



Think Board - 3

2.4.4

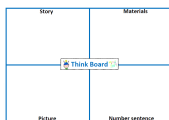
Word Wall: think, match, addition, subtraction, tally, solve, 'two digit numbers'

Introduction

Students will use a *Think Board* to link different ways of representing addition and subtraction problems including words, concrete materials, pictures and number sentences. This will assist them in solving words problems that contain unknown quantities.

Resources

- ✓ [Think Board](#)
- ✓ Concrete materials – counters, unifix, bundle sticks
- Whiteboard pens
- [Match Up Cards](#)



Time / Classroom Organisation

This activity may be introduced in a whole group or small group as a 20 – 30 minute focused teaching and learning event. Use the Think Board regularly to represent addition and subtraction problems in a variety of ways.

Australian Curriculum Year Two

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

Proficiency Strand:

Problem Solving – using number sentences that represent problem situations; formulating problems from authentic situations.

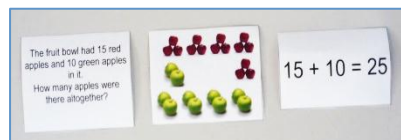


Activity Process-Match - Up

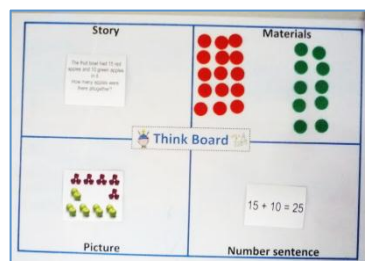
1. Provide a group of students with a set of Match Up cards and a think board.



2. Students are to sort through the set of cards to find the three cards that match.



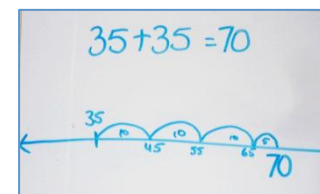
3. Ask students to display these cards on the Think Boards



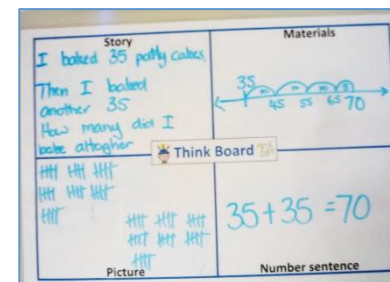
5. Discuss with students why/why not the cards are a match.
 6. Extension: Ask each student to create their own set of match up cards that consist of an number sentence, picture and story. In small groups students then put their cards into the middle and each attempt to find 3 cards that match.

Activity Process – Blank Number Line

1. On a whiteboard draw a blank number line.
2. Pose an addition question to students. *I baked 35 patty cakes and then I baked another 35. How many did I bake altogether?*
4. Model to students how a blank number line can be used to solve this algorithm.



5. Ask students to use the Think Board to solve the question.



6. Repeat with other addition and subtraction stories encouraging the use of the blank number line instead of concrete materials. Students at this stage should also have progressed from detailed drawings to symbols of number, For example: tally marks.



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Variations & Extensions

1. Think Board – Blank Number Lines

Resources: Mini White boards, white board pens.
Pose the following questions for students to solve by drawing a blank number line on their whiteboard.

How can we go from 0 to 59 in the least number of jumps of tens and ones?

How can we go from 0 to 189 in the least number of jumps of hundreds, tens and ones?

Students should be encouraged to share different strategies and discuss which strategy is the most efficient. For example, when jumping from 0 to 59 one student could make five jumps of ten and nine jumps of one, while another may make 6 jumps of ten to 60 and then jump back one to 59.



Source: <http://www.k-5mathteachingresources.com/empty-number-line.html>

2. Using the Empty Number Line to Solve Addition and Subtraction Problems

Resources: Mini Whiteboard, whiteboard pens
Possible questions include:

How can we go from 27 to 53 in a small number of jumps? Who has another way?

How can we go from 62 to 45 in a small number of jumps? Who has another way?

How can we solve $34+23$?(counting on without crossing the tens boundary)

How can we solve $37 + 25$?(counting on crossing the tens boundary)

Digital Resources

<http://au.ixl.com/math/year-3/add-three-or-more-numbers-up-to-three-digits-word-problems>

Practice >> Year 3 >> Addition: Add three or more numbers up to three digits - word problems

Jae played a trivia game and earned 8 points on the history questions. He earned 90 points for answering science questions and 141 points for answering sports questions. How many points did Jae score in all?

points

Submit ✓ Submit & finish >>

Contexts for Learning

Play:

Provide play money and shop materials for students. Give students money questions with unknown quantities in them for the students to solve.

Investigation:

Ask students to solve questions from NAPLAN while using the think board.

Real life experience:

Create word and number stories to demonstrate who is present and absent., for example: *There are 25 people in 2G. Emma and John are sick and Jacinta is on holidays. How many students are present in 2G today?* $25-3=q$

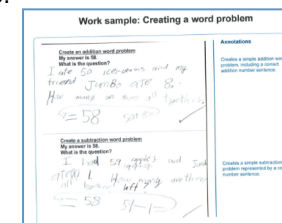
Routines and Transitions:

As students transition, ask them to select a domino and tell you a addition or subtraction story about the numbers.



Assessment

Give students a two digit number. For example 58. Ask students to create both an addition and subtraction word problem with the solution of 58.



ACARA Work Sample: November 2010

Achievement Standard: perform simple addition and subtraction calculations using a range of strategies.

Background Reading

Students need to develop a deep understanding of the meaning and use of the four basic operations – of their link to each other and to real-world applications. In order to build up conceptual links between the various types of situations and the addition, subtraction, multiplication and division operations, a rich and flexible variety of representations is need over an extensive period of time. It should not be rushed. These various forms of representation include:

- Experience-based scripts of real world events or dramatic play
- Manipulatives
- Pictures and diagrams
- Spoken language
- Written symbols in number sentences

Source: *First steps in Mathematics – Number – Understand Operations*, 2010. Rigby: Port Melbourne. p 87.

Year three NAPLAN - Numeracy test links

- [Addition and Subtraction – word problems](#)

Links to Related MAGs

- 1.3.2 – Addition and Subtraction strategies - 3
- 2.1.5 – Addition and Subtraction - 1
- 2.2.5 – Think Board 1
- 2.3.1 – Think Board 2