ORIGO Stepping Stones

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STUDENT JOURNAL

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Step In  
Skip Counting by 2 or 5

This piece of ribbon is 2 metres long.

Imagine three of these pieces of ribbon were joined together like this.

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 of the pieces of ribbon were joined together. What would be 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?

Step Up  
Each short piece of ribbon below is 2 m long. Count in steps of 2 to work out the total length.

a.  

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b.  

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  m

c.  

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

  m
2. Look at the number track above. Start at 2. Count in steps of 2. Colour red the numbers you say.

3. Complete each sentence.
   a. __ steps of 2 is 12
   b. __ steps of 2 is 18
   c. __ steps of 2 is 26
   d. __ steps of 2 is 34

4. Look at the number track above. Start at 5. Count in steps of 5. Loop the numbers you say.

5. Complete each sentence.
   a. __ steps of 5 is 10
   b. __ steps of 5 is 15
   c. __ steps of 5 is 25
   d. __ steps of 5 is 35

Step Ahead

Count in steps of 2 or 5 to complete each of these.

a. _____ steps of _____ is 20
b. _____ steps of _____ is 30

c. _____ steps of _____ is 40
d. _____ steps of _____ is 50
Adding Jumps of 2 or 5

Imagine you start at 0 and make jumps of 2 along this number line. What numbers will you land on? How do you know?

How many jumps will you make to reach 10?

What addition sentence could you write to match the jumps that you made?

Step Up

I. Complete each sentence. Use the number line above to help you.

a. 4 jumps of 2 is

\[2 + 2 + 2 + 2 = \square\]

b. 3 jumps of 2 is

\[\square + \square + \square = \square\]

c. 7 jumps of 2 is

\[\square + \square + \square + \square + \square + \square + \square = \square\]
2. Complete these sentences. Use the number line above to help you.

   a. 3 jumps of 5 is ______
      \[5 + 5 + 5 = \square\]
   b. 4 jumps of 5 is ______
      \[\square + \square + \square + \square = \square\]
   c. 5 jumps of 5 is ______
      \[\square + \square + \square + \square + \square = \square\]
   d. 2 jumps of 5 is ______
      \[\square + \square = \square\]
   e. 8 jumps of 5 is ______
      \[\square + \square + \square + \square + \square + \square + \square + \square = \square\]

**Step Ahead**

a. Write the missing numbers.

   \[2 + 2 + 2 + 2 + 2 = \square\]
   \[\square \text{ jumps of } \square \text{ is } \square\]

   \[5 + 5 = \square\]
   \[\square \text{ jumps of } \square \text{ is } \square\]

b. Write what you notice.
**Step In** 

Describing Equal Groups

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

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?

You could count in steps of 4. That's 4, 8, 12. 3 bags of 4 apples is 12 apples.

How could you arrange the apples into different equal groups?

You could make 2 bags of 6 apples.

**Step Up**

I. Write numbers to describe the equal groups.

a. 

____ bags of ____ is ____

b. 

____ boxes of ____ is ____

c. 

____ bunches of ____ is ______

d. 

____ packs of ____ is ______
2. Draw pictures to match each of these. Then write the total.

a. 3 bags of 2 is ____________

b. 2 stacks of 5 is ____________

c. 1 group of 4 is ____________

d. 5 jars of 5 is ____________

Step Ahead

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

_____ groups of ____ is _____
Adding Equal Groups

Look at these jars of marbles.

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.

a. [Image of groups of cars]

____ groups of ____ is ____

b. [Image of groups of flowers]

____ groups of ____ is ____

c. [Image of groups of apples]

____ groups of ____ is ____

d. [Image of groups of blocks]

____ groups of ____ is ____

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2. Write numbers to describe the equal groups. Then write an addition sentence to match.

