



Maths

Number and Place Value



Need a coherently planned sequence of lessons to complement this resource?

Assessment Statements
By the end of this unit:

Children working towards the expected level will be able to:

- continue number sequences;
- recognise numbers in a variety of ways;
- partition numbers into hundreds, tens and ones;
- read and write numbers up to 1000 in numerals and words;
- count in multiples of 4, 10, 50 and 100 from zero;
- find 10 more or less than a given number up to 1000;
- find 100 more or less than a given number up to 500;
- compare numbers using inequality and equality signs;
- order numbers up to 1000;
- solve simple problems involving place value of three digit numbers.

Children working at the expected level will be able to:

- read in numerals up to 1000 in numerals;
- recognise multiples of four;
- recognise multiples of eight;
- recognise multiples of 100;
- recognise multiples of 1000;
- find missing numbers in a given sequence;
- solve problems involving two, three, and four digit numbers;
- solve problems involving place value;
- solve problems involving partitioning;
- solve problems involving comparing numbers;
- solve problems involving numbers representations;
- solve place value problems involving money.

Introduction

In this unit, the children will read and write numbers up to 1000 in numerals and in words and continue to identify the value of individual digits in a three-digit number. They will identify, represent and estimate numbers using different representations and compare and order numbers up to 1000, using mathematical vocabulary and symbols. Children will focus on counting from 0 in multiples of 4, 5, 50 and 100 and find 10 or 100 more or less than a given number. Finally, children will have the opportunity to use all of their number and place value skills to solve a range of problems.

Teacher Note: The year 3 place value objective count from 0 in multiples of 4, 10, 50 and 100, find 10 or 100 more or less than a given number is closely linked to the '3' Multiplication and Division objective read and use multiplication and division facts for the 3, 4 and 6 multiplication tables. Please head over to the Multiplication and Division topic area to find some more support lessons to support counting in multiples of 4 and 8.

Resources
A range of practical apparatus to support children's understanding of place value, such as:

- base ten blocks
- interlocking cubes
- items which can be grouped into tens, such as straws
- place value grids
- place value flip charts
- place value counters
- ten frames

Number and Place Value
Maths | Year 3 | Object to Progression Overview

The aim of this resource is to support teachers using White Rose Maths to show the most coherent and progressive sequences to teach each area of maths. We also want to fully support teachers who use the White Rose Maths scheme of learning to make full use of the resources available within White Maths, wherever possible lesson packs have been matched to each of the annual steps on the White Rose Maths scheme of learning.

Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value			Number: Addition and Subtraction				Number: Multiplication and Division			Consolidation	
Spring	Number: Multiplication and Division			Measurement: Money	Statistics		Measurement: Length and Perimeter		Number: Fractions		Consolidation	
Summer	Number: Fractions			Measurement: Time		Geometry: Properties of Shapes		Measurement: Mass and Capacity			Consolidation	



Counting in Eights





Aim

- To count in multiples of eight.

Success Criteria

- I can count forwards in steps of eight.
- I can count backwards in steps of eight.
- I can recognise multiples of eight.



Remember

In pairs or threes, take turns to count in ones using these rules:

Every multiple of 2 is replaced with the word



Every multiple of 4 is replaced with the word



Every multiple of 5 is replaced with the word



Did you spot a pattern with the words used?

Were there any numbers that required more than one word?

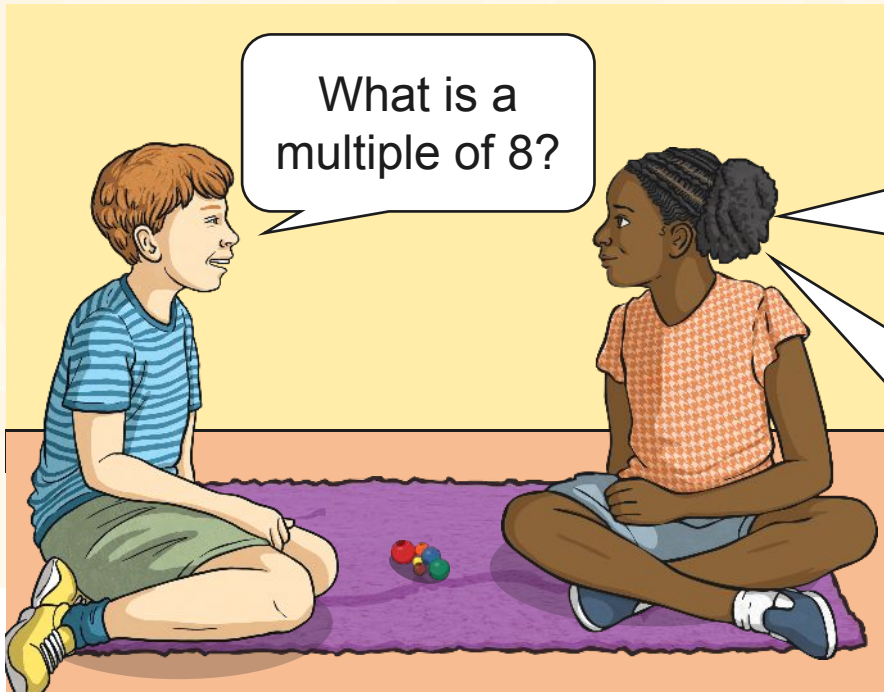




Making Jewellery – Counting Forwards

Helena is making jewellery.

Today, she is going to use coloured beads in multiples of 8.

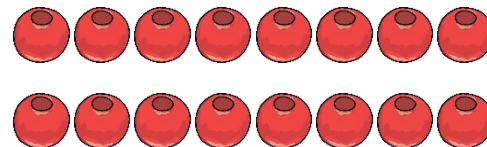


What is a multiple of 8?

Multiples of 8 are a counting pattern where we count in steps of 8 from zero.



The next number in the counting pattern is 16. Can you think what would come next?



