BRIGHTER MATHS

Creating a whole generation of kids that are confident in maths

BUILDING A FOUNDATION OF MATHS

PART 3 OF 3

SAMPLE - LESSON 2

ORANGE LEVEL TWO

MATHS AUSTRALIA

Lesson 2 : Sequencing

WHAT YOUR STUDENT WILL LEARN

To put a group of numbers in order from least to greatest and greatest to least, and to find a number that is "before," "after," or "in between" other numbers.

LESSON FOCUS

Sequencing and ordering numbers is a crucial skill that builds on your student's understanding of place value. They must grasp that a number with more digits is almost always larger than a number with fewer digits. We will also learn a new vocabulary: "least," "greatest," and "in between."

KEYS FOR TEACHING

Always start with the blocks! The visual difference in the length and size of the blocks makes comparing numbers easy. For three-digit numbers, guide them to always look at the red hundred-blocks first to decide which number is biggest.

YOU'LL KNOW YOUR STUDENT UNDERSTANDS WHEN THEY CAN

Correctly order a set of three-digit numbers.

Identify the number that comes before or after a given number.

Find a number that is "in between" two other numbers.

Correctly use the vocabulary "least" and "greatest."

MATERIALS YOU'LL NEED

Integer Block Kit

Number cards

Whiteboard or paper

Orange Level Two Student Workbook (Worksheets - Lesson 2)

TIPS IF YOUR STUDENT IS STRUGGLING

Start with just two numbers instead of three or more. Let them build both numbers and physically place them side-by-side to compare. Once they master comparing two numbers, introduce a third.

FUN EXTENSION ACTIVITIES

Write several numbers on sticky notes. Have your student build each number with blocks and then arrange the sticky notes (and their block creations) in order on a wall or the floor.

INTUITIVE - GETTING STARTED

I

Learning Facilitator Actions: Ask: "If we were lining up by height, who would be at the start of the line, the smallest person or the largest person?" Say: "Putting things in order is called sequencing. We can do the same thing with numbers!"

Student Actions: *Discusses the real-life question. Listens to the introduction of "sequencing."*

CONCRETE - BUILDING IT

C

Learning Facilitator Actions: Say: "Let's build three numbers: eight, three, and six." Guide your student to get the correct blocks. Say: "Look at the blocks. Let's put them in order from smallest to largest. Which block is the smallest?" Guide them to place the 3-block on the left, followed by the 6-block, then the 8-block.

Student Actions: *Builds the numbers 8, 3, and 6. Physically arranges the blocks in order from smallest to largest (3, 6, 8) and then largest to smallest (8, 6, 3).*

REPRESENTATIONAL - DRAWING IT

R

Learning Facilitator Actions: Say: "Now, let's draw what we just did." Model drawing the ordered blocks (e.g., 3, 6, 8). Say: "Now, build twelve, fifteen and thirteen. Put them in order, then draw your ordered blocks."

Student Actions: *Draws representations of the ordered blocks, using the correct colours and attempting to show proportional size.*

ABSTRACT - WRITING IT

A

Learning Facilitator Actions: For the ordered blocks three, six and eight, write 3, 6, 8 on the board. Say: "I've written the numbers from smallest to largest, separated by commas." Give them three numerals (e.g., 50, 10, 20) and ask them to write the sequence.

Student Actions*: Writes a sequence of numerals in the correct order (e.g., 3, 6, 8). Writes sequences for two-digit and three-digit numbers.*

VERBAL & COMBINED PRACTICE - TALKING ABOUT IT

V

Learning Facilitator Actions: Say: "I am going to give you three numbers: two hundred ninety-eight, one hundred fifty-seven, and three hundred sixty-two." Say: "First, build each number. Then, arrange them from largest to smallest. Now, write the sequence and tell me why you put them in that order."

Student Actions: *Builds the numbers. Physically arranges them in order. Writes the sequence 362, 298, 157. Explains their reasoning: "362 is largest because it has three hundreds."*

EXPLICIT INSTRUCTION & REVIEW - WRAPPING UP

E

Learning Facilitator Actions: Say: "Great work with sequencing! We learnt how to put numbers in order by looking at their place value. We always look at the biggest place value first!" Write 150, 450, 250 on the board. Ask: " Which is the smallest? Which is the largest?"

Student Actions: *Recalls the process of sequencing. Answers: "150 is the smallest, 450 is the largest."*

Assessment & Cumulative Review: Orange Level Two Student Workbook (Worksheets 2I1 - 2I6).

ORANGE LEVEL TWO

STUDENT WORKBOOK

Metric Edition

Student's Name

By Esther White

Scope & Sequence

ORANGE LEVEL TWO

Completion Checklist

Check off each lesson as you complete it.

