

Dimension: Number

Focus: Place Value & Skip Counting

Length of Unit: 17 lessons (apx)

AusVELS Standard/s:

2.00

Students count to and from, and order numbers up to 1000. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant addition.

3.00

Students count and order numbers to and from 10 000. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples.

4.00

They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. They use the properties of odd and even numbers and describe number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line.

5.00

Use estimation and rounding to check the reasonableness of answers to calculations. Identify and describe factors and multiples of whole numbers and use them to solve problems. Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction. Use equivalent number sentences involving multiplication and division to find unknown quantities.

Vocabulary Development:

Ones, tens, hundreds, thousands, ten thousands, hundred thousands, millions, value, count, thousandths, hundredths.

Common Assessment Tasks

Assessment FOR Learning	Assessment OF Learning	Assessment AS Learning

Other Resources:

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Teaching and Learning Sequence

Warm up	Student Learning Activity (including introduction)	Share / Reflection / Assessment
<u>Team Buzz:</u> <u>Chorus Counting:</u> <u>Place Value Millionaire:</u> See Jess <u>Round Me Off:</u> Start with mini lesson on rounding. Choose 2 students (similar abilities. Write a number on a whiteboard and ask students to round to nearest 5, 10, 100 etc. Flip board over and first person to answer gets a point. See Michael. <u>Mindreader:</u> Mystery number- 5 clues ONLY given verbally by teacher. Sts work with partner and whisper thoughts. Sts guess and check by going over clues one by one. See Resource Pack. <u>Wipe Out:</u> Student pair up with a partner. Give them numbers to try and wipe out. For example: wipe out the 4 in 1645. Discuss what you think you will do and why. Try it! What happened? What strategies did we use? What happened when you took away 4? What is the 4 worth? Have these discussions with each other and as a whole group. (See 'Maths on the Go: Book 1' pg 11	First Steps Diagnostic Task: Read, write and say numbers See pack. Modifications: Part A listen to the numbers and record them (Six numbers- 716, 805, 1 020, 26 015, 505 014, 23 and 2 tenths) Part B: Write numbers in words (as on the sheet) Part C: Choose a number from the first 4 of Part A. On the back of the sheet, count forwards, starting at that number. (give them about 5 mins to do this) Then, get them to do the same, only this time counting backwards. (See Resource Folder) Build a Flat Students to play in pairs. Students take turns rolling dice and 'make' that number with MAB blocks. When they get to 10 ones, they can trade it in for a ten. Aim is to be the first to trade in 10 tens for a 100. Think board Teacher to choose five numbers appropriate for their students to write at the top of the think board, based on the initial assessment. (Stef to create and add to Resource Folder) Order, Order. (See Place Value Resource folder on t-drive) Maths on the Go pg 23 Wipe Out	<u>Turn & Talk</u> <u>20 Words:</u> (Class Maths Journal Entry) <u>Strategic questions:</u> Based on observations <u>'See Saw' reflection:</u> In pairs, one person goes first (see) to state something that they learned/recall from today's lesson/activity. The other person (Saw) then states something they gained from the session. Back to See's turn. This continues until either See or Saw is unable to recall another fact or aspect of the lesson. Ensure you move among the pairs and encourage use of appropriate terminology. This share activity works very with about 5 minutes to go before recess time. Person with the last given fact goes out first! <u>3-2-1:</u> (3 things I learnt, 2 things I enjoyed, 1 thing I would like to find out more about) <u>Rocket Writing:</u> Today I found out... I really liked... I'm still not too sure about...