**a.**
- [Picture of 3 groups of 5]
  - ___ groups of ___ is ___
  - ___ + ___ + ___ = ___

**b.**
- [Picture of 3 rows of 3]
  - ___ rows of ___ is ___
  - ___ + ___ + ___ = ___

**c.**
- [Picture of 3 tubes of 5]
  - ___ tubes of ___ is ___
  - ___ + ___ + ___ = ___

**d.**
- [Picture of 4 stacks of 3]
  - ___ stacks of ___ is ___
  - ___ + ___ + ___ + ___ = ___

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

- [Picture of 3 stacks of 5]
  - 3 stacks of 5 is 15
  - 5 + 5 + 5 = 15
Step In  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?

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 1. Write numbers to describe each array.

a. The bugs are marching in 3 rows. There are 4 bugs in each row.

b. rows with in each row rows with in each row
2. Write the missing numbers.

a. ______ rows ______ in each row

b. ______ rows ______ in each row

c. ______ rows ______ in each row

d. ______ rows ______ in each row

Step Ahead

Draw an array to match each story. Then loop the array that has the greater amount.

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

b. The ants march in rows of 4. There are 4 rows.
Step In  Adding Equal Rows

Look at these bugs.
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.

a. ___ rows
   ___ bugs in each row
   ___ + ___ + ___ = ______

b. ___ rows
   ___ bugs in each row
   ___ + ___ = ______

c. ___ rows
   ___ bugs in each row
   ___ + ___ + ___ = ______

d. ___ rows
   ___ bugs in each row
   ___ + ___ + ___ = ______
2. Write a number story to match each picture.

<table>
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<th>a.</th>
<th>b.</th>
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<td><img src="image2.png" alt="Image" /></td>
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<th>d.</th>
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**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?

Step Up 1. Draw a picture to show each array turned on its side.
2. Write the missing numbers. Then draw a ✓ beside the addition sentence that was easier to solve.

a. 

\[ \begin{align*} 
\text{\_\_\_ rows} & \quad 2 \quad \text{\_\_\_ in each row} \\
\text{\_\_\_ rows} & \quad \text{\_\_\_ in each row} \\
2 + 2 + 2 + 2 = \_\_\_ \\
\end{align*} \]

b. 

\[ \begin{align*} 
\text{\_\_\_ rows} & \quad \text{\_\_\_ in each row} \\
\text{\_\_\_ rows} & \quad \text{\_\_\_ in each row} \\
\_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = \_\_\_ \\
\end{align*} \]

c. 

\[ \begin{align*} 
\text{\_\_\_ rows} & \quad \text{\_\_\_ in each row} \\
\text{\_\_\_ rows} & \quad \text{\_\_\_ in each row} \\
\_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = \_\_\_ \\
\_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = \_\_\_ \\
\end{align*} \]

Step Ahead

Write two addition sentences to match this picture.
Step In  Measuring Short Lengths with Uniform Informal Units

Kate found this worm in her garden. She used cubes to measure its length.

Is her measurement accurate? How do you know?
How would you use the cubes to measure the worm?

I would join the cubes together so that there were no gaps and no overlaps.

Is the worm longer or shorter than 5 cubes? How do you know?

Step Up

1. Make a cube train with five cubes. Colour the worms that are close to the length of your train.
2. Measure the length of each worm using cubes.

Step Ahead
Use cubes to help you draw a worm that is **between** 5 and 7 cubes in length.
Comparing Length Using Uniform Informal Units

Which colour pencil is the longest? How do you know?

How did you work out the length of each pencil?

Which two pencils are the same length?

How could you order the pencils from least to greatest in length?

**Step Up**

I. Colour the longest pencil blue. Colour the shortest pencil red. Use this cube train to help you.
2. Write the length of each pencil.

3. Write longer or shorter to complete each sentence.
   a. The green pencil is ______ than the blue pencil.
   b. The orange pencil is ______ than the green pencil.
   c. The yellow pencil is ______ than the green pencil.
   d. The blue pencil is ______ than the yellow pencil.
   e. The blue pencil is ______ than the orange and yellow pencils together.

Step Ahead

Look at the pencils above.
Write the colours in order from least to greatest in length.
Introducing a Formal Unit of Length (Centimetre)

What are some things you know about one centimetre?

My finger is about one centimetre thick.

