

Number and Algebra: Number and Place Value: Round and Round

Australian Curriculum

This lesson plan could be used to support the teaching and learning of the following Content Descriptions from the Australian Curriculum.
















Y5 – Number and Algebra, Number and Place Value

Use estimation and rounding to check the reasonableness of answers to calculations (ACMNA099)

<p>Child Friendly Aim: I can round any whole number to the nearest 10, 100, 1000, 10 000 or 100 000.</p>	<p>Success Criteria: I can identify the values above and below a number. I can identify which digit to focus on when rounding to different values. I can identify which digits to round up and which digits to round down.</p>	<p>Resources: Lesson Pack 0-9 dice - 1 per pair Coloured counters - approximately 10 per child</p>
	<p>Key/New Words: Ones, tens, hundreds, thousands, ten thousands, hundred thousands</p>	<p>Preparation: Differentiated Roll and Round Card - 1 per pair, cut out before the lesson Differentiated Roll and Round Activity Sheet - 1 per pair Round and Round Number Line - printed and laminated as required</p>

Prior Learning: It will be helpful if children have covered place value of numbers up to 1 000 000.

Learning Sequence

	<p>Number Reasoning: Using the digits 0-9, children write a six-digit number in figures and in words. Children answer the questions shown on the Lesson Presentation using their number as a starting point. Children discuss the reasoning question 'is it true to say that any number can be made using the digits 0-9?' with their partner. Can children reason about numbers?</p>	
	<p>Rounding Numbers: Introduce the concept of rounding numbers, referring to the Lesson Presentation.</p>	
	<p>Find the Nearest: Use the Lesson Presentation to explain how to round numbers to different values. Share the examples shown on the Lesson Presentation and work through them. Click to explain that we first find the tens numbers (or hundreds numbers, or thousands numbers) either side of the number to be rounded. Click to explain how to place the number on the number line, or how to find which digit to focus on when deciding to round up or down. Click again to show that we round down for one, two, three and four, and round up for five, six, seven, eight and nine. Click to show how to work through the examples shown on the Lesson Presentation. Children choose one of the numbers from the differentiated table on the Lesson Presentation. Can children round the number to the required values? Share the answers and address any misconceptions.</p>	
	<p>Build a Number: Children use all or some of the digits on the number cards shown on the Lesson Presentation to make numbers that round to the given values. Go through the answers and discuss any issues. Can children make numbers that round to given values?</p>	
	<p>Roll and Round: Children play the game described on the Lesson Presentation. Children take turns to roll a number using the 0-9 dice, then draw a differentiated Roll and Round Card to find out the value to which they should round their number. Children try to find their rounded answer on the game board on the differentiated Roll and Round Activity Sheet, then cover the answer with their coloured counter. The winner is the player with most of their coloured counters of the board at the end of the game. Can children round numbers to given values?</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div>  <p>Round to the nearest 10, 100, 1000, 10 000 and 100 000 using the Round and Round Number Line.</p> </div> <div>  <p>Round to the nearest 10, 100, 1000, 10 000 and 100 000.</p> </div> <div>  <p>Round to any given degree of accuracy.</p> </div> </div>	
	<p>Top Tips: Children work with a partner to devise their 'Top Tips' for rounding numbers to different values. Pairs share their tips with their group.</p>	

Masterit

Roundit: Use these differentiated activity sheets to round to the nearest

Findit: Challenge children to find population data for different countries. Can they round the population figures to the nearest 10, 100 and 1000?



Mathematics

Number and Algebra

Round and Round



Aim

- I can round any whole number to the nearest 10, 100, 1000, 10 000 or 100 000.

Success Criteria

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Number Reasoning



Using the digits 0 - 9, write down a 6-digit number.
Write it in digits and in words.

What is 100 more than your number?

What is 10 000 less than your number?

What is one hundred thousand more
than your number?

Share your answers with a
partner and explain how you
got to your answers.



Number Reasoning



Is it true to say that using the digits 0 - 9, you can write down any number?

Explain your thoughts
to a partner.



Rounding Numbers

Rounding is a way of making a number simpler, but still close to its original value.



Rounding makes it easier to describe and understand numbers. It can make calculations easier, as you will be working with simpler numbers.

We round numbers any time we are not exact about a number. For example, if we describe a distance as 'about a mile', we are rounding the exact distance to a simpler number. Or if we say an activity takes 'about 30 minutes', we are rounding the exact time to a simpler number that is easier to understand.

Find the Nearest



When we round a number, we say which number it is nearest to. This might be the nearest tens number, the nearest hundreds number, the nearest thousands, ten thousands or hundred thousands number!

In order to round to a particular value, we need to know which digit to focus on to tell us whether to round up or round down.

The rule for identifying the digit to focus on is to look at the digit in the place before the value we are rounding to.

For example, if we want to round to the nearest 10, we will look at the number in the ones place. This is because ones are in the place before tens.

3686

Let's look at some examples!

Find the Nearest



Round 5623 to the nearest 10.

We can also see on the number line that 5623 is nearer to 5620 than 5630.

