



Mathsercise

Year
2

CURRICULUM INTO THE CLASSROOM
Independent Learning Materials



Produced by:

Education Queensland C2C Project Team

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Icon legend



Sheet



Keep



Prac work



Tutor



English Pack



Send-in



Digital



Safety



Maths Pack



Science Pack



Focused teaching and learning



Play learning situations



Real life situations



Routines and transitions



Investigations



Introduction

This booklet is designed to support your student's knowledge of number facts, number computation and content that underpins their understanding in mathematics.

The booklet has the following sections:

- Today's number
- Number facts — Addition and subtraction
- Let's calculate
- Everyday maths

It has been designed for tutors or teachers to use at their own discretion.

You may like to complete some of these activities as regular routines in the form of five-minute revision sessions each day or use them to reinforce and revise concepts that students have difficulty with. It is suggested that these activities be completed multiple times so that students work towards being flexible and confident mathematics learners.

With **Today's number**, students may choose a number or several numbers and then answer some of the activities.

To develop an understanding of **Number facts**, students need opportunities to:

- practise facts so that they can recall facts with fluency
- look for number patterns
- learn related facts together.

When learning number facts students can nominate:

- *Facts I know well*
- *Facts I do not know*
- *Facts I can work out.*

Visual models can be used to help students to learn number facts and to thoroughly develop knowledge.

Let's calculate is to practise calculating numbers. When teaching for understanding, students can begin to use concrete and visual representations and move along to symbolic representations.

The use of concrete material is appropriate for assisting all students in their mathematical development. The use of concrete materials will change as students progress throughout the year levels.

In **Everyday maths** students can be asked any practical mathematical questions that will help them in everyday life.

It may be useful to keep a separate exercise book for students to write their answers in or complete their working (if necessary).

Today's number

Number of the day

Have students select and record a number (number can be from 10–100), for example:

125

Choose some activities from the following options:

Activities

Write in words

Show in hundreds, tens and ones

Add ten more

Show ten less

Add 100 more

Count back two

Write number before and after

Represent today's number

Examples

twenty-five

2 tens 5 ones

35

15

125

23

24, 25, 26

use MAB blocks

Let's count

Start at the number of the day, (for example: 125).

Decide on a way to count, for example:

- count forwards and backwards in:
 - ones
 - twos
 - fives (if a multiple of 5)
 - tens
 - one hundreds.

Number facts — Addition and subtraction

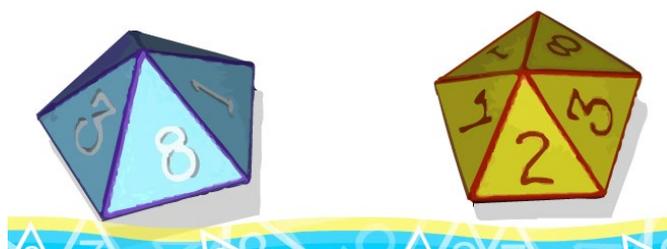
Double dice (a game for one player)

What students need:

- Two dice

What to do:

- Have students roll the dice.



- Say an addition problem (use a start number of 1–8) and ‘count on one’ or ‘count on two’ (for example: 6 add 1).
- Show the addition problem using the number track (for example: 6 add 1).

Addition bingo (a game for two or more players)

What you need:

- Game board (sample shown)

| | | |
|----|----|----|
| 4 | 12 | 8 |
| 10 | 6 | 7 |
| 9 | 8 | 11 |

What to do:

- Have the students:
 - draw a three-by-three grid
 - write in nine numbers between 0 and 18.
- Ask a series of addition number facts. Choose facts for which students have demonstrated familiar strategies (for example: 7 add 5).
- Students calculate the answer to the fact and cross out (or cover with a counter) that number if it appears on their grid.
- Continue playing until one student has crossed out all nine numbers.