Each edge of a ones block is one centimetre long.

A ones block is one centimetre long. How long is a tens block? How do you know?

Step In

Step Up

1. Use ones blocks and tens blocks to measure each of these lengths.

a. handspan __________ centimetres long

b. palm __________ centimetres long

c. index finger __________ centimetres long

d. little finger __________ centimetres long

My finger is about one centimetre thick.

Each edge of a ones block is one centimetre long.

A ones block is one centimetre long. How long is a tens block? How do you know?
2. Trace around your hand like the hand in Question 1.

3. Use ones blocks and tens blocks to measure each of these lengths.
   a. handspan _______ centimetres long
   b. palm _______ centimetres long
   c. index finger _______ centimetres long
   d. little finger _______ centimetres long

Step Ahead

Haroon stretched out some pieces of string he found.

The red string is 46 centimetres long. The blue string is 48 centimetres long. The green string is the same length as the other two strings put together. How long is the green string?

_______ centimetres
Measuring Length Using Centimetres

What are some objects in the classroom that are about one centimetre long, one centimetre wide or one centimetre thick? How do you know?

Which objects in the classroom are about 20 centimetres long? What is a quick way of measuring the length of these items?

When you measure using a ruler, what do you notice about the number you start with on the ruler?

A short way to write centimetre is cm.

Step Up

1. a. Colour green the objects that you think are about 5 cm long.

b. Use a ruler to measure the length of each object. Write the length in centimetres.
2. Use a ruler to measure the distance along each white strip. Mark the length and colour the strip to match. The first one has been done for you.

a. Measure 10 cm.

b. Measure 6 cm.

c. Measure 12 cm.

d. Measure 15 cm.

e. Measure 4 cm.

f. Measure 17 cm.

g. Measure 11 cm.

Step Ahead

Molly has two pet snakes. One snake is 36 cm long. The other snake is 87 cm long. Work out the difference in length between the two snakes. Draw a number line to show your thinking.
Step In  Solving Problems Involving Centimetres

What does this picture show?

Use your hands to estimate the length of each fish that was caught.

What is the difference in length between the fish that Max caught and the fish that Heena caught?

What number sentence could you write?

The record for the biggest fish is one metre. How many centimetres is that?

Complete this statement.

1 metre is the same length as \_

Step Up

1. This picture shows the length of some fish that were caught. Write each length.

2. Draw an arrow to show the length of a fish that is exactly 1 m long.
3. Solve each word problem. Write a number sentence to show your thinking.

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<td><strong>a.</strong> Leah caught a fish that was 43 cm long. It was 10 cm longer than the fish that Dylan caught. What is the length of Dylan’s fish?</td>
<td><strong>b.</strong> Moran had one metre of fishing line. He cut the line into two equal lengths. How long is each length?</td>
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<th><strong>c.</strong> The fishing line is 10 cm long. The hook is 4 cm long. The sinker is 6 cm long. What is the total length of all the fishing tackle?</th>
<th><strong>d.</strong> The fishing line is 82 cm long. Aria cuts off 15 cm. What length of fishing line is left?</th>
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**Step Ahead**

Colour the fish that are longer than 50 cm.
**ORIGO Stepping Stones** is an award-winning mathematics program developed by specialists for Australian primary schools.

This revolutionary online program integrates print and digital technology to deliver comprehensive coverage of the F–6 Australian Curriculum – and even more!

**ORIGO Stepping Stones** was developed by mathematics specialists for Australian primary schools to:

- make maths more focused and coherent
- foster students’ thinking and reasoning skills
- deliver multiple ways to differentiate classroom instruction
- provide a valuable source of professional learning for the teacher
- offer methods to assess deep understanding and skills
- provide online and print resources that engage all students

**IT'S SIMPLY A SIMMER APPRAOCH**

- **MILLI** the possum
- **SPLIT** the kangaroo
- **DART** the echidna
- **DIGIT** the wombat
- **PLATO** the platypus
- **TALLY** the turtle
- **CUBIT** the koala

**THIS BOOK BELONGS TO**