

# Lesson Printables

Be a rockstar and only print what you need!



**Lesson Information Sheet: 2**

## **Sunlight Zone**

Activity: 3

Answers: 4

## **Twilight Zone**

Activity: 5

Answers: 6

## **Midnight Zone**

Activity: 7

Answers: 8

## **Extras:**

Stem Sentences: 9

Extra Challenge: 10-11

Extra Challenge Answers: 12

# Let's connect addition to multiplication

## Why learn this?

Recognising equal groups helps children see patterns and lays the groundwork for understanding multiplication. By recognising equal groups in addition, such as  $3 + 3 + 3 + 3$  (4 equal groups of 3), children begin to see the foundation of multiplication as repeated addition. This connection helps them understand that multiplication can be written as addition and vice versa.

## How does addition connect to multiplication? How can we create number sentences from equal groups?

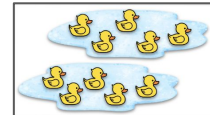
### How does addition connect to multiplication?

Multiplication is the process of adding equal groups. It is a shorter form of repeated addition.

- Addition number sentence:  $4 + 4 + 4$
- Multiplication number sentence:  $3 \times 4$  (3 equal groups of 4, or 3 in a group and 4 groups in total),  $4 \times 3$  (4 equal groups and 3 in a group, or 4 in a group and 3 groups in total)

### How can we create number sentences from equal groups?

The picture to the right shows 2 ponds with 5 ducks in each pond.



- This represents 2 equal groups of 5.
- To find the addition number sentence, we simply add the groups.
  - ◆  $5 + 5 = 10$ . (5 ducks + 5 ducks)
- To find the multiplication number sentence, we can multiply the amount of groups by the amount in each group.
  - ◆  $2 \times 5 = 10$  (2 groups  $\times$  5 ducks in each group)
- Multiplication is commutative (order can be interchanged), so the number sentence can be written both ways.
  - ◆  $5 \times 2 = 10$  (5 ducks in a group  $\times$  2 groups)

*Note,  $2 + 2 + 2 + 2 + 2$  can also connect to the number sentences  $2 \times 5$  and  $5 \times 2$ . We have not modelled this in the lesson as this particular number sentence does not connect to the duck pond visual. Both addition number sentences that connect to a multiplication problem will be addressed in future skip counting lessons.*

## Let's warm up!

### Starter Activity - Charlie's Change Up

Charlie has some place value blocks. If he wants to have 3,432 in total, how many more blocks does he need?

#### To support, students could:

- Identify what number is represented on the screen.
- Be asked guiding questions.
  - If you know Charlie wants to make 3,432, what number sentence could help you find out how many more blocks he needs?
    - ◆  $3,432 - 2,122$ .

#### To challenge, students could:

- Identify more than one way to make 3,432 using place value blocks. For example, 2 thousands blocks, 14 hundreds blocks, 1 ten and 22 ones blocks.

## Let's do this!

**Main Activity** - Students are presented with different pictures that depict equal groups of animals or objects. Students should create addition and multiplication number sentences that match the pictures. For example, if there are 2 groups of 3 planets, students could create the following number sentences:  $3 + 3 = 6$ ,  $3 \times 2 = 6$  and  $2 \times 3 = 6$ . Sometimes students will be given a multiplication number sentence. In this case, students should draw a picture that could match the number sentence.