ORANGE LEVEL TWO

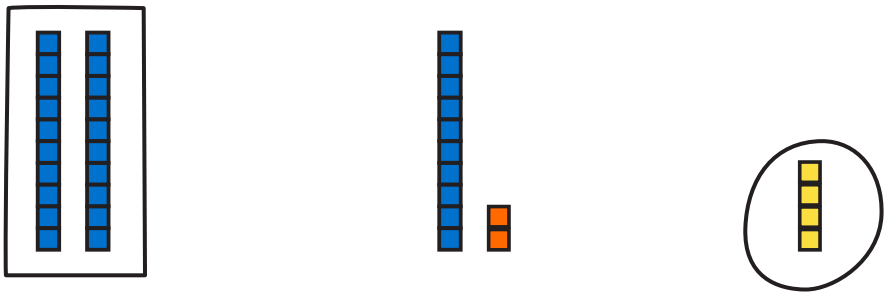
	1	2	3	4	5	6
1A - Place Value (Hundreds, Tens, Units)	☐	☐	☐	☐	☐	☐
1B - Place Value (Hundreds, Tens, Units)	☐	☐	☐	☐	☐	☐
2 - Sequencing	☐	☐	☐	☐	☐	☐
3 - Inequalities	☐	☐	☐	☐	☐	☐
4 - Rounding To Ten, Estimation	☐	☐	☐	☐	☐	☐
5 - Multi-Digit Addition (Place-Value Notation)	☐	☐	☐	☐	☐	☐
6 - Addition With Regrouping	☐	☐	☐	☐	☐	☐
7 - Skip Counting By Two	☐	☐	☐	☐	☐	☐
8 - Skip Counting By Ten	☐	☐	☐	☐	☐	☐
9 - Skip Counting By Five	☐	☐	☐	☐	☐	☐
10 - Column Addition	☐	☐	☐	☐	☐	☐
11 - Money - Decimal Point And Dollars	☐	☐	☐	☐	☐	☐
12 - Rounding To Hundreds	☐	☐	☐	☐	☐	☐
13 - Addition - Money	☐	☐	☐	☐	☐	☐
14 - Subtraction - Money	☐	☐	☐	☐	☐	☐
15 - Ordinal Numbers, Tally Marks	☐	☐	☐	☐	☐	☐
16 - Bar Graphs, Line Graphs	☐	☐	☐	☐	☐	☐
17 - Gauges, Thermometers	☐	☐	☐	☐	☐	☐
18 - Telling Time - Minutes Only	☐	☐	☐	☐	☐	☐
19 - Telling Time - Hours Only	☐	☐	☐	☐	☐	☐
20 - Telling Time - Hours And Minutes Combined	☐	☐	☐	☐	☐	☐
21 - Measurement - Perimeter, Linear Measure	☐	☐	☐	☐	☐	☐
22 - Thousands, Place-Value Notation	☐	☐	☐	☐	☐	☐
23 - Rounding To Thousands	☐	☐	☐	☐	☐	☐
24 - Multiple Digit Column Addition	☐	☐	☐	☐	☐	☐
25 - More Multiple Digit Column Addition	☐	☐	☐	☐	☐	☐
26 - Multiple Digit Subtraction	☐	☐	☐	☐	☐	☐

	1	2	3	4	5	6
27 - Two Digit Subtraction With Regrouping						
28 - Three Digit Subtraction With Regrouping						
29 - Four Digit Subtraction With Regrouping						
30 - Multiple Digit Column Subtraction (Extended)						

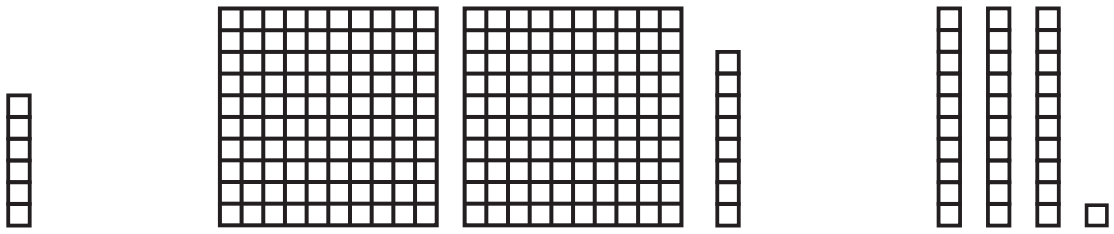
Sequencing

Build the following and place them in order left to right, smallest to largest. On this page, colour the blocks and then draw a circle around the smallest number of blocks shown, and a rectangle around the largest number of blocks. On the following page, build then colour the numbers shown as you write them in order from left to right, smallest to largest.

