



Numbers to 1000 – 1

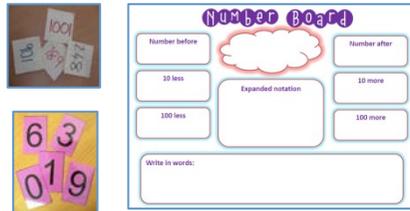
2.1.2

Introduction

Students will recognise, model, represent and order three-digit numbers. Students will also add and subtract 1, 10, and 100 to and from a three-digit number.

Resources

- Number Board
- Sticky notes
- Show me frame
- Tiny 100, 10, 1
- Flip chart
- Digits
- Place value arrows
- Calculator
- Early FISH Kit



Time / Classroom Organisation

Each section of the activity process may be introduced to a whole or small group. Allow 20-30 minutes for each activity. Repeat the activities on a regular basis, gradually increasing the size of the numbers used.

Australian Curriculum

Year level: Two

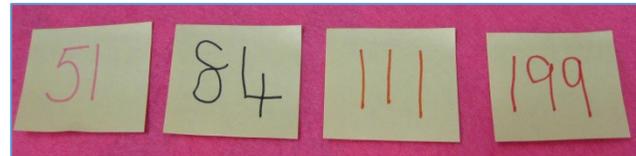
Recognise, model, represent and order numbers to at least 1000 (ACMNA027)

Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting (ACMNA028)



Activity Process – Number sequences

1. Students write a number on a sticky note (start between 50 and 200).
2. Organise students into small groups. Ask each group to order themselves, from the greatest number displayed to the lowest number (or lowest to greatest).



3. Have two small groups combine and repeat the process. Combine groups again and repeat.
4. When two large groups remain, ask one group to read its sequence. Ask students in the second group to think about where their numbers will fit in the first sequence
5. Combine the groups to form one sequence, discussing questions and issues as they arise.
6. Repeat this activity regularly using increasingly greater ranges of number e.g. 238 – 412; 784 – 999; 945 – 1020.



7. Repeat with students writing the number in words.

Source: *First steps in Mathematics – Number*, 2007. Rigby: Port Melbourne.



Word Wall: even, odd, collection, skip counting, how many, less than, different, the same as, not the same as, more than, fewer than, group, match, digit, altogether, number sentence, strategy, think, list, table, using equipment, bundles, expander, place value, show---me, tens, ones,

Activity Process – Strategy: Number Board

1. Introduce a weekly Number Board-Strategy

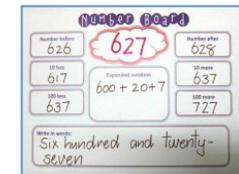


2. Write the number inside the cloud, for example: 627

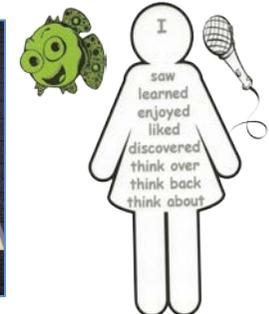
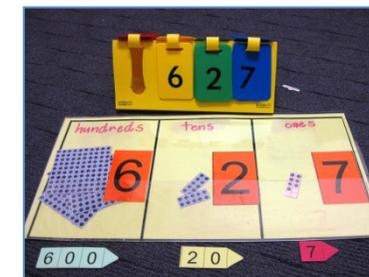


3. Initially take students through each section working through a number together.

- Number before / after
- 10 less / more
- 100 less / more
- Expanded notation
- Writing in words



4. Allow students use materials to work out their answers. Materials include: Tiny hundreds, tens and ones, Place value arrows, digits, show-me chart, numeral expanders and place value flip chart. Resource source: E deVries & E Warren



Catholic Education
Diocese of Cairns

Learning with Faith and Vision

Variations and Extensions

1. Hundreds Boards

https://www.superteacherworksheets.com/hundredschart/hundreds-chart-filled_WNRTB.pdf?up=1466611200

Resources: Non-routine hundreds boards with numbers missing Create puzzles using the non-routine hundreds boards. Students complete the puzzle. Students

can design and create their own puzzles. Start by creating a non-routine hundreds board starting from a nominated number. Print in A3 and laminate, and then cut puzzle shapes. Store in a labeled zip lock bag.