#### To support, students could:


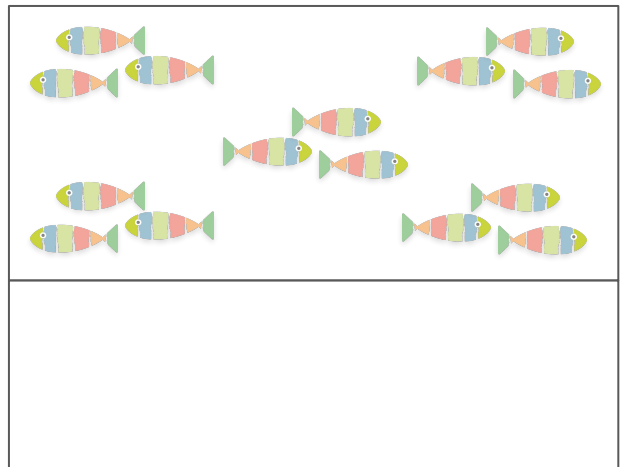
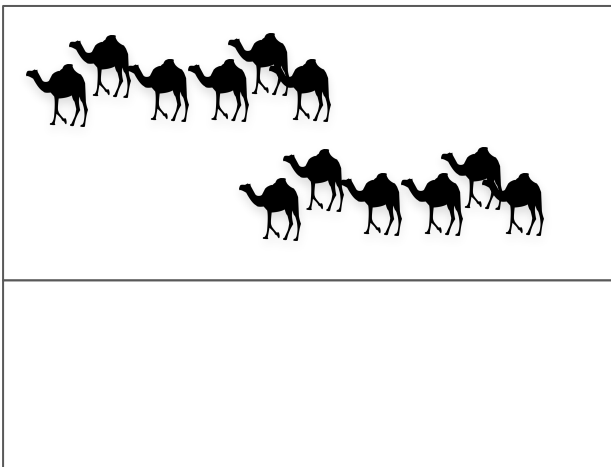
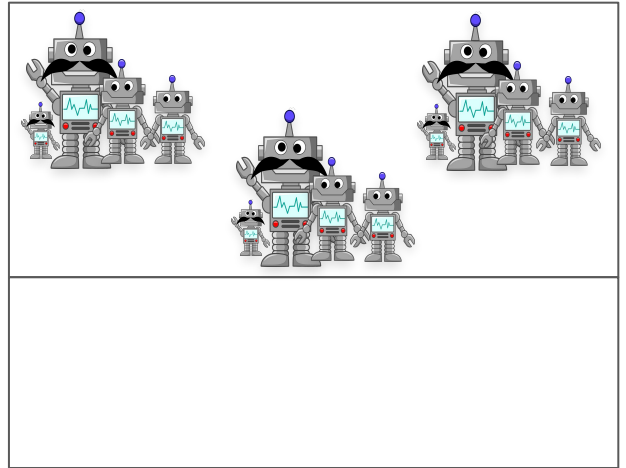
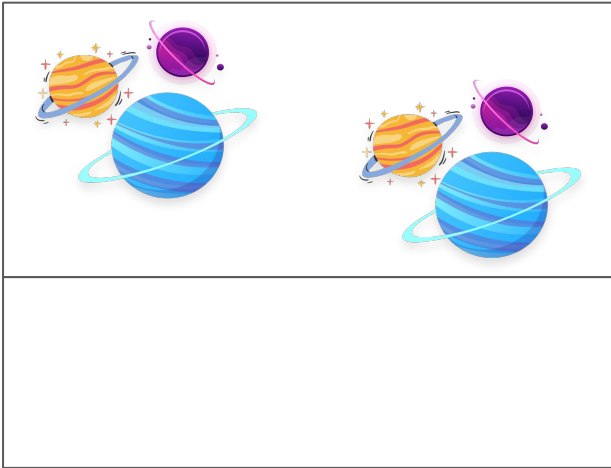
- Use blocks or counters to physically create a copy of their picture.
- Be given stem sentences:
  - 'I see \_\_\_ equal groups. There are \_\_\_ in each group'. See printables.

#### To challenge, students could:


- Identify the groups and how many items are in each group. For example, '3 groups of 5'.
- Write the answers to their number sentences and include tape diagrams to match each scenario.
- Look for equal groups on the extra challenge page. What multiplication and addition number sentences can match your student's thinking? (We have also provided a prompt page for students who might need more structured questions.)

# Sunlight Zone

1. Write an addition and multiplication number sentence for each picture.
2. Got an 'I spy' card? Draw what you think you would see!



I spy 2 groups of 7.  
What could I see?  
Draw it!