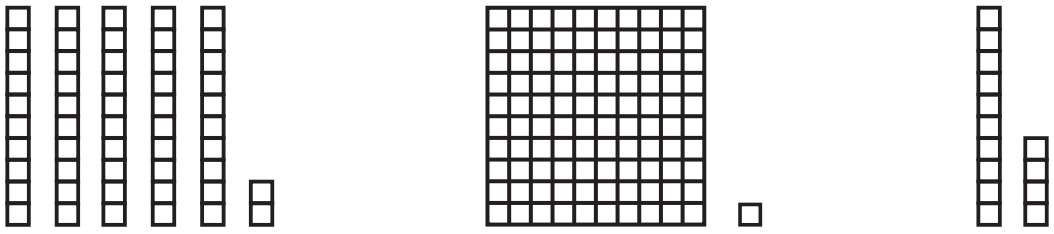
Example:



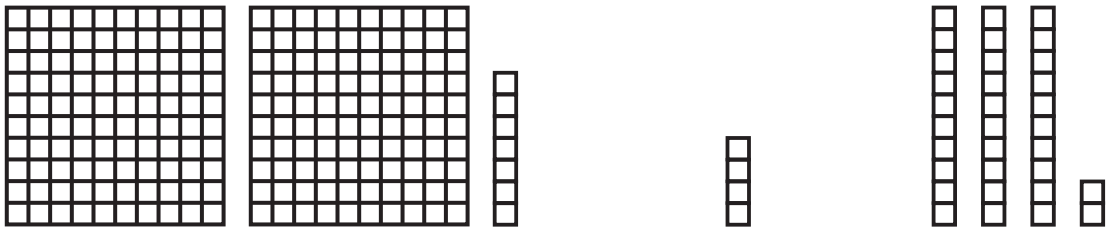
4 , 12 , 20



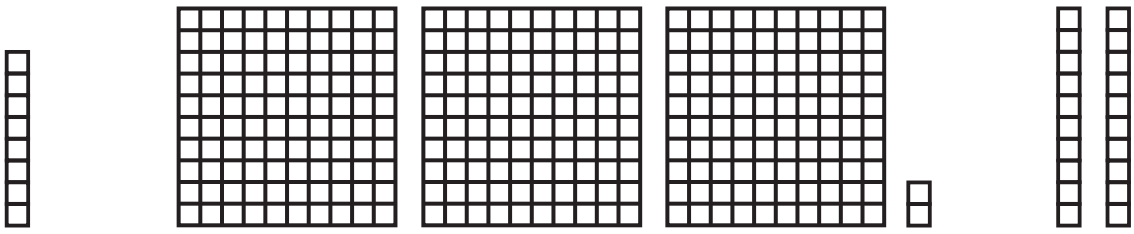
___ , ___ , ___



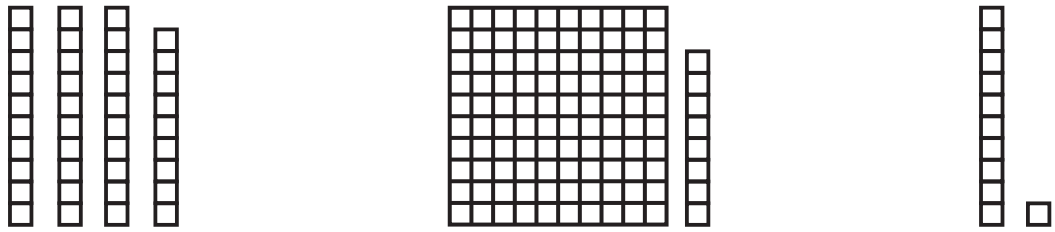
___ , ___ , ___



_____, _____, _____



_____, _____, _____



_____, _____, _____

Sequencing

Draw the following and write them in the correct order from left to right, smallest to largest.

4 55 162

____, ____, ____

16 3 136

____, ____, ____

11 54 341

____, ____, ____

79 78 75

___,___,___

17 15 51

___,___,___

152 65 98

___,___,___

Sequencing

Build the following to show the sequence then fill in the blanks with the correct numbers for each sequence to continue.

5 , 6 ,___,___, ___, 10

---

8 ,___,___, 11 , 12 ,___

---

6 ,___,___, 3 ,___ ,___, 0

---

10 , 9 ,___,___,___,___

___,___, 6 , 7 , 8 ,___,___

---

71 ,___,___, 74 ,___

34 , 36 ,___,___, ___ ,___

___, 15 ,___, 17 ,___,___

120,___,118,___,116,___,___

___,___, 7 ,___,___, 4 , 3

Sequencing

Fill in the blanks with the correct numbers for each sequence. Write underneath what you did with each sequence.

