# ORIGO STEPPING STORES STUDENT JOURNAL SAMPLE

Engaging student pages accompany each lesson within *ORIGO Stepping Stones*. In the Student Journal for this year level, there are two pages for each lesson.

YEAR 2

For more information on program content for *ORIGO Stepping Stones* Year 2 visit *origoeducation.com/stepping-stones*.

#### **SENIOR AUTHORS**

Rosemary Irons James Burnett

#### **PROGRAM EDITORS**

Beth Lewis Donna Richards Stacey Lawson

#### **CONTRIBUTING AUTHORS**

Debi DePaul Peter Stowasser Allan Turton



What is a quick way to work out the total length without measuring?

You can count in twos: 2, 4, 6. The total length is 6 metres long.



Imagine six pieces of ribbon are joined together. What is the total length? How do you know?

## How many pieces would be joined to make a length of ribbon that is 16 metres long?

How do you know?





© ORIGO Education.

DRAFT

9.2

Imagine you start at 0 and make jumps of 2 along this number line.

What numbers will you land on? How do you know?







2

## **Describing Equal Groups**

Look at these bags of apples. What do you notice?

9.3

How many bags are there? How many apples are in each bag? How could you work out the total number of apples without counting each apple?

bunches of

is





is

packs of

**2.** Draw pictures to match each. Then write the total.

a.	<b>3</b> bags of <b>2</b> is	<pre>b. 2 stacks of 5 is</pre>
с.	Laroup of Lis	d.
с.	I group of <b>4</b> is	<b>d. 5</b> jars of <b>5</b> is
С.	I group of <b>4</b> is	d. 5 jars of 5 is
C.	I group of <b>4</b> is	d. 5 jars of 5 is
C.	I group of <b>4</b> is	d. 5 jars of 5 is

# Step Ahead

Arrange these boxes into equal groups. Complete the sentence. Draw a picture to show your thinking.



the to groups of \_\_\_\_\_ is \_\_\_

Look at these jars of marbles.

9.4



How many jars do you see? How many marbles in each jar? How could you work out the total number of marbles?

What addition sentence could you write to show your thinking?

**Imagine there were 4 marbles in each jar.** What would be the total number of marbles? How do you know?

## **Step Up I.** Write numbers to describe the equal groups.







Look at how these equal groups have been described. Write what you notice.

 3 stacks of 5 is 15
5 + 5 + 5 = 5

# **Describing Arrays**

Where are some places that you might see things arranged in rows?

An arrangement in rows with the same number in each row is called an **array**.

## Look at this array of bugs.

How many rows of bugs are there? How many bugs are in each row?

What is a number story you could tell to match the array?



The bugs are marching in 3 rows. There are 4 bugs in each row. A row goes across and a column goes up and down.



#### Imagine another row of four bugs joined the band.

How many rows will there be? How many bugs will be in each row? How many bugs will there be in total? How do you know?

## **Step Up I.** Write numbers to describe each array.



## 2. Write the missing numbers.



Step Ahead

Draw an array to match each story. Then draw a 🖌 beside the array that is greater.

a. The beetles march in rows of 5. There are 3 rows.
 b. The ants march in rows of 4. There are 4 rows.

## **Adding Equal Rows**

Look at these bugs.

9.6

What is this type of arrangement called?

How many rows are there? How many bugs in each row?

## How could you find the total number of bugs?

What number story and addition sentence could you write?





There are 4 rows with 5 bugs in each row. That is 5 + 5 + 5 + 5 = 20.

# Step Up

I. Loop each row of bugs. Write the missing numbers.

а.	500 500 500 500 500 500 500 500 500 500	b.
<u></u>	- rows	rows
	_ ladybugs in each row	ladybugs in each row
	+ + =	+ =
C		d
с.		
	rows	rows
	rows	<pre> rows \$</pre>



Step Ahead

Draw an array of bugs that has 5 rows. Then write a number story **and** addition sentence to match.

# • Using the Turnaround Idea with Arrays

## Look at these sheets of stamps.

How would you describe what happened to the first array to make the second array?





What is the same about the arrays? What is different?

## How could you work out the total number of stamps in each array?

What addition sentences could you write to match?

What is the same about the two sentences? What is different?

Which addition sentence is easier to work with? Why?



9.7



## **Combining 2D Shapes**

This shape was made by tracing around two pattern blocks.





How many sides does the new shape have?