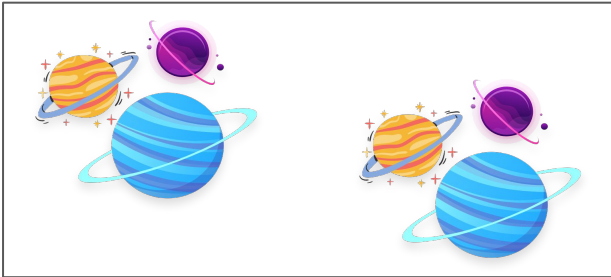
I spy 3 groups of 3.  
What could I see?  
Draw it!

**Challenge:** Write addition and multiplication number sentences.  
**Excellence:** Solve each number sentence. Can you draw a tape diagram to match?  
**Legend:** Try the extra challenge page. How many different equal groups can you spot? Write number sentences to match!

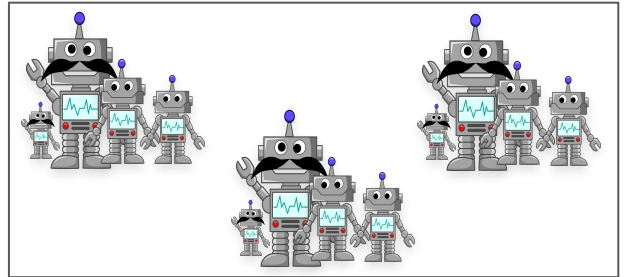
# Sunlight Answers

Answers could vary depending on what groups students see.

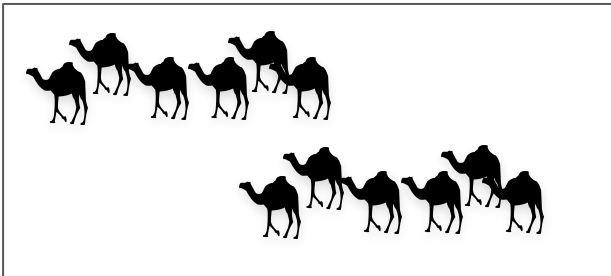
Students should write an addition and multiplication number sentence to match the pictures. To check the 'I spy' answers, look to see that students' drawings match the number sentence.



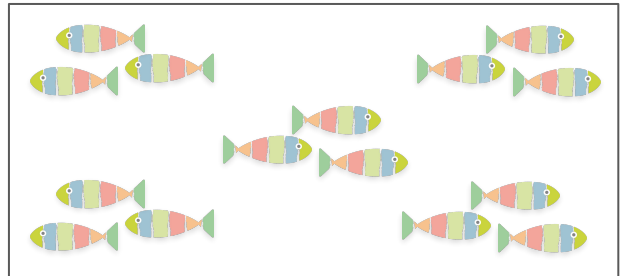
$$2 \times 3 \text{ or } 3 \times 2$$
$$3 + 3 = 6$$



$$3 \times 4 \text{ or } 4 \times 3$$
$$4 + 4 + 4 = 12$$



$$2 \times 6 \text{ or } 6 \times 2$$
$$6 + 6 = 12$$



$$5 \times 3 \text{ or } 3 \times 5$$
$$3 + 3 + 3 + 3 + 3 = 15$$



I spy 2 groups of 7.  
What could I see?  
Draw it!

Answers will vary.  
Any drawing that shows  
2 groups of 7.  
For example, 2 ladybugs with  
7 spots on each.


