

Educational Websites in addition to Mathletics

'**Schools A-Z**' website includes information on strategies we use to teach in our classrooms.

'Mental Strategies' we teach for addition and subtraction are:

- Split Strategy (*Not always suitable for subtraction*)
- Jump Strategy
- Compensation Strategy

You will find help sheets on the Schools A-Z website by clicking on:

*Homework & Study

*Maths Help Sheets

*Primary Addition and Subtraction

*Then click on the relevant strategy above

To assist your child's comprehension of word problems go through the five steps of the 'Newman's Prompts' shown on the bookmark on the next page.

More information on the Newman's prompts can be found at:

<http://www.curriculumsupport.education.nsw.gov.au/primary/mathematics/numeracy/newman/index.htm>

(Type '**Newman's Prompts**' into google and click the first result to access the above website.)

ABC has created a new website that links some resources we use in the classroom.

[**http://splash.abc.net.au/home**](http://splash.abc.net.au/home)

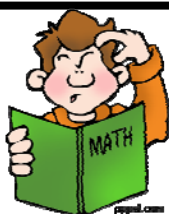
There is a great game on the site called 'Wishball' that is also available as a free app for iPads.

Year 4 students can also access the Early Primary section as the games for Year 3 are related to Stage 2 learning outcomes and vice versa.

5

Steps to solving
word problems.

1



Read the question and find
the KEY words and numbers.
Underline any words you don't
understand.

2

'Wh' and 'How'
WORDS

Tell me what the question is
asking you to do? Circle the
question words.

3



Tell me how you are going to
work out the answer.

4



Show me how you get the
answer. Tell me what you are
thinking when you are working
out the answer.

5



☆ answer



Write down your answer.

Linking 3

Students record sixteen different numbers between 1 and 50 in a 4x4 grid

E.G

19	28	17	13
2	18	41	5
16	1	38	49
15	26	40	7

eg

Students link and add three numbers vertically or horizontally.

Possible questions include:

- can you find links that have a total of more than 50?
- can you find links that have a total of less than 50?
- how many links can you find that have a total that is a multiple of 10?
- what is the smallest/largest total you can find?
- can you find ten even/odd totals?

For students working at higher levels use three digit numbers in the boxes and find numbers that link that make:

- a total of more than 1500.
- a total of less than 1500.
- links that make multiples of 10.
- what is the smallest/largest total you can find?
- can you find ten even/odd totals?



For students working at higher levels select a target number between 1000 and 10,000. Use 3-digit numbers when playing game.

Purpose

To help students to group tens and ones and add tens and ones.

Counting On framework reference: Level 1, Level 2

Materials needed

One die for the teacher (1–6 or 0–9); scoring sheets: one per student.

Time required

Two lessons.

Rules

1. The aim is to score 100 or as close as possible without ‘busting’ (passing 100).
2. The teacher rolls the die and announces the number. Students may choose to multiply that number by 10 or score it at face value, e.g. 2 may be scored as 2 or 20. Once a decision has been made it cannot be changed.
3. The die is rolled again. If the number is (say) 4, students decide to score this as 4 or 40 and record it, completing the progressive total.
4. This continues until 9 rolls have been completed. Note: All rolls must be used.
5. The student who scores 100 or the number closest to (but below) 100 wins.

Variations

- (a) Use a 1–6 die or a 0–9 die. Ask students how they will vary their strategies if you change from a 1–6 to a 0–9 die.
- (b) Set a different target.
 - (i) Target = 200 “How will you vary your strategies from the original game?” (Students should realise that they will need to multiply by 10 more often.)
 - (ii) Target = 1000 and you may multiply by 100 once and once only during the game.
- (c) Allow addition or subtraction of each number rolled.



Sample game

Score	Total
2	2
30	32
6	38
10	48
3	51
20	71
4	75
5	80
4	84
	84

Questioning

1. After two rolls the teacher asks students to name all possible scores. (In the sample game above the possible scores are 5, 23, 32, and 50.) Note: If the first two numbers rolled are the same, there are only three possible scores, e.g. rolls of 3, 3 produce possible scores of 6, 33, 60.
2. When there are two rolls to go, ask students to stand if it is still possible for them to score exactly 100. Ask their scores and check as a whole class activity.
3. When there are two rolls to go, ask students to announce their scores and say what they would like the next two rolls to be, e.g. a student with a score of 88 could score exactly 100 with 2 sixes. The same result could be achieved with a 1 and a 2 (12).

Extension

Refer to activities “Make 10” and “Make 1” on p. 197.



Make 100

Score	Total

Score	Total

Score	Total

Score	Total

Score	Total

Score	Total

For students working at higher levels flip 6 and add.
Game can be altered for subtraction. Just make sure
you start with the larger number.



Flip 4 and add

Counting On framework reference: Level 1

Purpose

To encourage students to use a mental computation approach to add two 2-digit numbers.

Materials needed

Two sets of numeral cards 1–9 for each pair or group of students.

Pencil and paper or work book for recording.

