The missing number is 4.

Each number is **one less** than the number before it. Five is one less than 6. Two is one less than 3. Four is one less than 5.



## To the Learning Guide

Have your student use connecting cubes to make patterns and find what comes next. You can also use other small counters such as beads, coins, or buttons. Ask your student to tell you the pattern. After identifying the pattern, ask him to continue the pattern.

Have your student use connecting cubes to see the pattern of increasing by ones (*one more*) and decreasing by ones (*one less*). Help your student see that the *one more* pattern is like going up stairs, one step a time. The *one less* pattern is like going down stairs, one step a time.

## Practice

Read and complete pp. 20–25 in ***Math in Focus***. Then complete pp. 13–16 in ***Workbook***.

## Online Resources

 **BrainPOP Jr: Patterns**

## Wrap-up

How old are you now? How old will you be on your next birthday?

If you are 6 years old now, you will be 7 on your next birthday. Seven is one more than 6.

If you are 5 years old now, you will be 6 on your next birthday. Six is one more than 5.

You grow 1 year older every year. The pattern is **one more**.

If you are 6 years old now, how old were you last year?

You were 5 years old because you were 1 year younger than you are this year.

Five is one less than 6. The pattern is **one less**.

## Complete Math Checkpoint



LESSON  
**3**

# Making Number Patterns

## Lesson Objective

- Make number patterns.

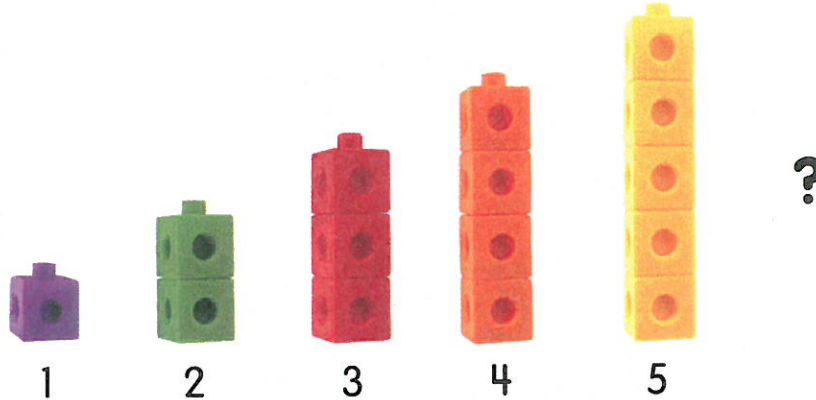
## Vocabulary

pattern  
more than  
less than

Learn

### Make a pattern.

Joe makes the **pattern** below using .



How many  come next in the pattern?

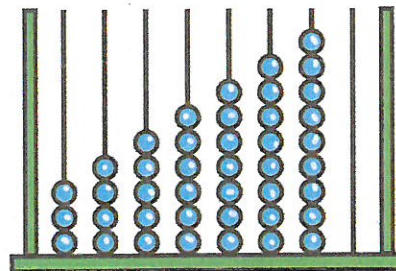
1, 2, 3, 4, 5, 6

6  come next in the pattern.

## Guided Practice

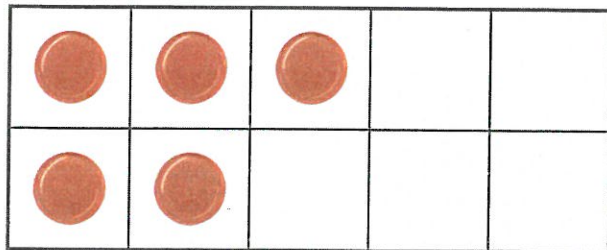
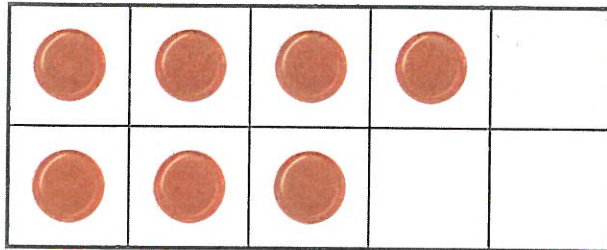
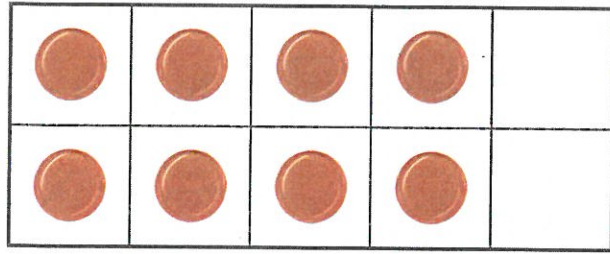
### Solve.

- 1 Megan makes a pattern with beads.



How many beads come next in the pattern?

2 John makes a pattern.



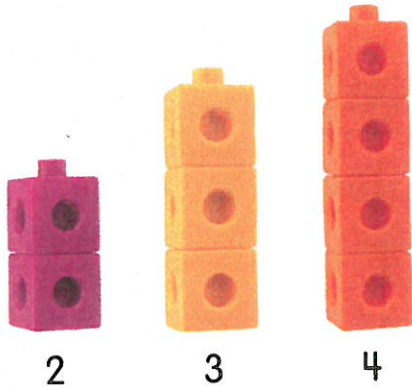
How many ● are there in the next 


 ?

## Hands-On Activity

Use  to make towers that show a pattern.

Example



This shows a pattern from 2 to 4.

- 1 Show the pattern from 4 to 7.
- 2 Show the pattern from 9 to 6.