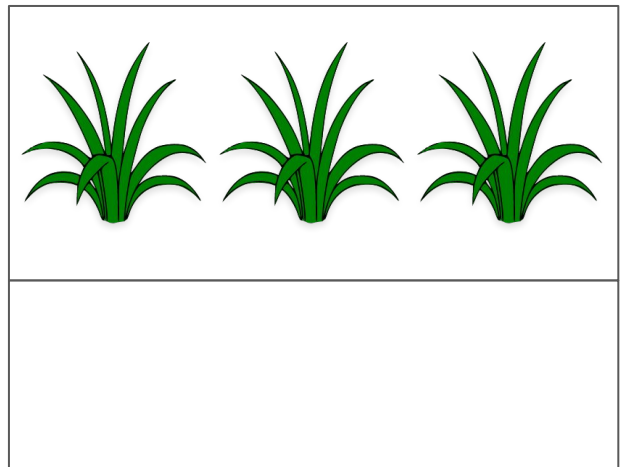
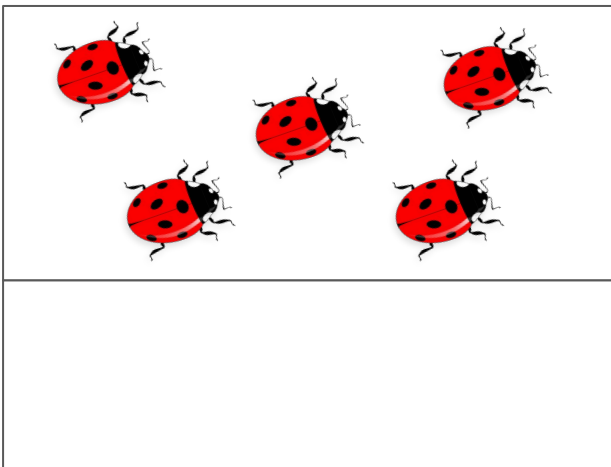
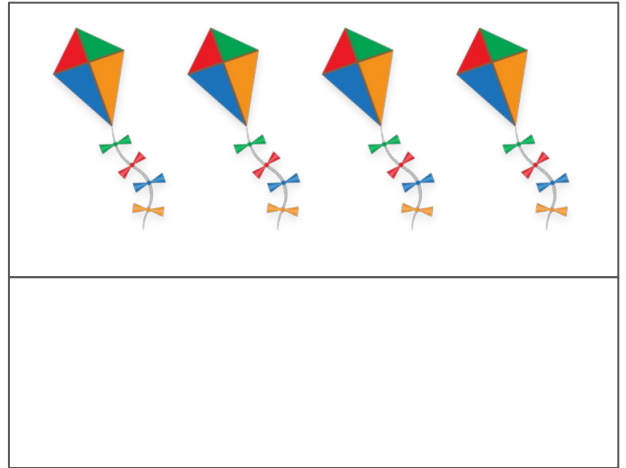


I spy 3 groups of 3.  
What could I see?  
Draw it!

Answers will vary.  
Any drawing that shows  
3 groups of 3.  
For example, 3 pots with  
3 flowers in each pot.


# Twilight Zone

1. Write an addition and multiplication number sentence for each picture.
2. Got an 'I spy' card? Draw what you think you would see!



I spy 5 groups of 4. What could I see? Draw it!

A box containing a cartoon bear wearing a brown hat and a blue backpack, holding a magnifying glass. Below the bear is a blank white space for drawing.



I spy 3 groups of 6. What could I see? Draw it!

A box containing a cartoon dog wearing a brown hat and a brown coat, holding a magnifying glass. Below the dog is a blank white space for drawing.

**Challenge:** Write addition and multiplication number sentences.  
**Excellence:** Solve each number sentence. Can you draw a tape diagram to match?  
**Legend:** Try the extra challenge page. How many different equal groups can you spot? Write number sentences to match!

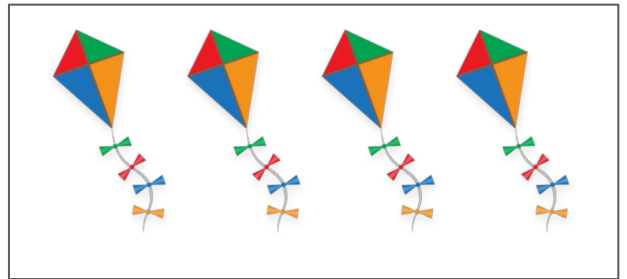
# Twilight Answers

Answers could vary depending on what groups students see.

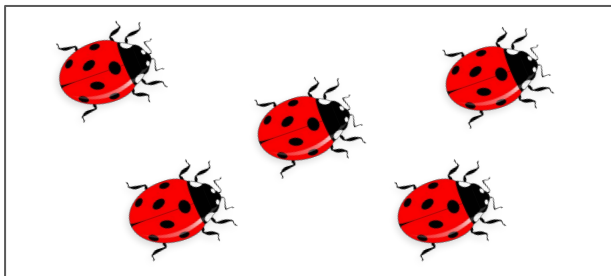
Students should write an addition and multiplication number sentence to match the pictures. To check the 'I spy' answers, look to see that students' drawings match the number sentence.