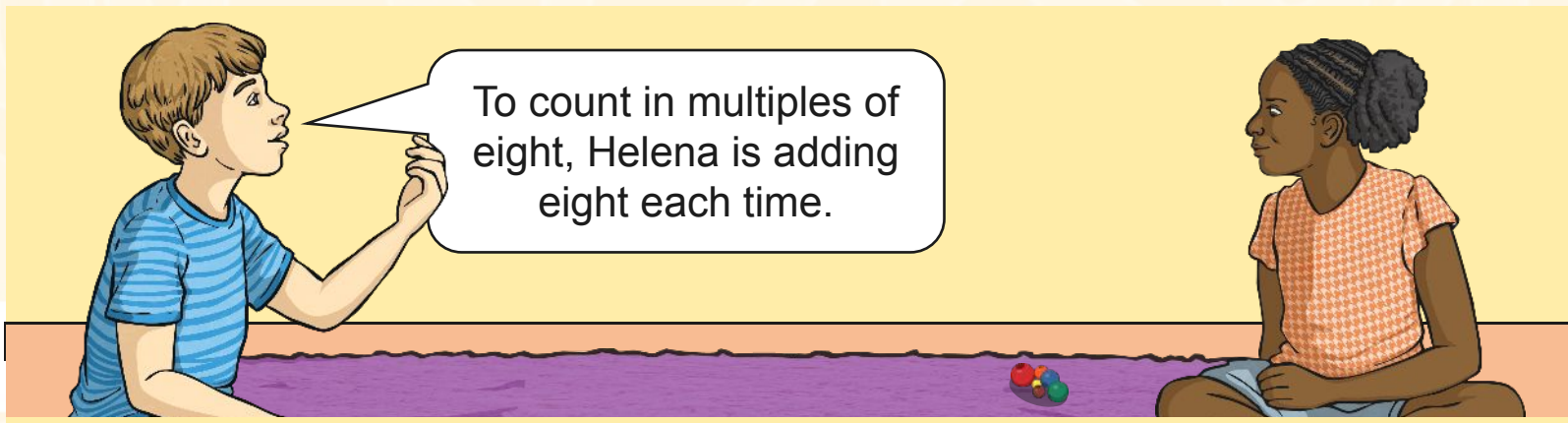
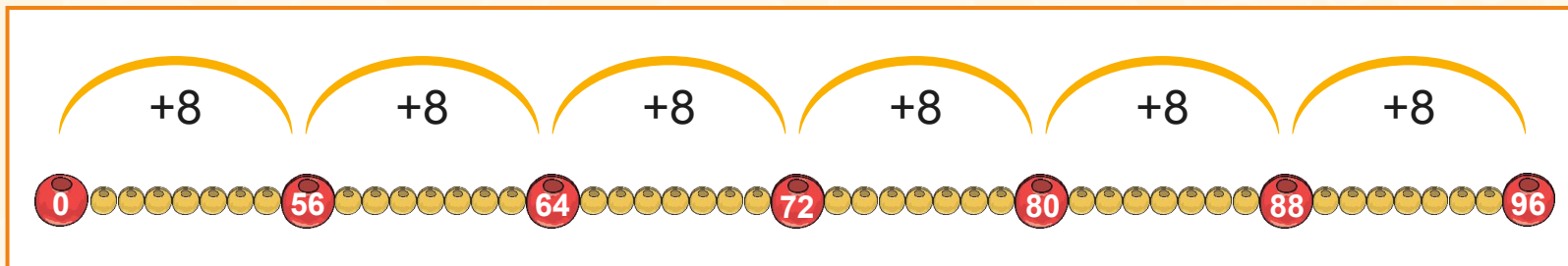


Making Jewellery – Counting

Forward

Helena wants to count her beads in multiples of 8 from zero.

Let's help her!

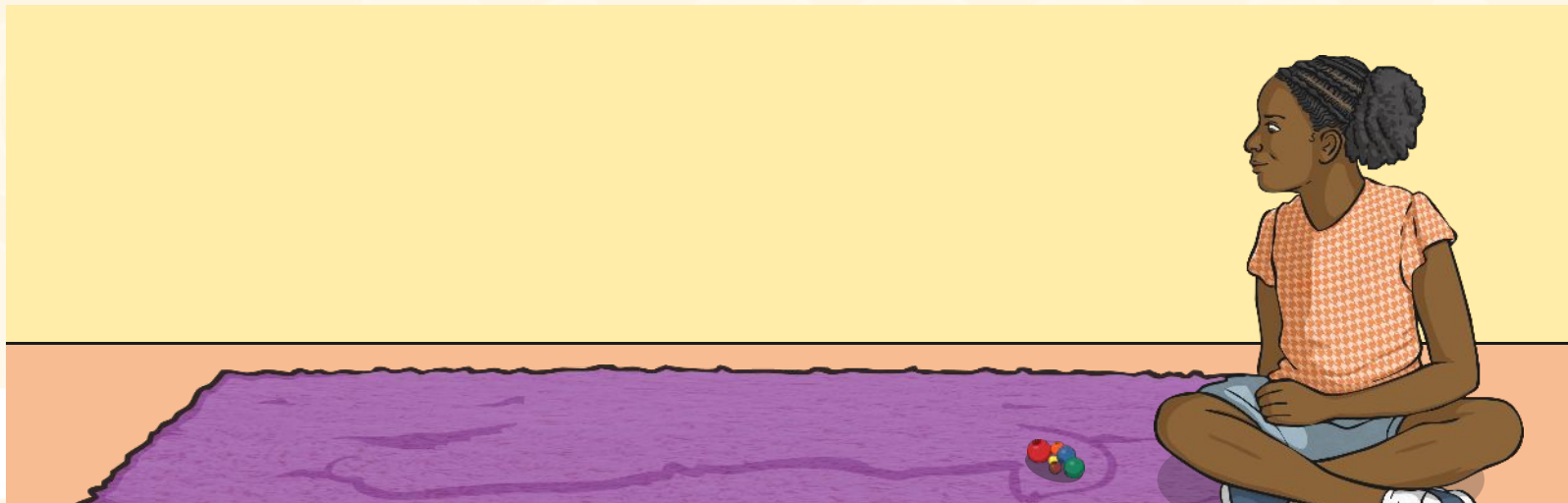
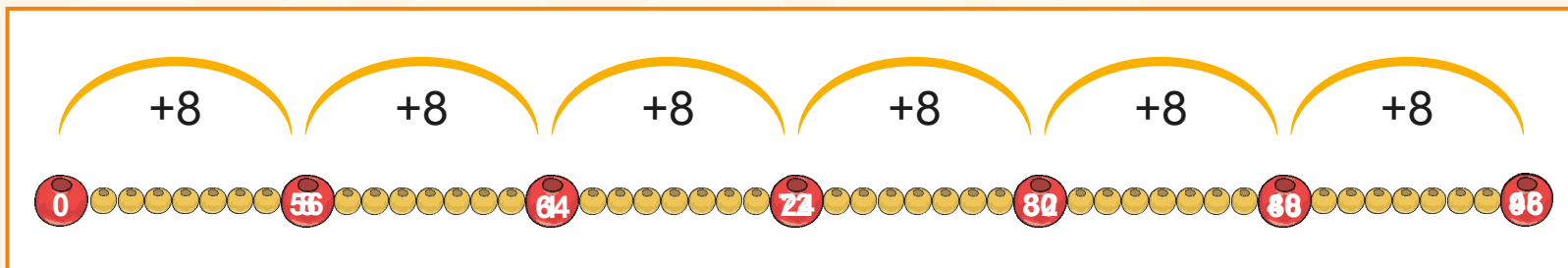