Example:

3 , 4 , 5 , 6 , 7 , 8 , 9 , 10

I added one to each number

---

12 , 14 , ___ , ___ , 20 , ___ , ___ , ___

---

1 , ___ , 5 , ___ , ___ , 11 , 13 , ___

___ , 10 , 12 , ___ , ___ , ___ , 20 , ___

---

112 ,___,___, 115 ,___,___,___,___

---

200 ,___, 204 ,___, ___ , ___ , 212

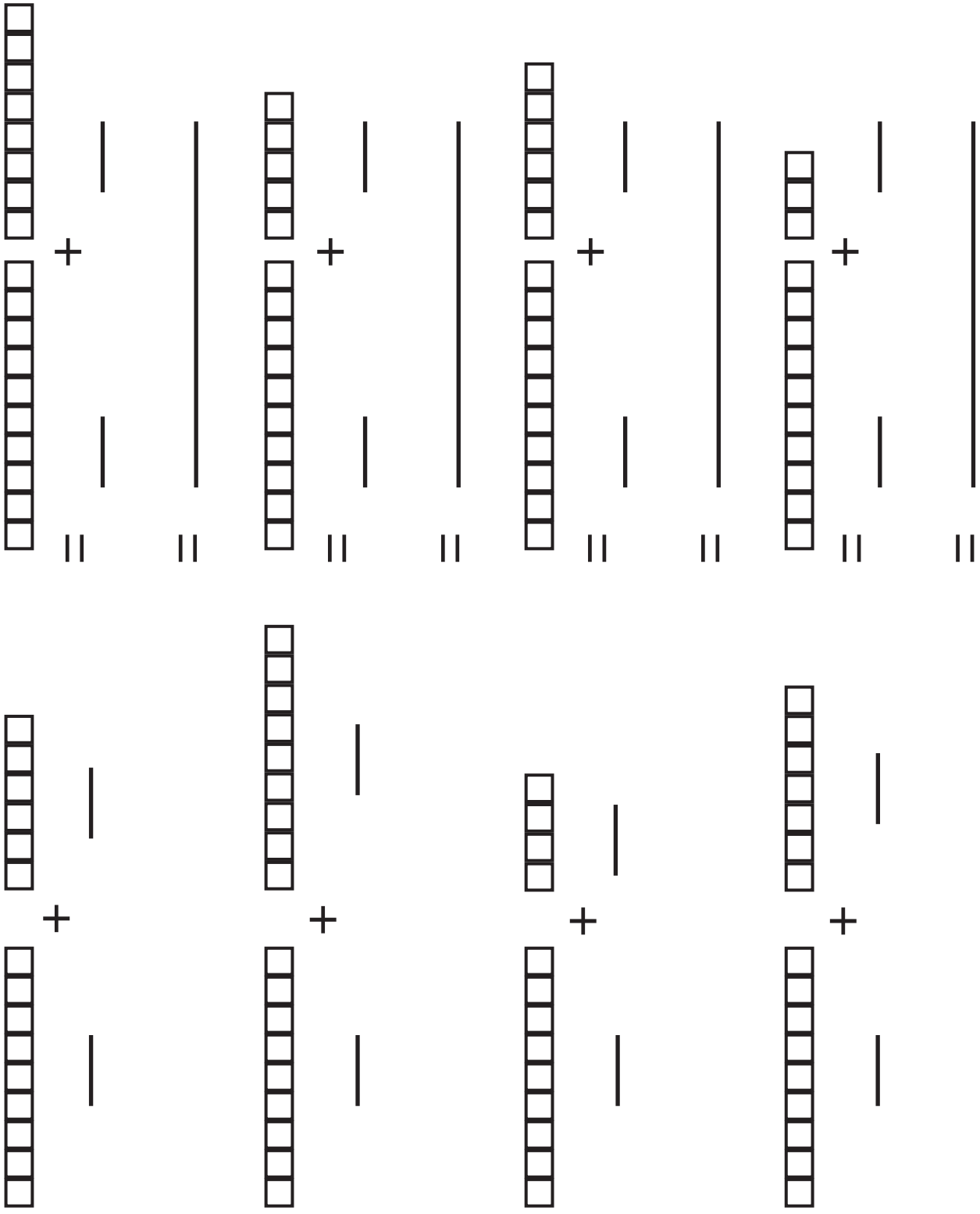
---

22 ,___,___, 16 ,___,___ , 10 ,___

___, 6 , 9 ,___,___,___, 21

Sequencing - Cumulative Review

Build the following questions and match the maths symbols to the answers shown with the blocks. Colour the blocks then write the maths symbols underneath to match the blocks.