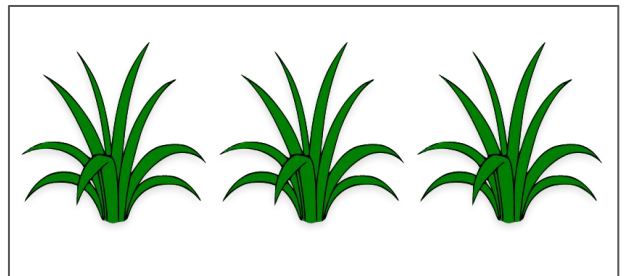
$$3 \times 3$$
$$3 + 3 + 3 = 9$$



$$4 \times 4$$
$$4 + 4 + 4 + 4 = 16$$



$$5 \times 7 \text{ (spots) or } 7 \times 5$$
$$7 + 7 + 7 + 7 + 7 = 35$$



$$3 \times 9 \text{ or } 9 \times 3$$
$$9 + 9 + 9 = 27$$



I spy 5 groups of 4. What could I see? Draw it!

Answers will vary.  
Any drawing that shows  
5 groups of 4.  
For example,  
5 baskets with 4 eggs.

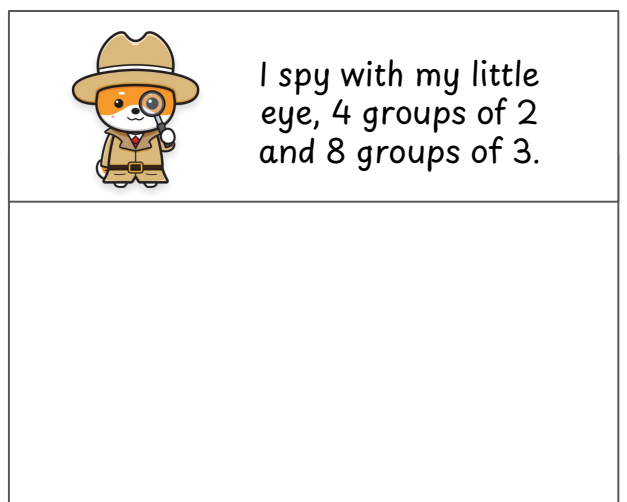
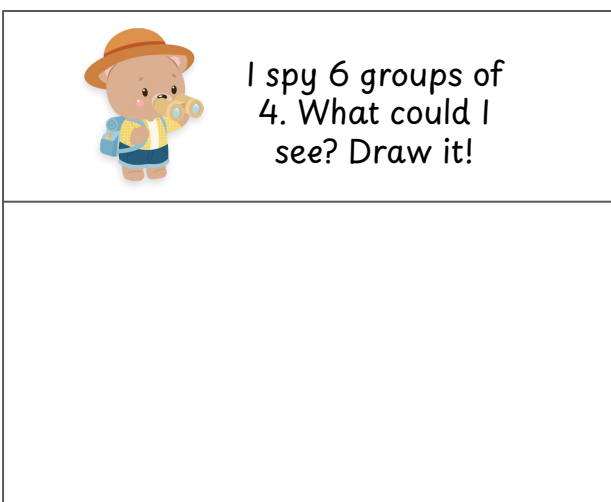
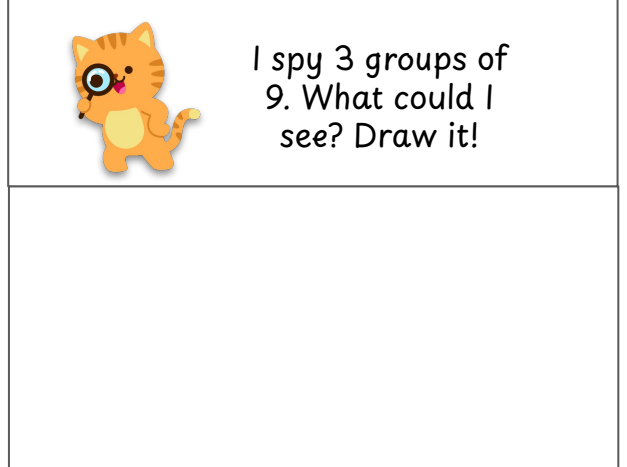