Making Jewellery – Counting

Forward

Let's have a go again but this time, Helena wants you to predict the next number before she counts.

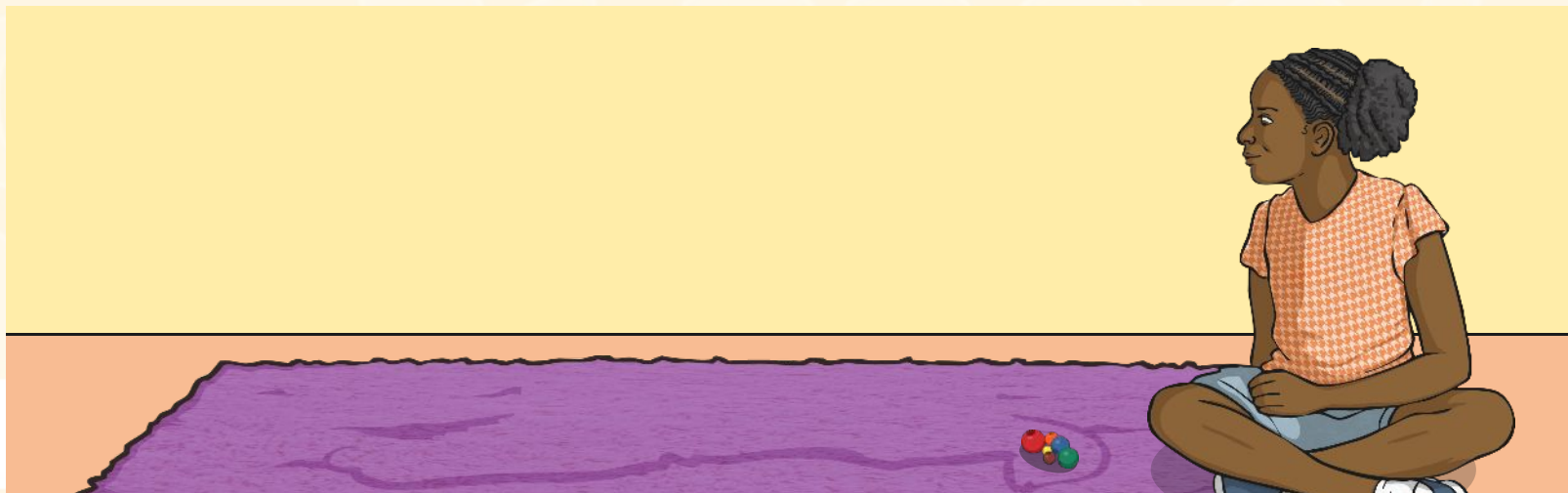
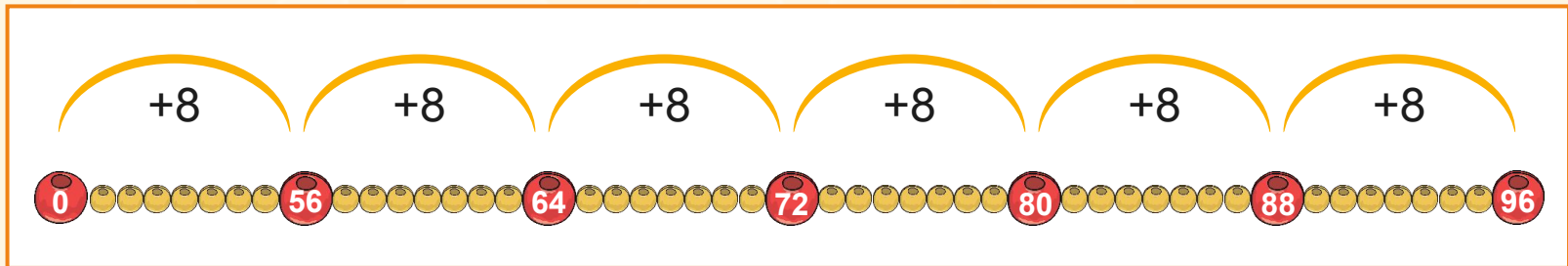




Making Jewellery – Counting

Forward

Helena wants you to practise counting up and down in multiples of 8 in your loudest voice.