## Guided Practice

Solve.

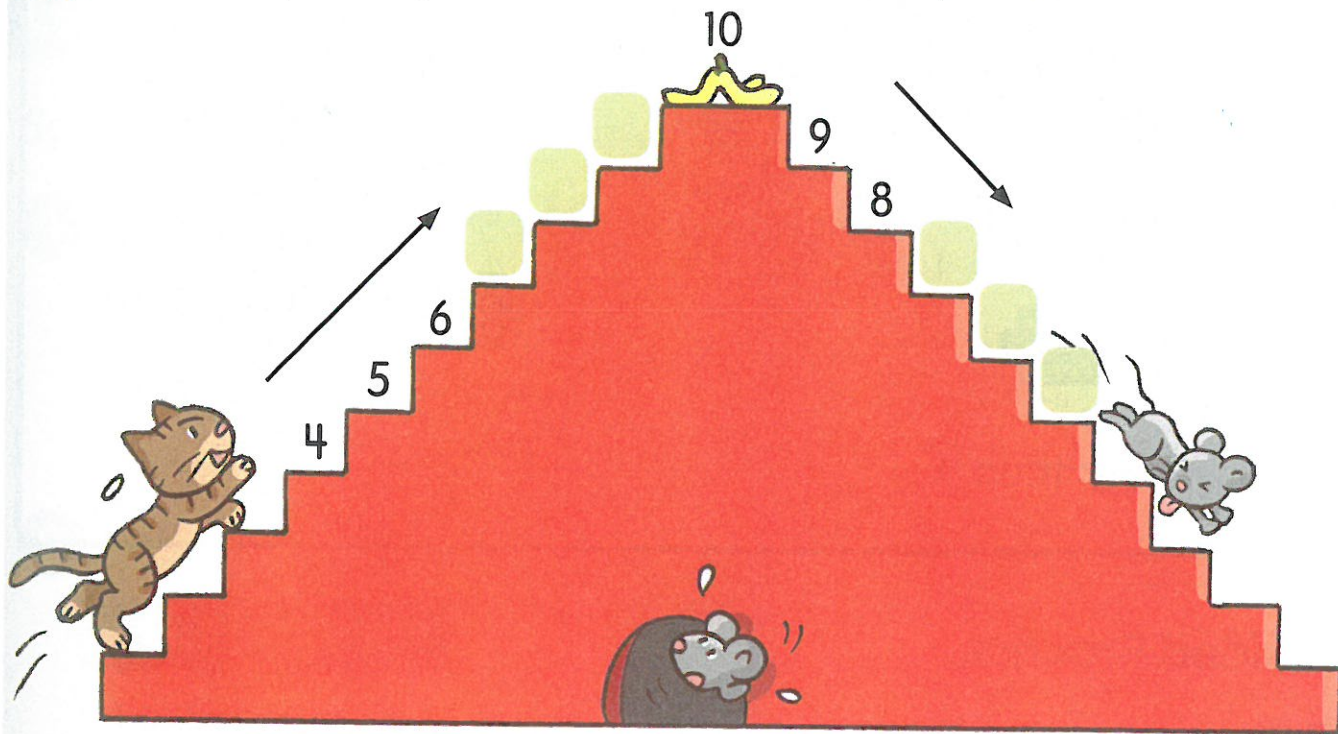
- 3 Count on.  
Find the next number in the pattern.

1, 2, 3, 4, 

3, 4, 5!



4 Find the missing numbers in the number patterns.



Use  to find 1 more.

What is 1 more than 3?



↓ 1 more



4 is 1 more than 3.

## Guided Practice

Solve.

5 What is 1 more than 8?



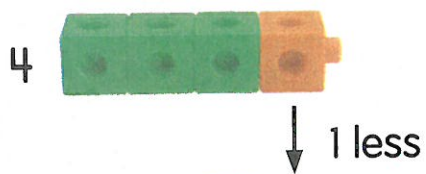
 is 1 more than 8.



Learn

Use  to find 1 less.

What is 1 less than 4?



3 is 1 less than 4.

## Guided Practice

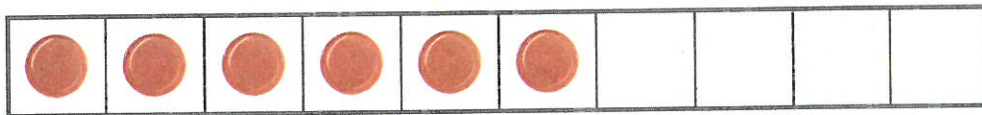
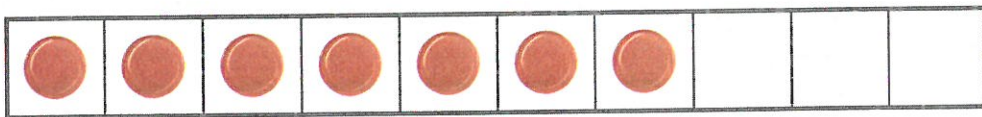
Solve.

6 What is 1 less than 6?



 is 1 less than 6.

Count and answer.



7  is 1 less than .

8  is 1 more than .

# Let's Practice

Solve.

1

1 more



1 more than 5 is .

2

1 less



1 less than 5 is .

3

1 more than 7 is .

4

1 less than 8 is .

Find the missing numbers in each pattern.

5

1, 2, 3, ,

6

2, 3, 4, , , 7, 8

7

, 7, 8, 9,

8

10, 9, , , , 5, 4

9

5, 4, 3, , ,



ON YOUR OWN

Go to Workbook A:  
Practice 3, pages 13–16