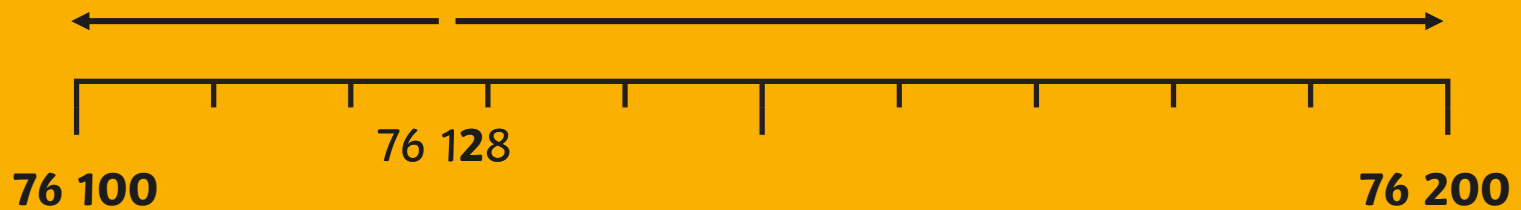


Find the Nearest



Did you get it?

It is nearer to 76 100 on the number line, and the tens digit is 2. 1, 2, 3 and 4 tell us to round down.

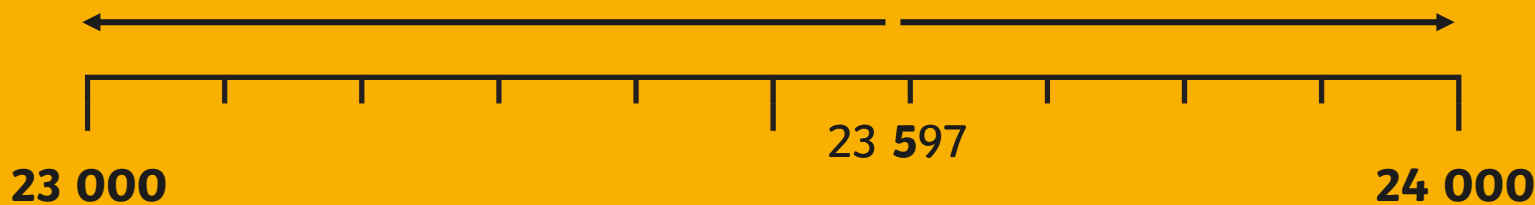


Find the Nearest



How did you do?

It is nearer to 24 000 on the number line, and the hundreds digit is 5. 5, 6, 7, 8 and 9 tell us to round up.



Find the Nearest



Choose one of the numbers from the table and round them to the different values.
You can use the diagram below to help you.

Round to the nearest 10 and 100.	Round to the nearest 10, 100 and 1000.	Round to the nearest 10, 100, 1000 and 10 000.
673	5785	56 763
9834	14 564	572 594



Find the Nearest



Let's check the answers:

Round to the nearest 10 and 100.	Round to the nearest 10, 100 and 1000.	Round to the nearest 10, 100, 1000 and 10 000.
<p>673 670 and 700</p>	<p>5785 5790, 5800 and 6000</p>	<p>56 763 56 760, 56 800, 57 000 and 60 000.</p>
<p>9834 9830 and 9800</p>	<p>14 564 14 560, 14 600 and 15 000</p>	<p>572 594 572 590, 572 600, 573 000 and 570 000.</p>

Build a Number



6

7

1

3

Using some or all of the digits in the cards above can you build a number that:

Rounds to 70 when rounding to the nearest 10?

67

71

73

Build a Number



6

7

1

3

Using some or all of the digits in the cards above can you build a number that:

Rounds to 600 to the nearest 100?

617

613

631

637

Build a Number



6

7

1

3

Using some or all of the digits in the cards above can you build a number that:

Rounds to 3000 to the nearest 1000?

3167

3176

Roll and Round!



Play this game using your rounding skills.

Roll and Round Cards

I can round any whole number to the nearest 10, 100, 1000, 10 000 or 100 000.

Cut out these cards and use them to play the Roll and Round game with your partner:

Round to the nearest 10	Round to the nearest 10	Round to the nearest 100	Round to the nearest 100
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Roll and Round Cards

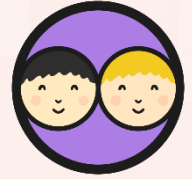
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Round to the nearest 10	Round to the nearest 10	Round to the nearest 10	Round to the nearest 10
Round to the nearest 100	Round to the nearest 100	Round to the nearest 100	Round to the nearest 100
Round to the nearest 1000	Round to the nearest 1000	Round to the nearest 1000	Round to the nearest 1000
Round to the nearest 10 000	Round to the nearest 10 000	Round to the nearest 10 000	Round to the nearest 10 000
Round to the nearest 100 000	Round to the nearest 100 000	Round to the nearest 100 000	Round to the nearest 100 000

1. Roll a dice 4, 5 or 6 times to give you the digits to make a number.
2. Take a **Roll and Round Card** to find out the value to which you should round your number.
3. Round your number to this value.
4. Look at the game board on the **Roll and Round Activity Sheet**. Can you find your rounded answer?
5. If so, you can cover it up with your coloured counter.
6. The winner is the player with most coloured counters on the board at the end of the game.

Top Tips



Can you and your partner make a short list of your top tips for rounding numbers to different values?

Think about the steps you followed today.



Which digits should you focus on?
How can you tell whether to round up or down?

Share your top tips with your group.
Have any of you included similar tips?

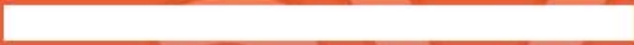
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