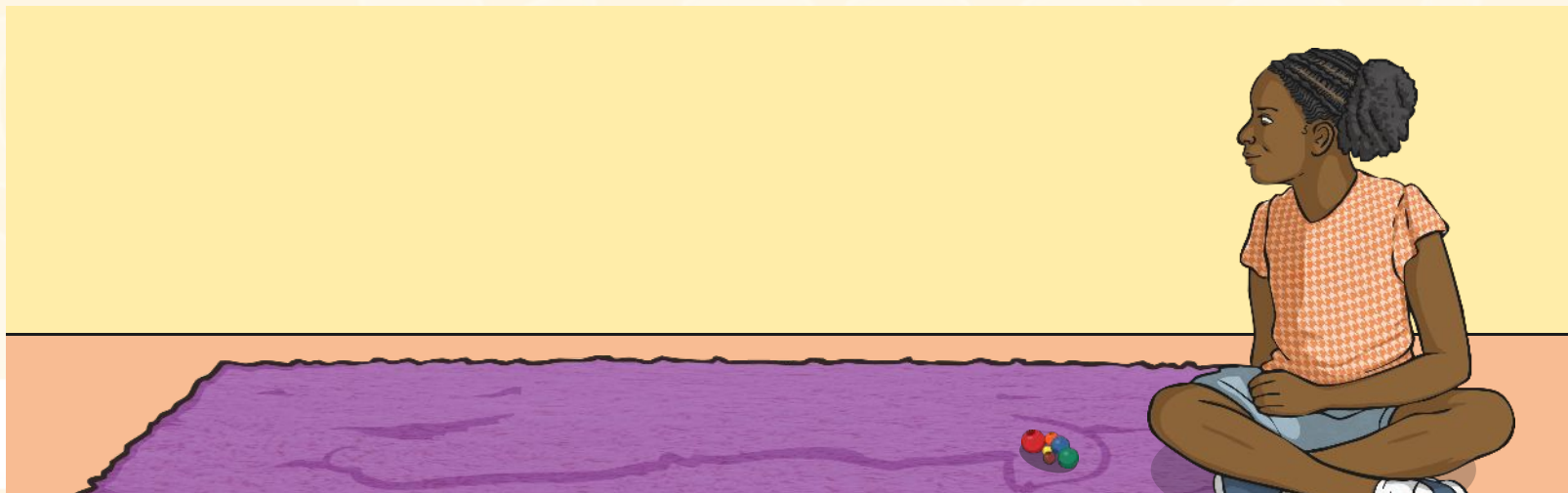
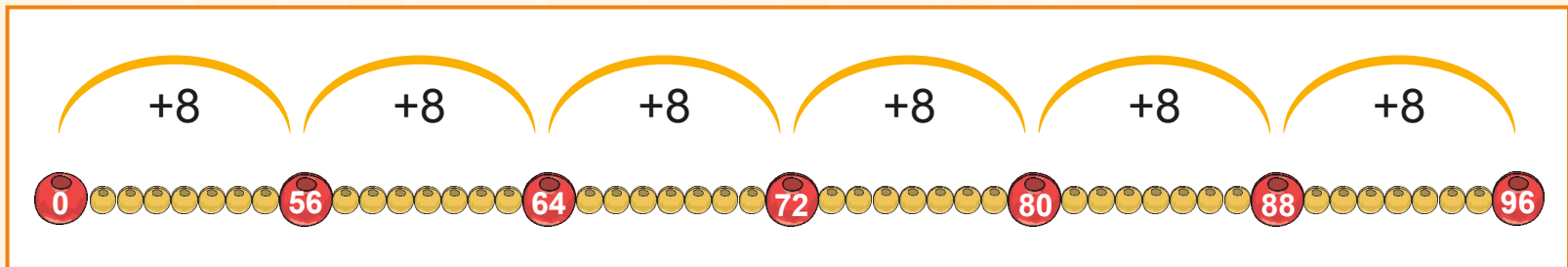




Making Jewellery – Counting

Forward

Helena wants you to practise counting up and down in multiples of 8 in your soft voice.

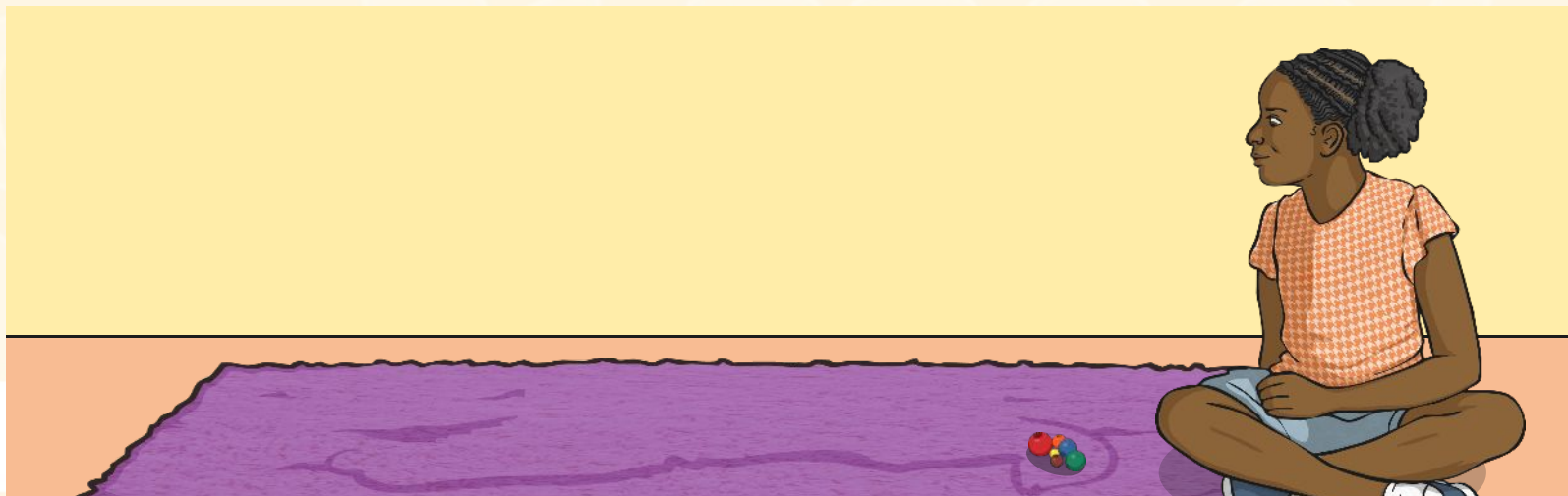
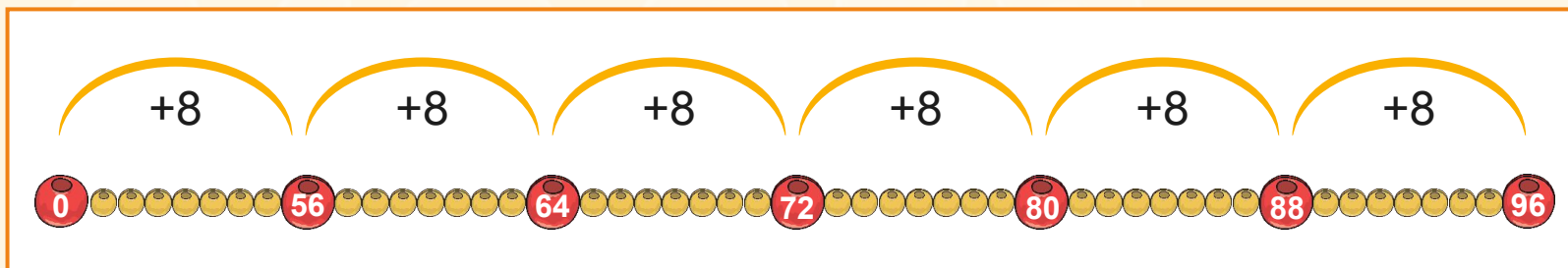




