



Number Sequences 2

2.3.2

Word Wall: number, sequence,

Introduction

Students will practice skip counting in 2s, 3s, 5s and 10s from any number as a starting point using a hundreds board.

Resources

- 100s Board
- Mini Whiteboards
- Whiteboard markers



Time / Classroom Organisation

This 100s board mental routine activity (Baker & Baker, 2006) could become part of the daily morning routine. Use with the whole group and allow 20 minutes for the introduction of the activity, and then spend 5---10 minutes each day. Gradually increase the complexity of the questions.

Australian Curriculum---Year level: Two

Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and tens from any starting point, then moving to other sequences (ACMNA026)

Describe patterns with numbers and identify missing elements (ACMNA035)

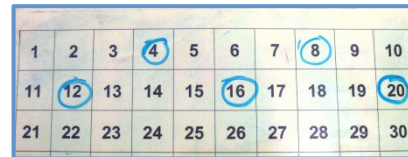
Proficiency Strand:

Fluency – counting numbers in sequences readily
Understanding – connecting number calculations with counting sequences



Activity Process--- Patterns on a 100s board

1. The following strategy is a mental routine designed by Ann and Johnny Baker (2006). This process consists of *Closed*, *Open*, and *Flip* questions.
2. Give each student a 100s board and washable pen. Ask the following questions, and observe student responses. Scaffold the responses to assist students in finding the patterns in number sequences.
3. **Closed questions:**
 - How many times do I have to jump in 4s before I land on 20?



- How many times do I have to jump in 5s before I land on 20?



- What if I wanted to land on 40?
- I landed on 6 on my second jump, then on 9 and 12 with my next two jumps. What was my counting pattern?
- I made 10 jumps and landed on 50, how big were my jumps?
- Circle these numbers: 6; 11; 16; 21; 26. What is my counting pattern? What do you notice about the numbers?
- If I jump by 9s, what pattern do I make on the 100s board?
- Circle these numbers: 24; 33; 42; 51; 69. What is the missing number?
- If I start on 5, then jump to 9, then jump to 13 and 17 with my next jumps. If I follow this pattern, what will I land on in my next jump?

Source: Baker, J. & Baker, A. 2006. *Natural Maths Strategies Book 2*. Blake Education: Clayton. P 40

4. Open questions:

- I made six jumps and landed on even numbers every time. What size jumps might I have made?



- I started on 4 and landed on 40. What jumps might I have made?
- I made four jumps backwards from 100 each the same size and I never landed on a number with a 5 or a 0. What jumps might I have made?

5. Flip questions:

- Say to the students: *Now you are going to guess my pattern. The pattern could start from any number on the board and it might go backwards or forwards. It is a skip counting pattern. You can ask me questions to find out my start and finish numbers. You can ask me questions about the number that I land on or about how many jumps I made between the numbers but I will only answer Yes or No to your questions.*
- Start with a pattern that uses numbers between 1 and 20. This will help students to get used to the type of questions that are effective and help them keep track of what is eliminated and what is important information. Then slowly increase the complexity.



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Variations & Extensions

1. Number Strips

Resources: [Number strips, 1---100 cards](#) and whiteboard markers

Write a counting sequence on the number strip, leaving a few numbers blank. Ask students to fill in the missing numbers.

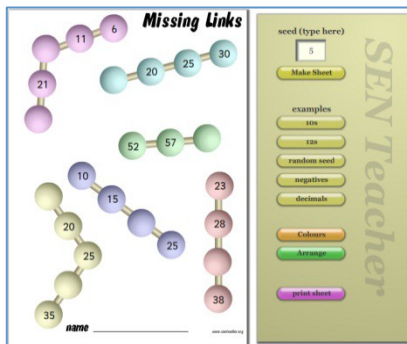


2. Missing links

Resources:

<http://www.scottle.edu.au/ec/viewing/L8275/index.html>

http://www.bbc.co.uk/bitesize/ks1/maths/number_sequences/play/



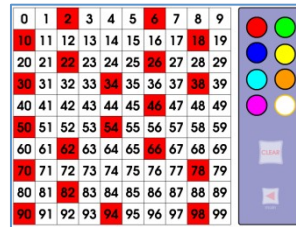
Digital Resources

Spooky Sequences – fill in the missing number in the sequence



<http://www.primarygamesarena.com/Play/spookyseq1-2610>

1---100 Paint – ask students to fill in a number pattern; identify the skip counting pattern; identify the rule; identify the missing numbers.



Contexts for Learning

Play:

Roll a dice and count 5 jumps in that number. Add a challenge by giving a nominated starting number.



Investigation:

Calculators: With the use of a calculator ask students to find the counting pattern for the 20s, 50s and 100s.

Discuss the similarities and differences between the 2s, 5s and 10s.

Source: Department of Education, Queensland. 1991. *Years 1 to 10 Mathematics Sourcebook: Activities for teaching mathematics in Year 3*. Department of Education: Qld p40

Real life experience:

Counting Money: Use five and ten cent pieces to count in 5's and 10's.

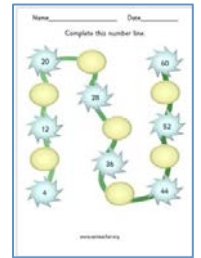
Routines and Transitions:

Animal legs cards: use the animal leg cards for a transition. Skip count in 2s using birds, 4s using cats, 6s using insects, 8s using spiders and 10s using crabs

Assessment

Fill in the missing numbers in the pattern

https://www.superteacherworksheets.com/pattern/patterns-intermediate_TZDZQ.pdf?up=1466611200



Print and laminate a series of skip counting patterns with numbers missing from the *Senteacher* website. Provide washable markers and ask students to figure out the skip pattern and fill in the missing numbers. Students should be able to fill in the missing numbers, as well as describe the pattern, for example: *this is counting in 4s*.

Achievement Standard: recognise increasing and decreasing number sequences involving 2s, 3s, 5s.

Background Reading

In addition to recognising patterns, skip counting provides valuable readiness for multiplication and division. Skip counting on and back also provides a good base for working with money. As well as being the focus of learning in an activity, skip counting is a process used in other activities. For example, when investigating place-value ideas, children practise counting in tens to one hundred, and in hundreds to one thousand.

Source: Department of Education, Queensland. 1990. *Years 1 to 10 Mathematics Sourcebook: Activities for teaching mathematics in Year 2*. Department of Education: Qld p 38

Year three NAPLAN Numeracy test links

- Number Patterns

Links to Related MAGs

- 2.1.1 Number sequences 1
- 2.1.6 Number Patterns 1
- 2.3.7 Number Patterns 2
- 3.2.1 Number Patterns