Source: E deVries & E Warren, 2008



2. Counting forwards and backwards

Resources: Calculator and individual whiteboards

Invite students to use the constant function on their calculators to count forwards from a given number e.g. 189. (To use the constant function, students enter '189+1='; after this they will only need to enter the '=' symbol to continue adding 1 each time). Stop at 199. Ask students to write down their prediction of what will come next. Check their predictions. This is especially helpful for students who write that 100 is followed by 1001; or that 109 is followed by 200.

Ask students how they might get their calculators to **count backwards**. Start at a nominated number e.g. 409 and record the numbers as they are displayed on paper or whiteboard.

Source: First Steps in Mathematics – Number. 2010. Rigby: Port Melbourne. p57..

3. The answer is.... What's the question

Resources: Individual whiteboards, pens

Students brainstorm the question The answer is 5. What is the question? And record answers in the group. Discuss the type of answers collected and how numbers can be represented in many different ways. (Big idea of mathematics)

Invite students to create the answer is questions

Links to other Resources

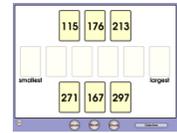
Interactive Whiteboard Resources

<http://www.ideal-resources.com.au/index.php>



Nearest Number (Three Digit)

From the four choices given, select the number nearest to the one displayed on Sid's card (One Player).



Order

Order six number cards. Selecting 'Objectives' will allow you to change the numbers on the cards appropriate to age/year.



Spin to Win (3 Boxes)

An easy engaging place value game for 2 players. Press the red button to spin the number wheel. Place the number in the chosen box until all boxes are filled. The child with the highest number wins.

Play with 3 boxes - hundreds, tens, units.

Contexts for learning

Play:

Bear Hunt Game – adapted from Bear Hunt www.teachthis.com.au
Make the biggest number from three digits.



Investigation:



I am thinking of a number between 100 and 350 with a single 9 in it. What number might my number be? Note if children are able to find all possible answers Ask them how they can tell if they have them all.

Source: Sullivan and Lilburn. 2010. *Open-ended maths activities*. Oxford University Press: South Melbourne. p32



Real life experience:

Look for large numbers in the environment, for example: phone numbers, street numbers, registration numbers, library systems. Photograph and make a collection. Discuss whether the numbers are saying how many (quantity) or the number in a sequence, or random.

Routines and Transitions:

Routine: Use the *Number Board* activity as a weekly routine. Use a different number each week, gradually increasing the number and level of difficulty.

Transition: Guess my number: ask students to read a number written in words and convert to digits.



Adapted for use in the Cairns Diocese with the permission of the Catholic Education Office Toowoomba

Year three NAPLAN Numeracy links

2009 Question 5 – Recognises a three-digit number written in words

2008 Question 3 - Recognises . A model of tens and ones as a representation of a two-digit number

2009 Question 7 – Solves a word problem by comparing numbers.

Assessment

- *represent three---digit numbers using numerals, words and objects*
- *give reasons for placing numbers in a particular order (R)*
- *Write and solve simple everyday problems with three digit numbers choosing an appropriate strategy (R)*

FS Diagnostic Task – *Up to and over 100* page 16

FS Diagnostic Task – *Up to and through the 100s* page 16

FS Diagnostic Task – *Read, write and say whole numbers* page 42

Background Reading

Although numbers can be applied in all sorts of different ways in the real world, they are also abstract objects that can be thought about and manipulated in their own right. Moving backwards and forwards between quantities and abstract numbers can help us to make sense of each.

We can think of 'three' separately from three things. Without having to refer to physical objects or actual quantities, we can compare and order the numbers themselves. We know that 8 is one more than 7; 3.5 is halfway between 3 and 4; -4 is less than 0; and 1000 is ten times as big as 100. We also think of numbers as having a magnitude: 3 is a small number and 3 000 000 is a big number. Although we express this in absolute terms, we are implicitly making relative or comparative statements. Compared to 3, 300 is a big number; compared to 3 000 000, 300 is a small number. Students should have many experiences that help them to get a sense of the order and relative magnitude of numbers.

Source: *First steps in Mathematics – Number*, 2007. Rigby: Port Melbourne.

Links to other MAG's

1.1.1 Number to 100 - 1

1.3.1 Numbers to 100 - 2

1.3.4 Place Value chart

2.2.1 Numbers to 1000 – 2

3.2.2 Numbers to 10000 – 1