



# Addition & Subtraction (1) 2.1.5

**Word Wall:** equal, parts, add, take away, strategies, solve, friendly, collection, figure out, double, bridge to, arrange,

## Introduction

Students will revise addition and subtraction strategies of counting on, combinations to ten, doubles, add ten and bridge through ten. Students will add the near doubles strategy to their range of strategies.

## Resources

- Addition and Subtraction strategy practice cards
- Subitisation dot cards and numerals 1-100
- Counters
- Felt pieces
- Mini- whiteboard and washable pens
- Cuisenaire rods
- Hundreds board
- Dominoes
- Early Years FISH Kit



## Time / Classroom Organisation

Revise known strategies and apply to a range of addition and subtraction problems. Allow 20 minutes to introduce the near doubles strategy, and give students opportunities to practice regularly.

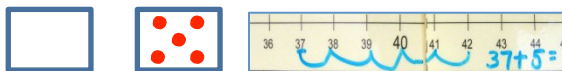
## Australian Curriculum

Year level: Two

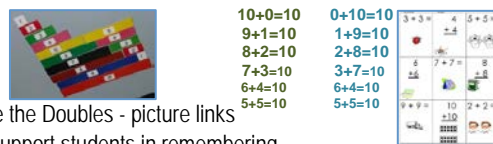
ACMNA030 Solve simple addition and subtraction problems using a range of efficient mental and written strategies (ACMNA030)

## Activity Process – Review Year 1 Strategies

- Counting on:**  
Finding the bigger number and count on from that point. Demonstrate on a number line. Use the subitisation dot cards (1-5) and numerals 1-100 to practice this skill:



- Combinations to ten and turnarounds:**  
Review all the combinations to 10. Use Cuisenaire rods to find all the combinations to 10. Find the turnarounds. Look for patterns.



- Doubles:**  
Use the Doubles - picture links to support students in remembering doubles. Say: *If double 4 is 8, what is double 40?*

- Add ten:**  
Use a Hundreds board to demonstrate what happens when you add or take ten from a number. Discuss the pattern – *the ones digit does not change.*

- Bridge through ten**  
Using a double ten frame build 9 with one colour and 6 with another. Discuss how the problem can be made more 'friendly' by moving one counter from the 6 to make the 9 into 10. Practice this with other equations.



- Present students with a range of addition and subtraction equations. Discuss which strategy they would use to solve each problem.

## Activity Process – Strategy : Near Doubles

- Lay out 6 yellow counters on a coloured square.
- Ask the students to arrange the counters into two equal parts (the same number in each part)



Double  
3=6

- Ask: *How many are there? What double is this?*
- Add 1 red counter to the collection.

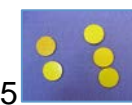


Double  
3=6  
Add 1=7

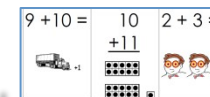
- Ask: *Can you still see the double? How can we figure out how much there is now without counting?*
- Discuss the strategy of seeing the double and adding 1 more.
- Practice with double 4,5,6,7,8,9,10.
- Lay out 6 yellow counters on a felt square and arrange into two equal parts. Ask: *How many? What double is this?*
- Take one counter away from one of the piles.



Double  
3=6  
Take 1=5



- Ask: *Can you still see the double? How can we figure out how much there is now without counting?*
- Discuss the strategy of seeing the double and taking 1 away; or using the smaller double and adding 1.
- Use the Addition and Subtraction strategy practice cards – double plus 1 and double take 1.



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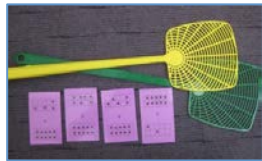
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## Variations and Extensions

### 1. Fly swat strategy

Resources: Double ten frame snap cards set C and fly-swats  
Students can play the fly swat game with the double ten snap cards – set C. Lay out five cards and provide players with a fly swat. The caller calls out the total number on one of the cards. The first to swat the correct card explains which strategy they used: count-on, plus 10, doubles, near doubles, or bridge through ten. The caller replaces the card and calls another teen number. The game is over when all the cards have been played. The player with the most cards wins. Students take turns at being the caller.