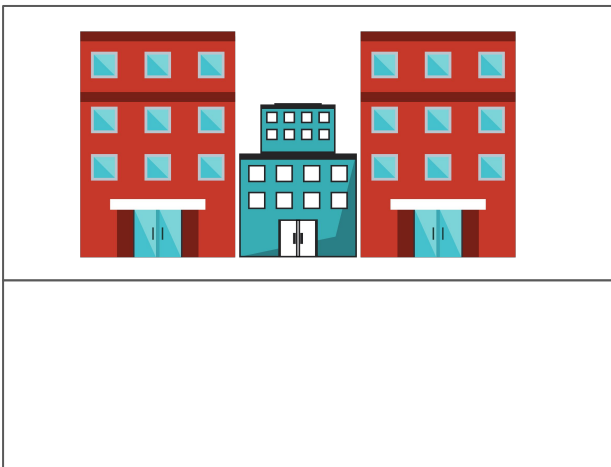
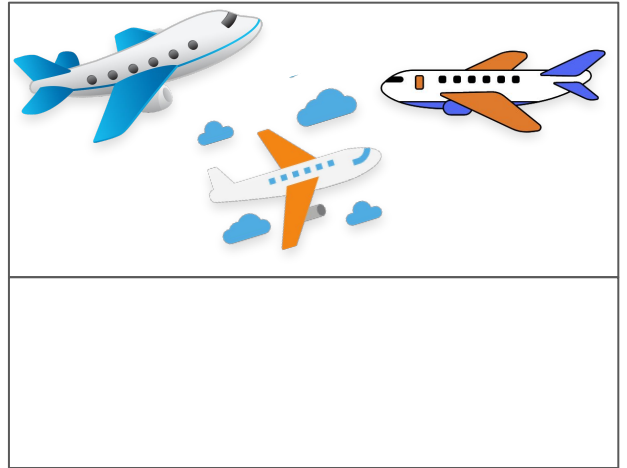
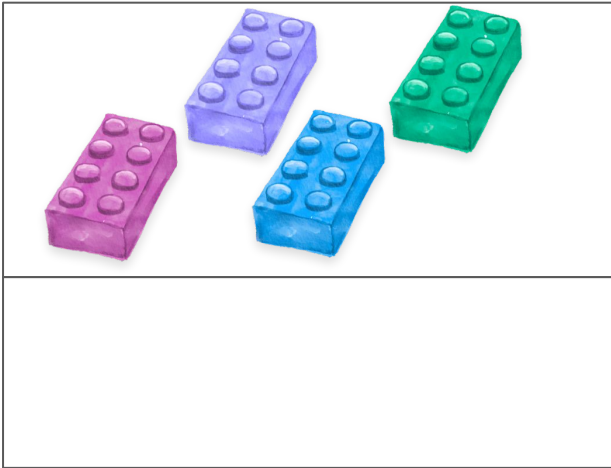


I spy 3 groups of 6. What could I see? Draw it!

Answers will vary.  
Any drawing that shows  
3 groups of 6.  
For example, 3 ants with 6 legs.

# Midnight Zone

1. Write an addition and multiplication number sentence for each picture.
2. Got an 'I spy' card? Draw what you think you would see!



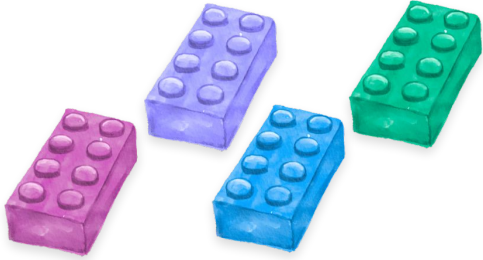
**Challenge:** Write addition and multiplication number sentences.