Time required

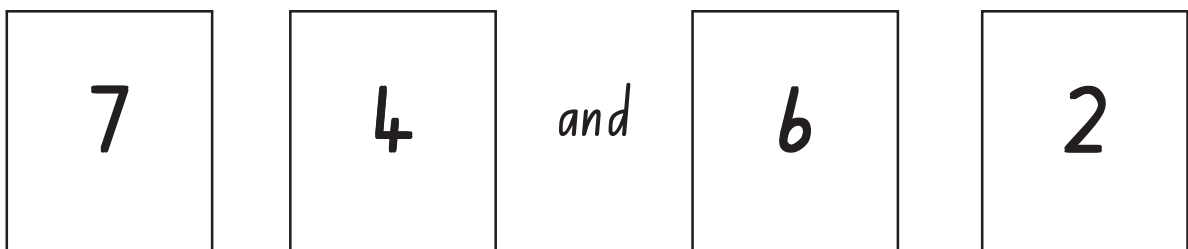
One lesson.

Instructional sequence



Activity 1

1. In pairs or groups of 3 or 4, students place the numeral cards face down on the desk.
2. Each student takes a turn to pick up one numeral card, until all players have four cards each.
3. Students make two numbers with their cards. Each number must have two digits, for example:



4. Students add their two numbers mentally by adding the tens digits first and then the units. For example, 70 and 60 is 130 and 4 is 134 and 2 is 136, or, 70 and 60 is 130, 4 and 2 is 6, 130 and 6 is 136. The sum and the strategy used are then recorded in their workbook.
5. Students can play so that 1 point is scored for the highest addition obtained.



Variation

Make the two numbers and then subtract.



Flip 4 and add cards

1	2	3	4
---	---	---	---

1	2	3	4
---	---	---	---

5	6	7	8
---	---	---	---

5	6	7	8
---	---	---	---

9	9
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Four in a row or four in a square

Counting On framework reference: Level 4

Purpose

To consolidate students' familiarity with the 2x, 3x, 4x, ... 9x tables.

Materials needed

A set of cards from 1 to 10.

Sets of cards for each multiplication table

Counters of four colours (10 of each), one colour for each student

Time required

One or two lessons.

Instructional sequence



Activity 1

1. In groups of 3 or 4, one student turns over a card from the 1–10 set.
2. The student multiplies the number by 2 (or 3 if using the 3 times table, etc.). For example, if a student turns over the number 4, the student solves 2×4 .
3. The student places a counter on the answer in the corresponding times–table grid.
4. The next student has a turn.
5. The winner is the first player to get four adjacent squares in a row, column, diagonal or square.



Activity 2

All tables

For this activity you will need two or three sets of cards from 1 to 10.

1. Groups of 3 or 4 students are dealt 5 cards each.
2. The first student multiplies two of the cards together, say 9×5 , and then covers a square with a counter. The student then picks up another two cards so that there are always five cards with each student.
3. The next student has a turn. The winner is the first student to get 4 in a row, column, diagonal or square.



Extension

Use blank pro-forma on page 176 for students to construct their own game.



2 x Table

6	18	10	16	2	20
20	12	4	14	18	10
14	16	10	2	6	12
8	2	20	16	4	14
4	6	8	4	12	10
18	10	18	8	16	2
12	6	2	20	8	14



3 x Table

9	27	15	24	3	30
30	18	6	21	27	15
21	24	15	3	9	18
12	3	30	24	6	21
6	9	12	6	18	15
27	15	27	12	24	3
18	9	3	30	12	21



4 x Table

12	36	20	32	4	40
40	24	8	28	36	20
28	32	20	4	12	24
16	4	40	32	8	28
8	12	16	8	24	20
36	20	36	16	32	4
24	12	4	40	16	28



5 x Table

15	45	25	40	5	50
50	30	10	35	45	25
35	40	25	5	15	30
20	5	50	40	10	35
10	15	20	10	30	25
45	25	45	20	40	5
30	15	5	50	20	35

 $b \times$ Table

18	54	30	48	6	60
60	36	12	42	54	30
42	48	30	6	18	36
24	6	60	48	12	42
12	18	24	12	36	30
54	30	54	24	48	6
36	18	6	60	24	42



7 x Table

21	63	35	56	7	70
70	42	14	49	63	35
49	56	35	7	21	42
28	7	70	56	14	49
14	21	28	14	42	35
63	35	63	28	56	7
42	21	7	70	28	49



8 x Table

24	72	40	64	8	80
80	48	16	56	24	40
56	64	40	8	32	48
32	8	80	64	16	56
16	24	32	16	48	40
72	40	72	56	64	8
48	24	8	80	32	56



9 x Table

27	81	45	72	9	90
90	54	18	63	81	45
63	72	45	9	27	54
36	9	90	72	18	63
18	27	36	18	54	45
81	45	81	36	72	9
54	27	9	90	36	63



All tables playing card multiplication board

You need

3–4 players
Cards 1–10
Counters of four colours
(10 of each)

Rules

Deal five cards to each player. Multiply 2 cards together, e.g. $9 \times 5 = 45$
Cover a square that has that number with one of your counters. Replace the two cards you used. (Always have five cards.)
Next player has a turn.
The winner is the first player to get 4 in a row, column, diagonal or square.

1	2	3	4	5	6
7	8	9	10	12	14
15	16	18	20	21	24
25	27	28	30	32	35
36	40	42	45	48	49
50	54	56	60	63	64
70	72	80	81	90	100