Build, write, and say your answers to the following questions.

$$\begin{array}{r} 7 \\ +\ 9 \\ \hline \\ \hline \end{array} \qquad \begin{array}{r} 9 \\ +\ 8 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ +\ 2 \\ \hline \\ \hline \end{array} \qquad \begin{array}{r} 9 \\ +\ 4 \\ \hline \\ \hline \end{array}$$

$6 + 9 = \_\_$ $\qquad$ $9 + 3 = \_\_$

$9 + 9 = \_\_$ $\qquad$ $9 + 0 = \_\_$

Bethany ate nine grapes, and then she ate five more. How many grapes did she eat altogether?

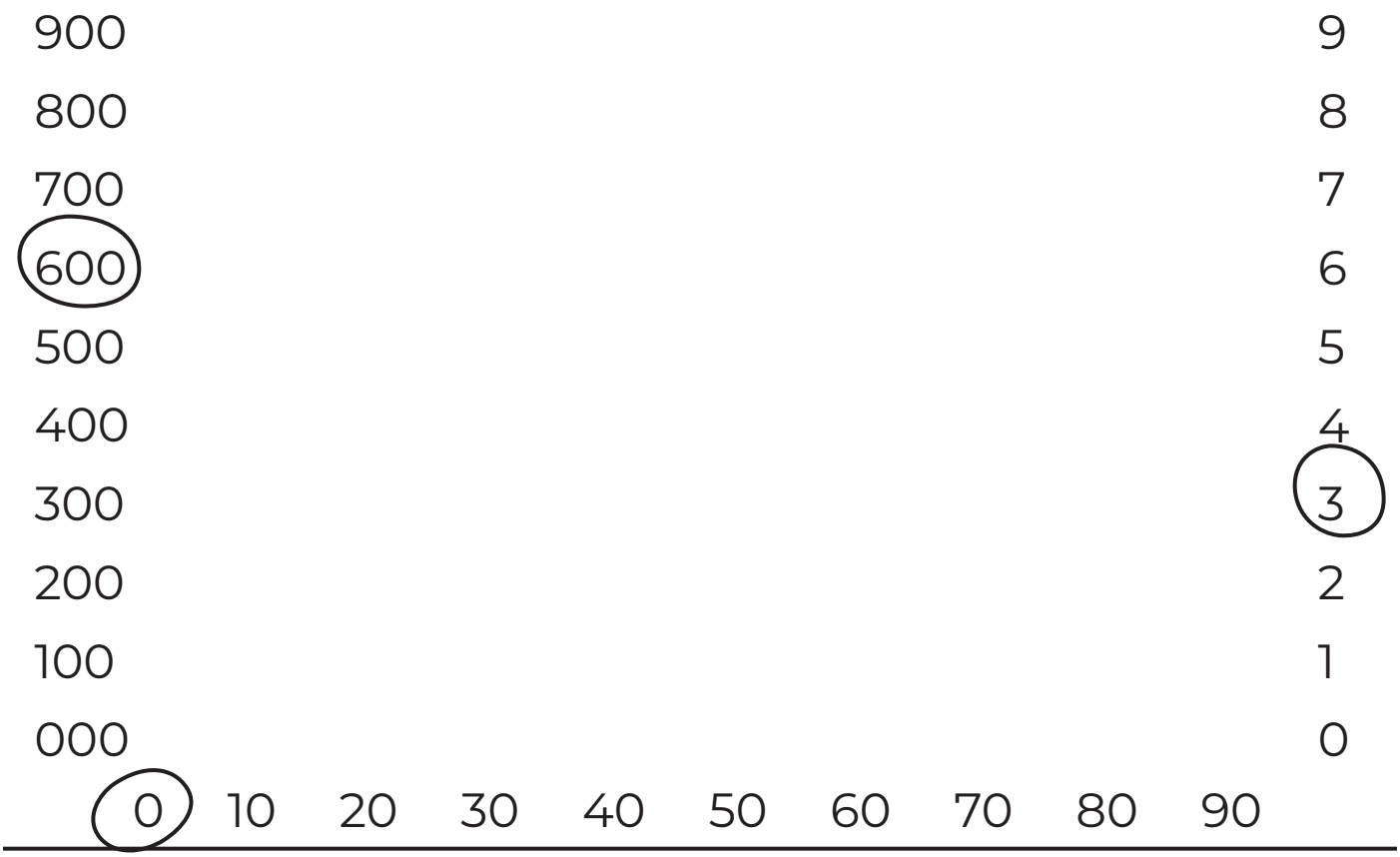
$\_\_ + \_\_ = \_\_$

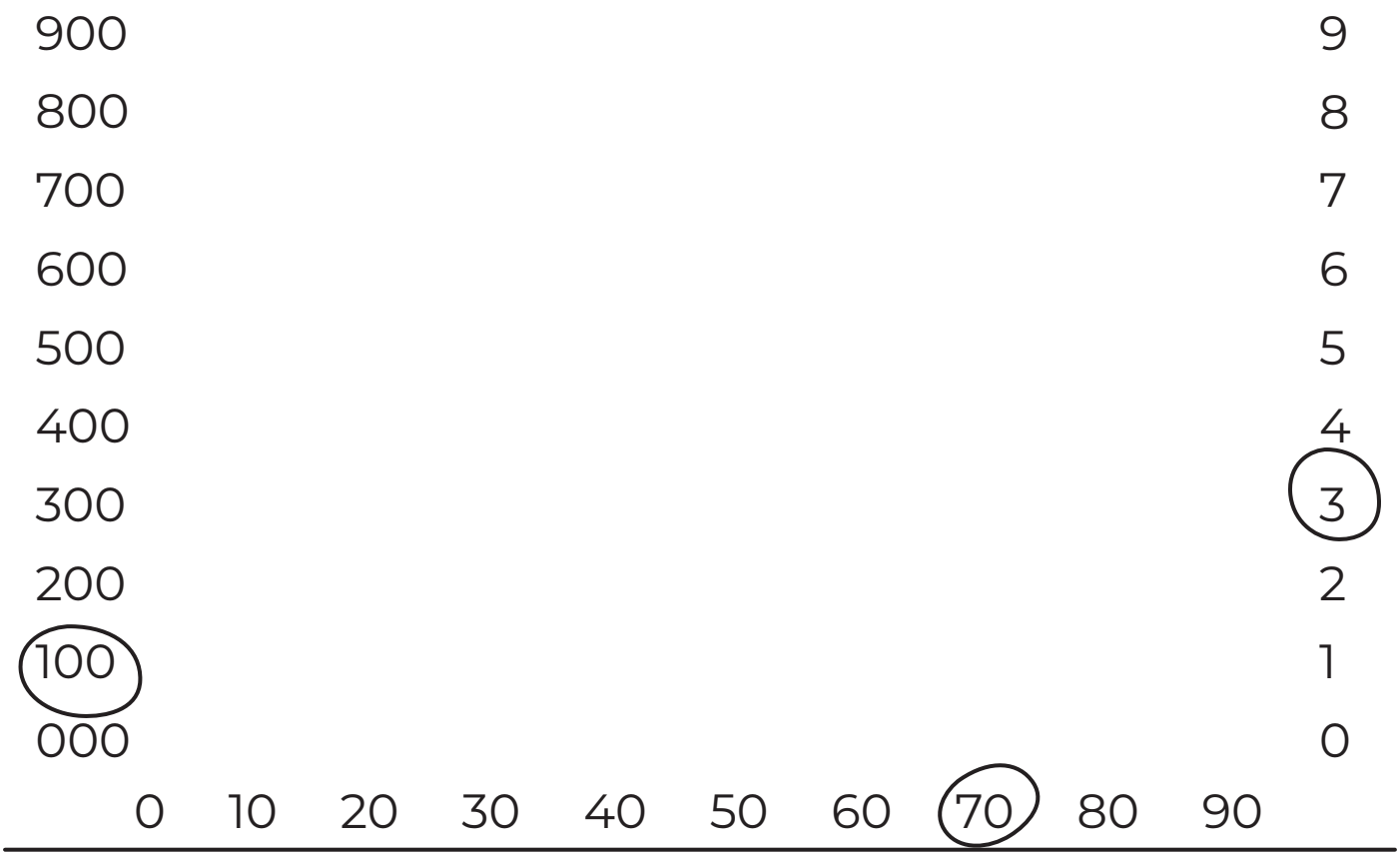
Scott's dog had nine puppies. He had no other puppies. How many puppies does Scott have altogether?