Making Jewellery – Counting

Forward

Helena wants you to practise counting up and down in multiples of 8 while pretending to thread beads onto a string.





Making Jewellery – Counting

Forward

Helena wants you to find out how many beads she will have next.

Can you predict how many beads she will have?



Can you predict what the next 3 numbers will be?



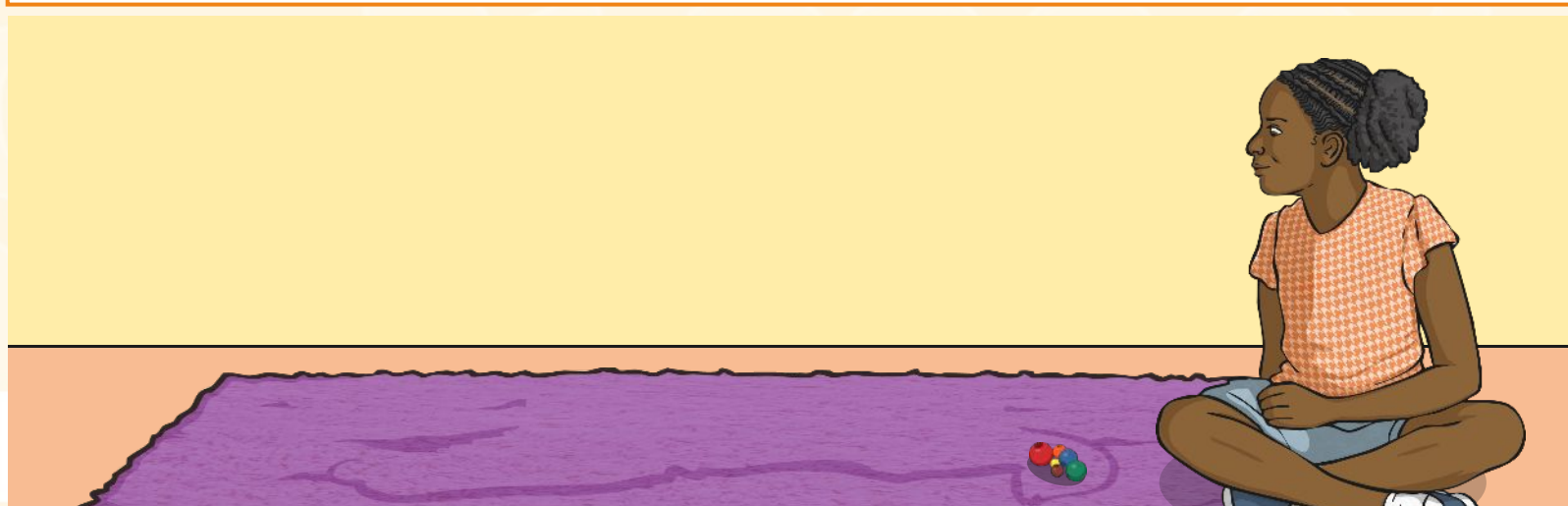
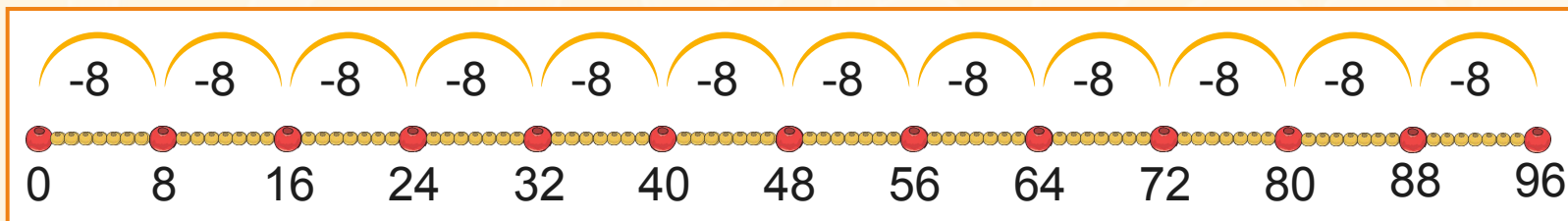
What do you notice about the multiples of 8?



Making Jewellery – Counting Backwards

Helena is a whizz at counting forwards in multiples of eight, so she practises counting backwards.