### 2. Name the strategy

Resources: set of playing cards with jacks, queens, and jokers removed. The Ace has a value of one.  
Place the cards in two equal piles face down. Each player takes a card from each pile and writes the equation on a whiteboard. Write the answer and the strategy used. Students take turns at sharing their answer and the strategy used.



### 3. Whole class Doubles facts game

Resources: Who has? Doubles facts cards  
Give each student a card. Have one student start with the question and continue until all the questions have been answered.

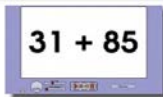
I have 14  
Who has  
 $10+10?$

I have 20  
Who has  
 $100+100?$

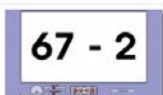
I have 18  
Who has  $7+7?$

## Interactive Whiteboard Resources


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



**Sum Flash (Addition)**  
A useful set of programs for the mental starter to the lesson. Sum Flash will display questions for the preset number of seconds (the large triangular button). Alternatively the teacher can take control using the two arrow-headed button. (Addition)



**Sum Flash (Subtraction)**  
A useful set of programs for the mental starter to the lesson. Sum Flash will display questions for the preset number of seconds (the large triangular button). Alternatively the teacher can take control using the two arrow-headed button. (Subtraction)



**Speed Grid Challenge (Addition 1)**  
Speed Grid Challenge is a one player game against the clock. Click on two numbers in the grid to make the statement correct. (Uses numbers up to 20)



## Contexts for learning

### Play:

- Play fly swat strategy
- Play *Snap* or *Concentration* with the double ten frame cards

### Investigation:

Choose a number between 5 and 20. Children are to write all the subtractions they can using that number. For example, if the number was 11 they could write  $11-6=5$ ;  $11-11=0$ ;  $13-2=11$ .

Source: Sullivan & Lilburn. 2010. *Open-ended maths activities*. Oxford University Press: Sth Melbourne. P.45

### Real life experience:

Calculate how many students are present for the day. Add on the number absent to find out the total number of students in the class. Discuss the strategies used. Demonstrate a mental strategy and written algorithm.

### Routines and Transitions:

- Use the Addition and Subtraction strategy practice cards as transition cards as students leave or enter the classroom.

## Assessment

- Check solutions using different strategy (PS) (F)
- Recognise which strategy worked and which did not (U) (R)
- Explain or demonstrate how an answer was obtained (R)
- Observe the students as they play the *Name the Strategy* game. Note whether the student can use and describe the most efficient strategy for the problem. Note which students need more practice using concrete materials.
- First Steps Diagnostic Task: Number Tiles.  
*First Steps in Mathematics: Number Course Book*, Steps Professional Development: Churchlands, WA. P 99

## Background Reading

Students need to become fluent in a range of addition and subtraction strategies, so that they can choose the strategy that is most helpful for them. Strategies include:

- Counting on and back (from the bigger number)
- Combinations to 10 – the number facts
- Turn-arounds –  $2+7$  is the same as  $7+2$
- Doubles and near doubles
- Add 10 – friendly numbers are easy to add or subtract
- Bridge to ten – partitioning
- Number splitting

•  $36+18$        $30+10$  (40) and  $6+8$ (14) =54  
Expand numbers and add

•  $36+18$   $36+20$  (-2)

Friendly number and      compensate

## Year three NAPLAN Numeracy links

2010 Question 6 – Identifies the solution to a word problem involving addition or subtraction with numbers less than 10.

2009 Question 9 – Identify process to match/solve addition problem

2008 Question 15 – Subtract a one-digit number from a two-digit number in a familiar context.

## Links to other MAG's

- 1.1.6 – Addition and Subtraction Strategies 1
- 1.2.1 - Addition and Subtraction Strategies 2
- 1.3.2 – Addition and Subtraction Strategies 3
- 1.4.4 - Addition and Subtraction Strategies 4
- 2.2.4 – Addition and Subtraction 2



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