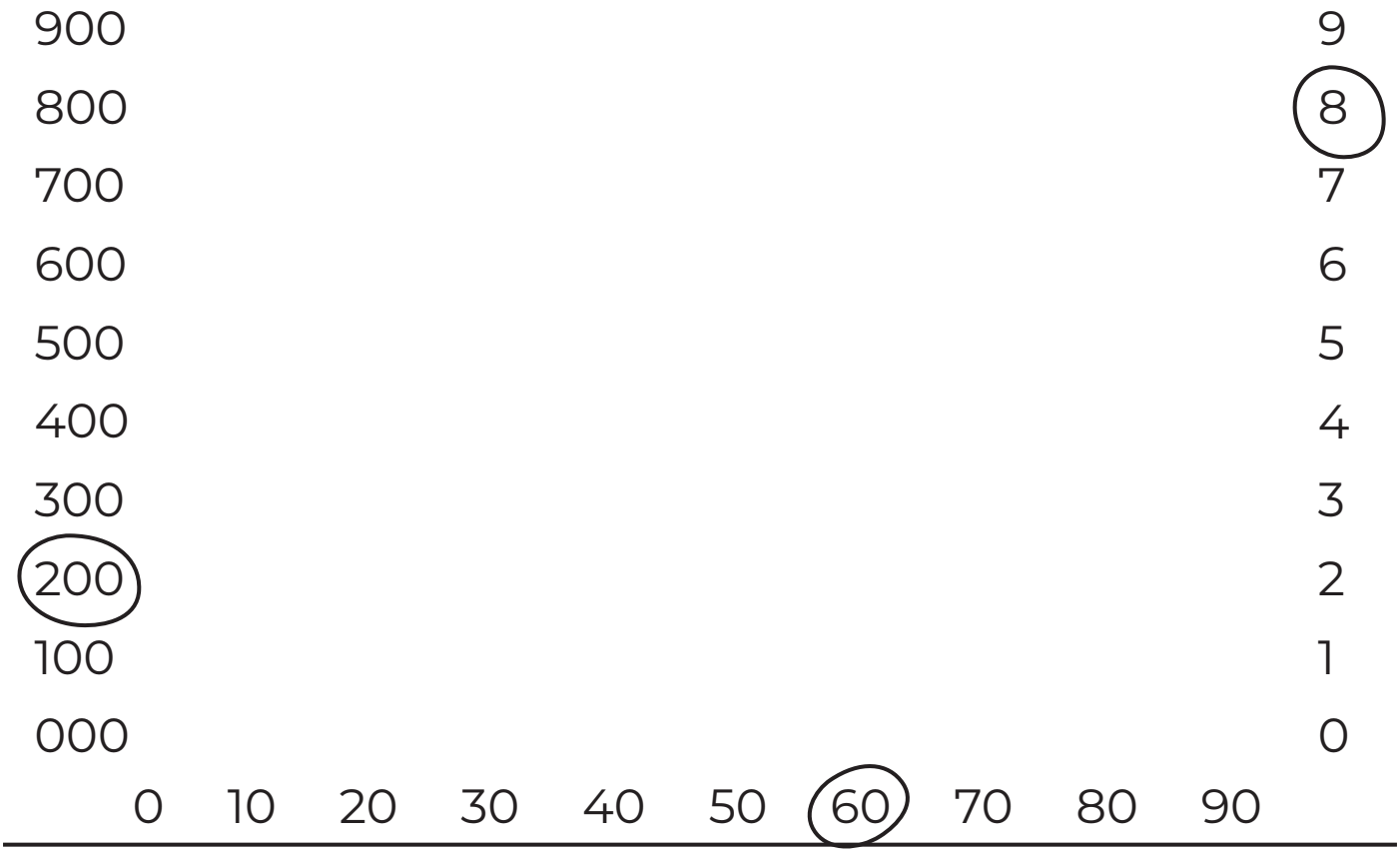
$\_\_ + \_\_ = \_\_$

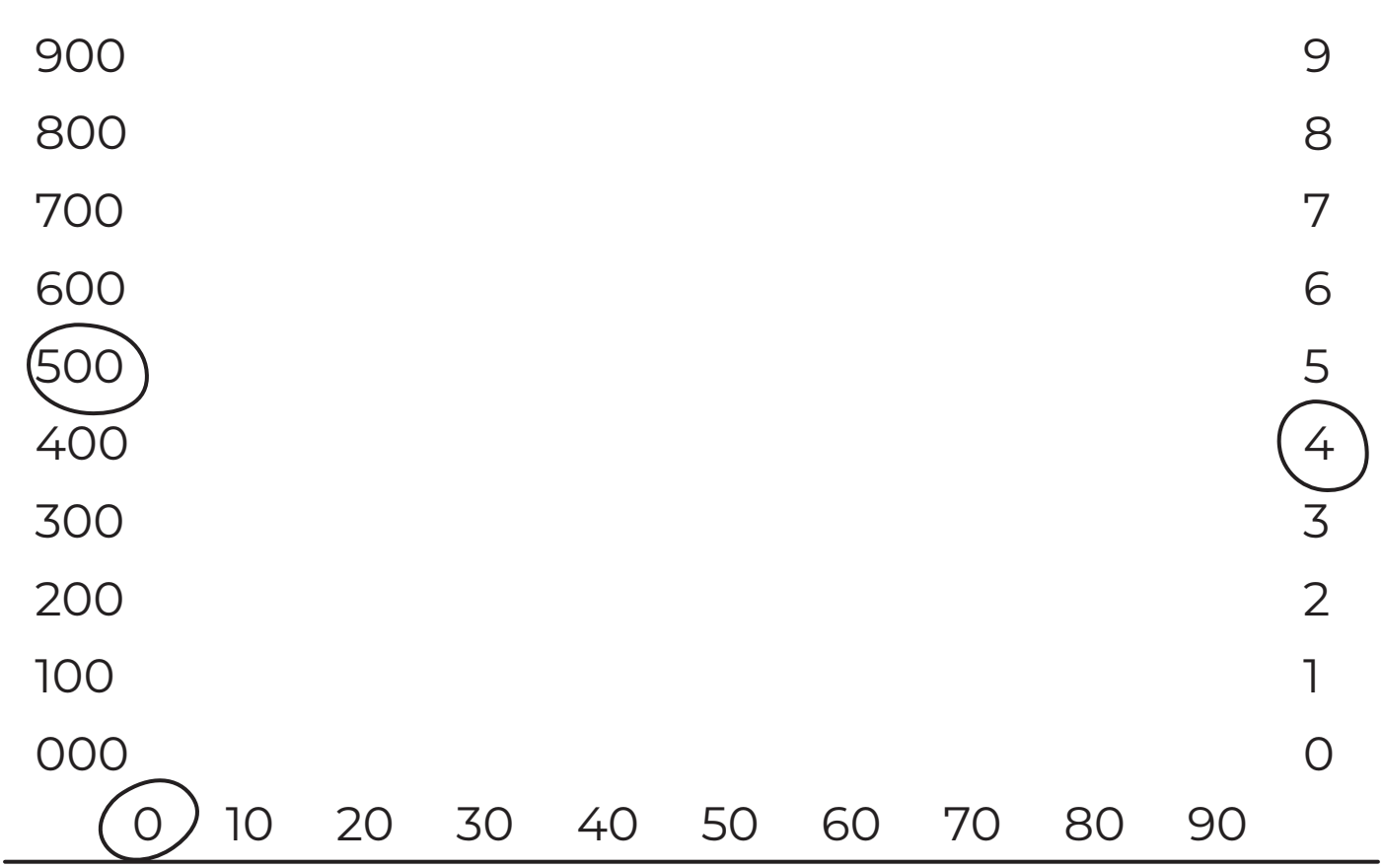
Sequencing - Cumulative Review

Draw the hundreds, tens and units circled. Colour them in and then write the number in the space below.






900
800
700
600
500
400
300
200
100
000
9
8
7
6
5
4
3
2
1
0
0 10 20 30 40 50 60 70 80 90


900
800
700
600
500
400
300
200
100
000
9
8
7
6
5
4
3
2
1
0
0 10 20 30 40 50 60 70 80 90

BRIGHTER MATHS

Creating a whole generation of kids that are confident in maths

ORANGE LEVEL TWO

FOCUS: Multiple Digit Addition And Subtraction

Pre-requisite: The student can add and subtract single digit numbers and understand place-value.

- **Place Value**
- **Sequencing And Inequalities**
- **Addition And Subtraction To Five Digits**
- **Rounding And Estimation To Thousands**
- **Gauges, Thermometers**
- **Measurement**
- **Money - Addition, Subtraction**
- **Skip Counting By Two, Five And Ten**
- **Bar Graphs, Line Graphs**
- **Real Life Application, And More....**

The ***Maths Australia*** strategy involves three components:

Video and written instruction for the teacher and student, hands-on manipulatives to make abstract maths concepts understandable, and student workbooks to provide practice and review.

Watch the video until you understand the new topic, read the instruction material to reinforce your own learning, then use the manipulatives to teach understanding. Relate the lesson content to real life questions, have the student draw accurate representations, and only then move to the abstract squiggles on the piece of paper.

The Student Workbook will enable you to ensure mastery before you progress your student to the next lesson, confident of what they have learnt.

We look forward to your student's outstanding success as you teach them the way they learn!

MATHS AUSTRALIA

ORANGE LEVEL TWO Student Workbook

Printed in Australia