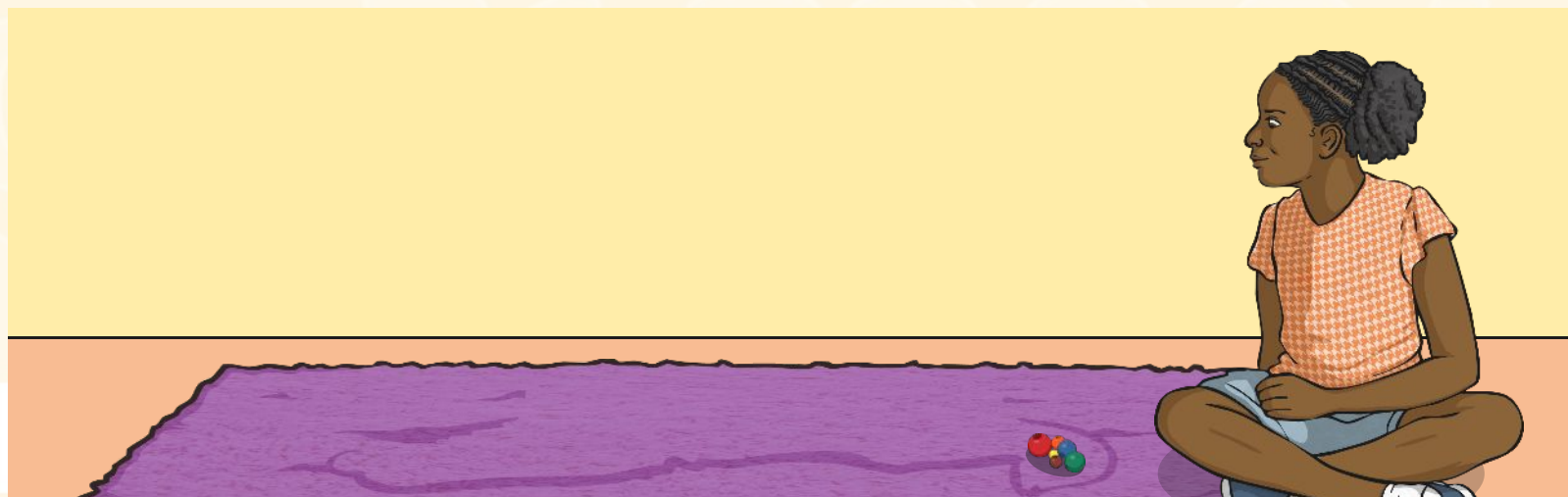
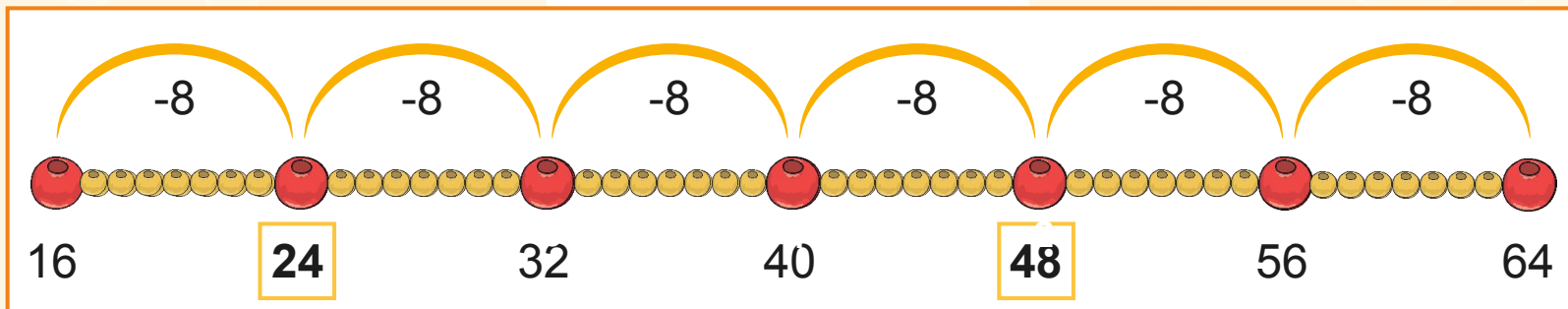
Count along with her.





Making Jewellery – Counting Backwards

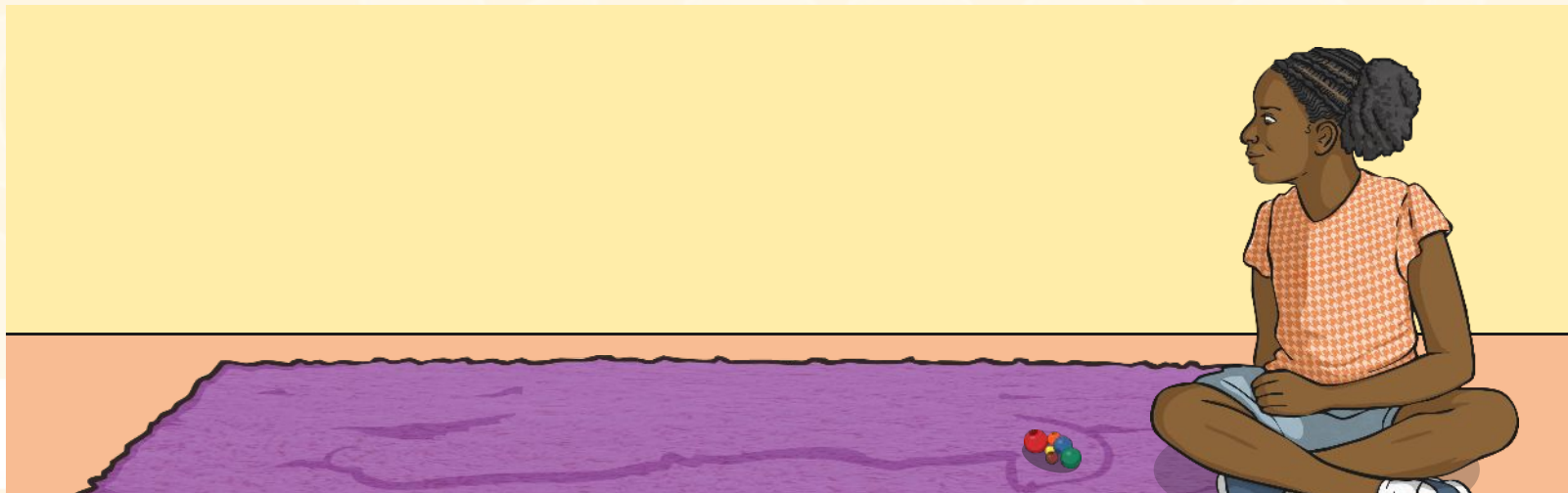
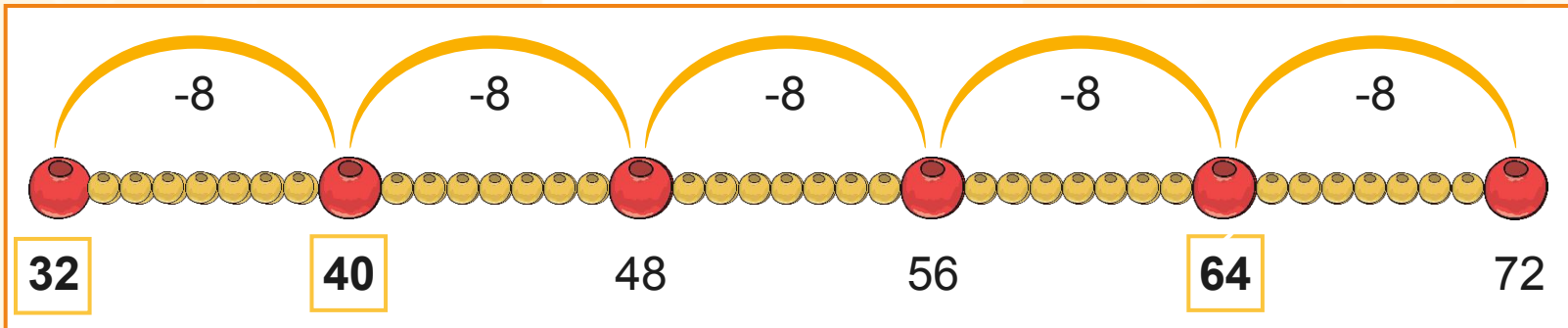
Help Helena to label the beads correctly. Count backwards from 64.