in Resource Pack) <u>Celebrity Heads:</u> Play celebrity heads with a number on each of the students heads. Play in small groups or whole grade. <u>3 Card Trick:</u> You will need a deck of cards (jokers, picture cards & 10s removed) Play in groups of 4. Shuffle and deal out 3 cards (this can vary depending on students). Aim is to individually make the largest number with your cards. The winner of the hand is the person with the highest 3 digit number. <u>Number Mastermind:</u> See 'Maths on the Go: Book 1' pg 8 in Resource Pack. <u>Hand Out the Digits:</u> Write digits 0 to 9 on flash cards. Give cards out to ten students and ask them to walk around in a circle, keeping their digit card hidden. Call out a group size, e.g. „Form groups of three!“ Students group in threes and have to make the largest (or smallest) number they can with the collective digits. Repeat, calling for groups of 4 and 5; later extend activity by providing two 0 flash cards. <u>In Betweenies:</u> Put 2 post-it notes on either side of the room with numbers on them eg: 12 and 32. Give out random post-it notes	<u>Number Line Activity</u> Give students a blank number line and a bunch of numbers. They must cut and stick the numbers where they think they should go and label key points along the number line. Part 2: Choose one number from your number line, make it with MAB, and then record with MAB BLM sheets in your book. Part 3: Choose another number (or the same one, up to them) and skip count from it by 2s, 10s, 5s, and student's choice (eg. 3s or 4s or 9s or whatever) <u>Reading Numbers and importance of the zero:</u> Get students to write all of the numbers they can find between 100 & 200 that include zeros, then order from biggest to smallest. Vary the difficulty by varying the range and value of numbers. Discuss why the zero is important? Whilst kids are working, call them up individually and show them cards with the following numbers on them: 17, 364, 702, 3 418, 50 070. Show kids cards and ask them to read the numbers (record on checklist or something). <u>The Next/ Previous Number</u> <u>Number Scrolls</u> Students work in differentiated groups of 3 or 4- starting number based on ability. Give students appropriate starting number to count on by. Using the constant function, students record the next number. Prompt students to discuss and record: What patterns do you see? What happens after 99? Can you see this happening anywhere else?	<u>Group Share:</u> (The members from each group get up and share what they did today. What did they learn/find out?) <u>Circle Time:</u> (Students sit in a circle. If the ball is rolled to them, they need to share something about the maths lesson.) <u>See/Feel/Hear:</u> Individually, students complete a see/feel/hear Y diagram – writing in at least 3 things that they saw during the session (observations of themselves and/or others during the activity), 3 feelings they felt (pride, frustration, elation, concern, anxiety, excitement – be prepared to ask students why they felt the way/s they did) and 3 things that they heard (this may be recall of facts, specific terminology and what it means, the notion of possible strategies and then implementing them). <u>High Five:</u> Students trace around their hand (or can use template). On each finger they list something that they have learned or achieved during that session
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to students and ask them to write a number on it that comes between the two numbers. Students are then asked to stand in their correct place between 12 and 32. Extension: After all the whole numbers are gone keep going. Ask a student to stand between 12 and 13 and ask what number could go here? <u>Let's Count:</u> Have children practise counting silently as you clap a given number of times. Eg Now I want you to count on silently from 254. Clap 5 times. Which number did you end up at? Count back. Students practise in pairs. <u>Other:</u> <u>Today's Target:</u> Number Sense (3-4) pg 20 Make it up so it has place value/counting questions. <u>Order, Order:</u> See 'Maths on the Go: Book 1' pg 23. <u>What's my Number?</u> Choose a child to write down a secret number. Class asks questions to reveal answer. <u>Roll the Place:</u> See 'Games on the Go Ages:8-10' pg 14. <u>Place Value Memory:</u> See 'Games on the Go Ages:8-10' pg 36. <u>Target 15,287:</u> http://nzmaths.co.nz/resource/target-15-287	<u>Pick it Out</u> Students pick out <u>or</u> roll a given number of dice to create a number. Students then write these numbers in words. Pull out 4 or 5 depending on the size of the number you want them to make. You pull out a number and students record it in a place value column. Do this until all numbers are out. Highest number = 3 points, 2nd highest = 2 points etc. Get the group to order their numbers- highest to lowest, odd & even amounts etc. (Maths on the Go Bk 2 pg52)	
	<u>Roll the Place – ordering</u> See Pack (Modified version to include whole grade: modify sheet to leave number of digits open for students to decide based on ability level) Prompt questions: What digit do you look to, to decide how to order? Is it always that digit? What about larger numbers? What happens then?	
	<u>First to 100</u> Ones and Tens- Place Value Mat Using icy pole sticks students in pairs compete to be the first to make 100. Students roll dice and record that as 'ones', repeat, record as 'tens'. They then make this number using icy pole sticks and bundles. Students record these numbers in their Maths Journals.	<u>Win a Flat</u>
		<u>The Value of 8</u> Students go through catalogues and magazines and find as many different numbers with the digit '8' in it. Students cut and paste these numbers down and next to each one, describe what value and use MAB

		cutouts to illustrate.	
	Number Cards- Ordering	<u>99 or Bust</u> (See Pack)	
	<u>Dice Tower- *Problem Solving</u> (See Problem Solving Folder)		
		<u>Salaries- 'How Much Do You Earn?'</u> See Pack.	
		<u>Hundredths & Thousandths:</u> As an introduction to hundredths, look at results from a race. Get kids to put times in order. Justify why. Students could then go off and time how long it takes them to do something eg 100m sprint. Get them to collect the data and then order the times from the fastest to the slowest. Prompt questions during reflection: 'Why do use hundredths when we use stopwatches?' 'When else do we use hundreths/thousandths?'	
	<u>Final Assessment: Skip Counting</u>		

	<u>Final Assessment: Think Board:</u> Students choose a number. They have to record this number in 4 different ways eg. Using MAB, renaming, breaking in PV parts and equations (any way you could make that number), any facts about their number (e.g. even/odd, three digits, tens digit is even, etc.)	<u>Final Assessment: 'What I've Learnt About Place Value'</u> Open-ended. After a brainstorm on the ideas explored throughout the unit, students record what they have learnt (e.g. rounding, how high they can count, multiples, hundredths/thousandths, etc.).	
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