**Excellence:** Solve each number sentence. Can you draw a tape diagram to match?


**Legend:** Try the extra challenge page. How many different equal groups can you spot? Write number sentences to match!

# Midnight Answers


Answers could vary depending on what groups students see.  
Students should write an addition and multiplication number sentence to match the pictures.  
To check the 'I spy' answers, look to see that students' drawings match the number sentence.




$4 \times 8$  or  $8 \times 4$   
 $8 + 8 + 8 + 8 = 32$



Each plane has 6 windows.  
 $6 \times 3$  or  $3 \times 6$   
 $6 + 6 + 6 = 18$




2 buildings with 9 windows  
1 building with 16 windows  
 $2 \times 9 = 18$  and  $1 \times 16 = 16$   
 $18 + 16 = 34$




I spy 3 groups of 9. What could I see? Draw it!

Answers will vary.  
Any drawing that shows 3 groups of 9.  
For example, 3 bowls with 9 fish.



I spy 6 groups of 4. What could I see? Draw it!

Answers will vary.  
Any drawing that shows 6 groups of 4. For example, 6 cars with 4 tires.



I spy with my little eye, 4 groups of 2 and 8 groups of 3.

Answers will vary.  
Any drawing that shows 4 groups of 2 and 8 groups of 3.  
For example, 4 houses with 2 people and 8 vases with 3 flowers.

# Stem Sentences

I see \_\_\_\_\_ equal groups.

There are \_\_\_\_\_ in each group.

There are \_\_\_\_\_ in each group.

I see \_\_\_\_\_ equal groups.

I see \_\_\_\_\_ equal groups.

There are \_\_\_\_\_ in each group.

There are \_\_\_\_\_ in each group.

I see \_\_\_\_\_ equal groups.

I see \_\_\_\_\_ equal groups.

There are \_\_\_\_\_ in each group.

There are \_\_\_\_\_ in each group.

I see \_\_\_\_\_ equal groups.

I see \_\_\_\_\_ equal groups.

There are \_\_\_\_\_ in each group.

There are \_\_\_\_\_ in each group.

I see \_\_\_\_\_ equal groups.

# Extra Challenge



# Extra Challenge Prompts

How many birds?

How many glowing butterflies?

How many spots on the eggs?

How many spots on the red mushrooms?

How many brown fungi?

How many green leaves like the one below?



How many frog legs?

How many ladybug spots?

How many legs in total?

# Extra Challenge Answers

How many birds?

6 groups of birds.

2 birds in a group.

$$6 \times 2 = 12$$

$$2 \times 6 = 12$$

$$2 + 2 + 2 + 2 + 2 + 2$$

How many glowing butterflies?

6 butterflies

in a group.

6 groups in total.

$$6 \times 6 = 36$$

$$6 + 6 + 6 + 6 + 6 + 6$$

How many spots on the eggs?

2 eggs.

17 spots on each egg.

$$2 \times 17 = 34$$

$$17 \times 2 = 34$$

$$17 + 17$$

How many spots on the red mushrooms?

3 mushrooms with

6 dots on each

mushroom.

$$3 \times 6 = 18$$

$$6 \times 3 = 18$$

$$6 + 6 + 6$$

How many brown fungi?

4 groups with 4 in each group.

$$4 \times 4 = 16$$

$$4 + 4 + 4 + 4$$

How many green leaves like the one below?

3 plants (in the foreground)

with 9 'leaves' on each plant.

$$3 \times 9 = 27$$

$$9 + 9 + 9$$



How many frog legs?

5 frogs with

4 legs on each frog.

$$5 \times 4 = 20$$

$$4 \times 5 = 20$$

$$4 + 4 + 4 + 4 + 4$$

How many ladybug spots?

7 spots on a ladybug.

3 ladybugs in total.

$$7 \times 3 = 21$$

$$3 \times 7 = 21$$

$$7 + 7 + 7$$

How many legs in total?

3 dragonflies

$$3 \times 6 = 18$$

$$12 \text{ birds } 2 \times 12 = 24$$

$$5 \text{ frogs } 5 \times 4 = 20$$

$$3 \text{ ladybugs } 3 \times 6 = 18$$

$$4 \text{ mammals } 4 \times 4 = 16$$

$$96 \text{ legs in total}$$