Making Jewellery – Counting Backwards

Help Helena to label the beads correctly. Count backwards from 72.

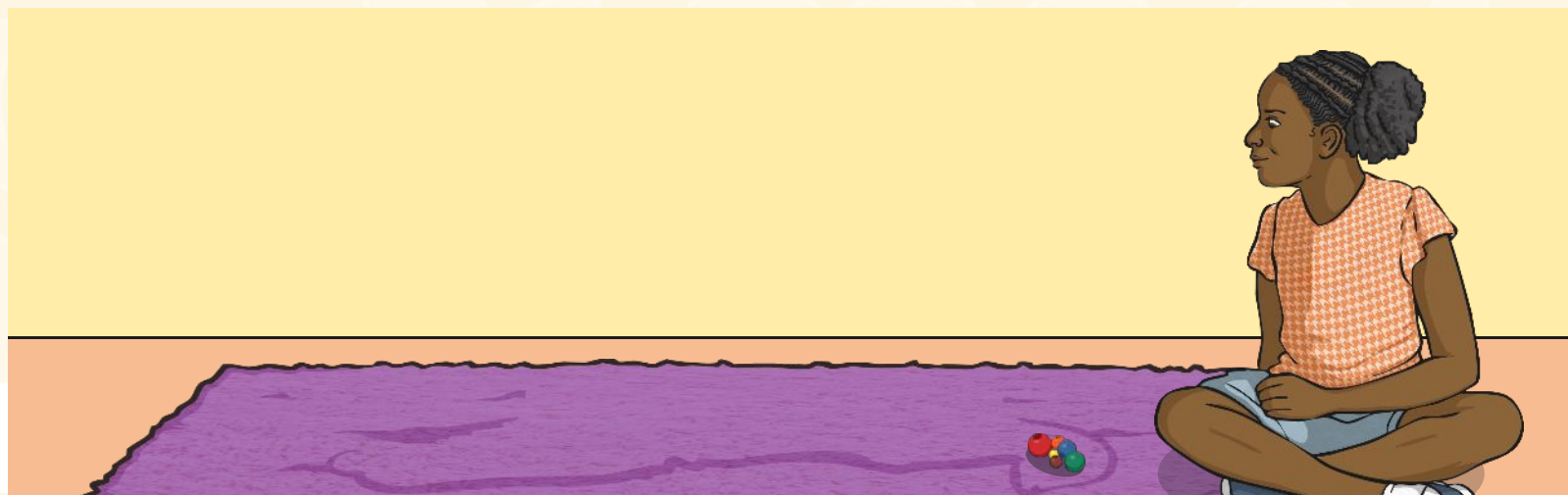
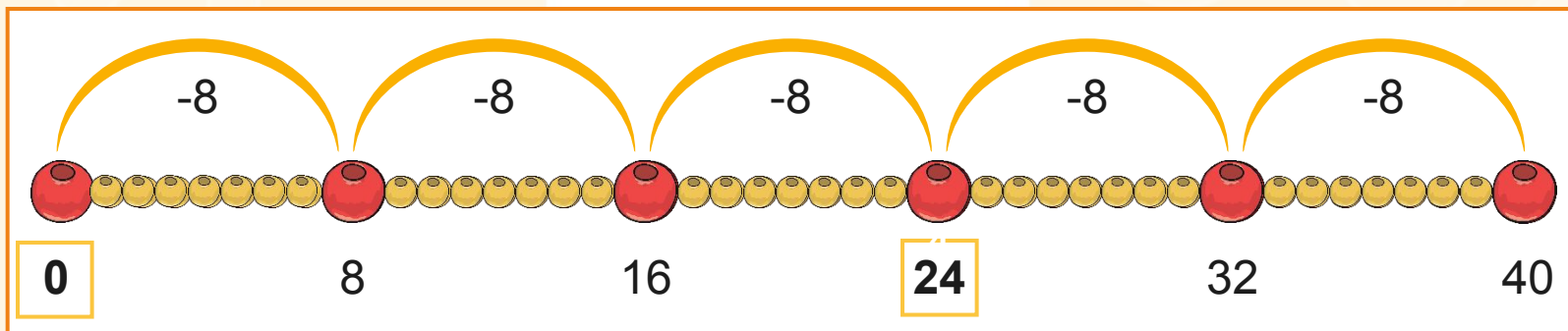




Making Jewellery – Counting Backwards



Help Helena to label the beads correctly. Count backwards from 40.





Multiples of Eight Jewellery

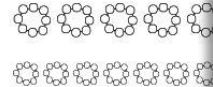


Multiples of Eight

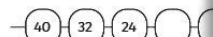
1. Oh no! Frederick has forgotten you fill in the missing numbers.



There are 8 beads in each bracelet.



2. Some of Frederick's friends are their bracelets?



3. Draw your own bracelet with forwards or backwards.

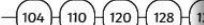
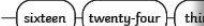
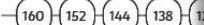
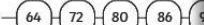


Multiples of Eight

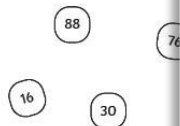
1. Elira needs some help to identify 8 in the grid.