9.8

I. Choose two other pattern blocks.

**a.** Join them together. Then trace around them below.

**b.** How many sides does your new shape have?



# **Drawing and Naming 2D Shapes**



9.9

I am thinking of a 2D shape that is a quadrilateral. It has at least two sides the same length.

What shape could this be? How do you know?

Draw another quadrilateral that matches the clues.

Then draw a shape that does not match.

•	•	•	•	٠	•	٠	•	•	•	•	•	•	•	•	٠	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•

## Step Up

Draw a shape to match each label.

a.	t	a tr wo s	riang ides	le wi the s	th ex same	actly leng	/ gth		b. a rectangle with all sides the same length								
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•



c.		a pe (	ntag a diffe	on w erent	ith al : leng	l side jth	es	d.	d. a four-sided shape with all sides a different length									
•	•	٠	٠	٠	٠	٠	•	•	•	•	•	٠	٠	•	•	•	•	
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	•	•	٠	•	•	•	•	•	•	
•	•	•	٠	•	٠	٠	•	•	•	•	•	٠	•	•	•	•	٠	
e.		a he two s	exag ides	on w the s	ith ex same	kactly leng	y gth		f.	a	qua sides	drilat s and	eral v I two	with 1 shor	two lo t side	ong es		
e. •	•	a he two s •	exag ides •	on w the s	ith e> ame •	kactl leng	y jth •	•	f. •	a •	quad sides •	drilat s and •	eral v I two •	with 1 shor	two lo t side •	ong es	•	
e. •	•	a he two s •	exag ides •	on w the s •	ith ex same •	kactl lenc	y gth •	•	f. •	a •	quaa sides •	drilat and •	eral v I two •	with 1 shor •	two lo t side •	ong es •	•	
e. • •	•	a he two s • •	exag ides • •	on w the s	ith e> ame • •	kactly leng	y gth •	•	f. • •	•	quad sides •	drilat s and • •	eral v I two •	with t shor •	two lo t side •	ong es •	•	
e. • •	•	a he two s • •	exag ides • •	on w the s • •	ith exame same • •	kactl leng	y gth • •	•	f. • •	a • •	quad sides • •	drilat s and	eral v I two • •	with t shor • •	two lo rt side • •	ong es •	•	
e. • •	•	a he two s • •	exag ides • •	on w the s • •	ith exame same • •	kactly leng	y gth • •	•	f. • •	a • •	quad sides • •	drilat s and	eral v I two • •	with 1 shor • •	two lo t side • •	ong es • •	•	

Step Ahead

**a.** Write some clues like those above to describe a 2D shape.

**b.** Exchange clues with another student and draw a shape to match.

- • • •
- • • •
- . . . . . .
- • • •
- . . . . . .
- . . . . . .

## 9.10 Making Designs with Line Symmetry

## Follow these steps.



Fold a sheet of paper in half and then draw a line along the crease as shown.



Fold the paper in half again and draw a shape on one side like this.



Step 3

Flip the folded paper over and trace the shape you see through the paper.



For Step 3, try placing the folded paper against a window.

Unfold the paper. How much of the whole shape is shown on each side of the mirror line?



I. Dro

Draw the mirror image on the other side of the dashed line.





2. Imagine you flipped the design over the dashed line. Draw what you would see.



## Step Ahead

Draw a different hexagon on the left side of each dashed line. Then draw the mirror image on the other side of the dashed line.

a.	•	•	•	t	•	•	•	•	b.	•	•	•	Ļ	•	•	•	•
•	•	•	•	1	•	•	•	•	•	•	•	•		•	•	•	•
•	•	•	•	1	•	•	•	•	•	•	•	•		•	•	•	•
•	•	•	•	1	•	•	•	•	•	•	•	•		•	•	•	•
•		•	•	Ì	•			•		•		•		•	•		•
		-		i				-		-			Ì				
•	•	•	•	i	•	•	•	•		•	•	•	T I	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

2

## **Describing Flips and Turns**

9.11





**2.** Look at how the shapes change in each pattern. Draw lines to match the patterns to the labels. Not every label has a match.



These repeating patterns were made by rotating each letter a quarter-turn clockwise. Draw the missing parts in each pattern.



**Step Ahead** 

2

# Working with Parts of a Whole (Equal Size)



Describe how you would move the grey shape so that it exactly covers its matching orange shape.





If computer access is available download the electronic support page. Then use the flip and rotate tools in the software to make the orange shapes match the purple shapes.



For each **orange** shape, colour the to show what you would do to make it match the purple shape above.



2