1	2	3	4	5
11	12	13	14	15
21	22	23	24	25
31	32	33	34	35
41	42	43	44	45
51	52	53	54	55
61	62	63	64	65
71	72	73	74	75
81	82	83	84	85
91	92	93	94	95

2. Mika has made some bracelet patterns correct? Circle any



3. Here are the beads that are If she was going to make a Cross out the ones which sh

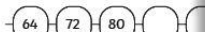


4. Jasmine counted in steps of this bead she knew straight

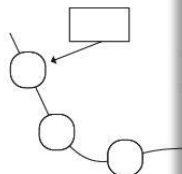
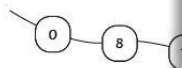
Explain why you think Jas

Multiples of Eight

1. Tom has made some bracelet beads, to complete the sequ



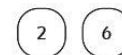
2. Here is a necklace that Cara complete the numbers which



How did you know which nu the missing numbers witho

Multiples of Eight Jewellery

3. Aaron makes his numbers using one-digit beads, e.g. if he wants to make 26, he uses a 2 and a 6 bead.



He says all multiples of 8 are even so he only needs to use even numbers in his bracelet. Is he correct?

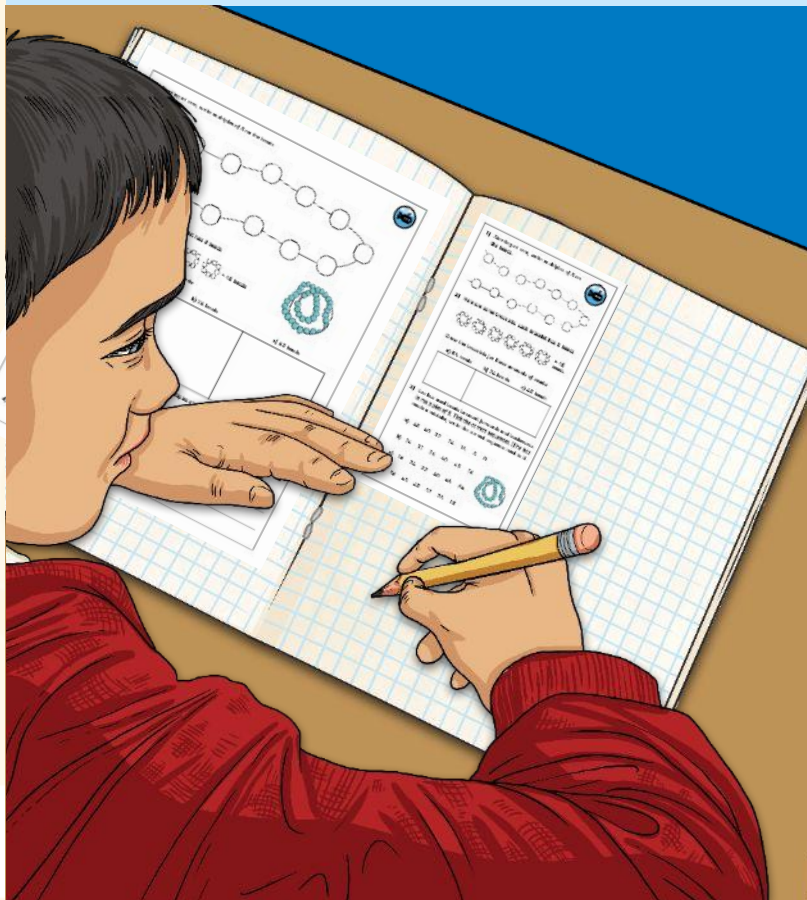
4. Maaria says, 'I can use my 4 times table to work out multiples of 8 for my bracelet.' Is she correct?



Diving into Mastery



Dive in by completing your own activity!



1) Starting at zero, write multiples of 8 on the beads.



2) Here are some bracelets. Each bracelet has 8 beads



Draw the bracelets for these amounts of beads:

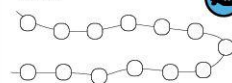
- a) 56 beads b) 24 beads c) 40 beads

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3) Leo has used beads to count forwards and backwards in multiples of 8. Tick the correct sequence. If he has made a mistake, write the correct sequence next to it.

- a) 48 40 32 24 16 8 0
 b) 24 32 36 40 48 56
 c) 16 24 32 40 46 54
 d) 56 48 40 32 26 18

1) Starting at zero, write multiples of 8 on the beads.



2) Here are some bracelets. Each bracelet has 8 beads



Draw the bracelets for these amounts of beads:

- a) 56 beads b) 24 beads c) 40 beads

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3) Leo has used beads to count forwards and backwards in multiples of 8. Tick the correct sequence. If he has made a mistake, write the correct sequence next to it.

- a) 48 40 32 24 16 8 0
 b) 24 32 36 40 48 56
 c) 16 24 32 40 46 54
 d) 56 48 40 32 26 18

...es in a box. Khatija has ... She thinks she will need ...

...ct? Explain your answer using words

	True	False	Two Examples
of not			
digits.			
e			
of two.			
of never			
of five.			
digits			
ic			
total			
is be			
umber.			
e			
of four.			

...ve each written down a different ...

My multiple of eight is greater than 30 and it is less than Leo's multiple of eight.



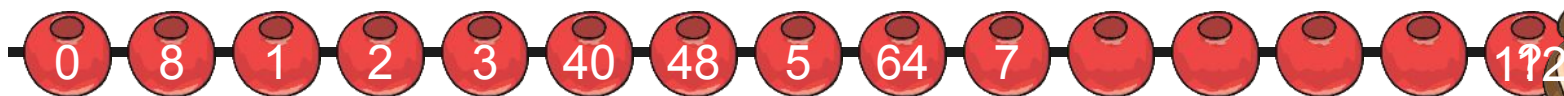
...be 32? Explain why you think this.



Broken



Helena continues to add beads to this bracelet. She adds five more beads. What would the number on the last bead be? How did you work this out?



Can you think of another way to work out the answer?



Aim



- To count in multiples of eight.

Success Criteria

- I can count forwards in steps of eight.
- I can count backwards in steps of eight.
- I can recognise multiples of eight.