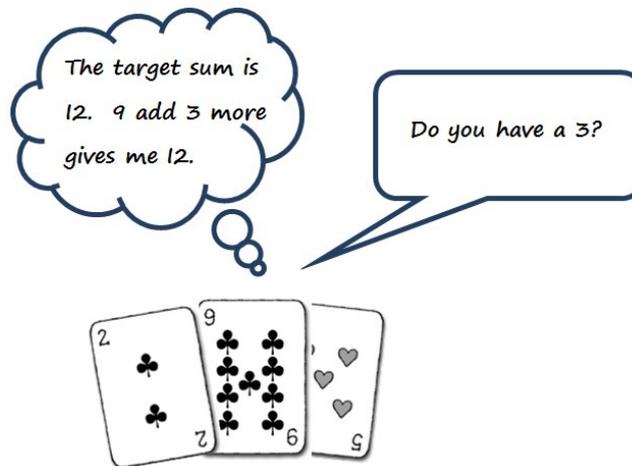
Addition go fish! (a game for two or more players)

What you need:

- Pack of playing cards (remove all Kings, Queens, Jacks and Jokers)

What to do:

- Decide on a 'target sum', for example: 12.
- Deal five cards to each player and place the remaining cards in a draw pile.
- Players scan their cards for any pair that adds to the 'target sum', for example: 7 and 5. Pairs that add to the 'target sum' are placed face up beside that player.
- Players take turns asking for a card that will give them the 'target sum'.
- If the other player:
 - has the requested card, he/she must surrender that card
 - does not have the requested card they call 'Go fish!', and the requesting player picks up a card from the draw pile.
- The first player to successfully use up all their cards (that is, form pairs matching the 'target sum') wins the game.



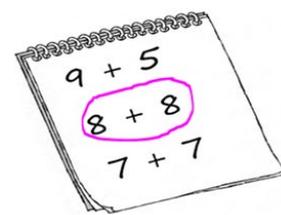
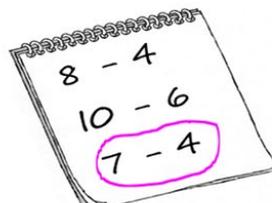
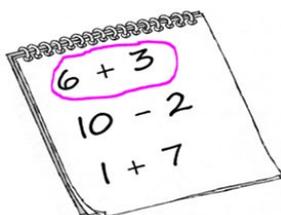
Odd one out (a game for two players)

What you need:

- Paper and pencil, or whiteboard and marker

What to do:

- Players take turns writing sets of three addition and/or subtraction facts for their partner. Two of the facts in each set must have the same sum, for example: $7 + 2$ and $4 + 5$. The third fact will have a different sum.
- Partners need to find and explain the 'odd one out'. If they are successful, they earn a point.
- Play continues until one player earns a target number of points or until a time limit is reached.



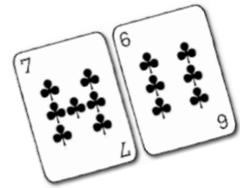
Highest sum wins (a game for two or more players)

What you need:

- Pack of playing cards

What to do:

- Remove picture cards from a deck of playing cards.
- Shuffle cards and place face down in a pile.
- Each player takes two cards from the pile and places these face up.
- Players add their two cards and announce the sum.
- The player with the greatest sum keeps the cards.



In the event, two players have the same sum, they each draw a further two cards to determine the winner of that round.

- Play continues until all cards in the pile have been used.
- The player with the most cards wins the game.

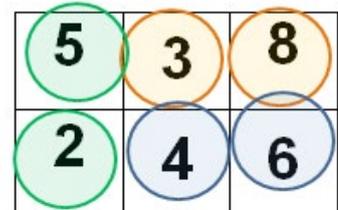
Subtraction lotto (a game for two or more players)

What you need:

- Draw a three-by-two grid
- Write in six numbers between 0 and 9.

What to do:

- Ask a series of subtraction number facts. Choose facts for which students have demonstrated familiar strategies (for example: two less than seven).
- Students calculate the answer to the fact and cross out (or cover with a counter) that number on their grid, if it appears.
- Continue playing until one student has crossed out all six numbers.

**Fast facts** (a game for one player)

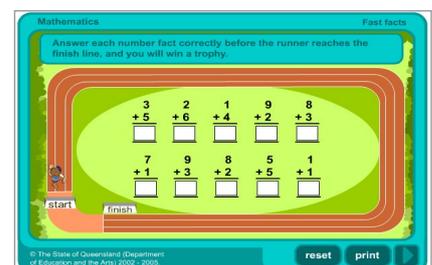
What you need:

- **Learning object — Fast facts**

What to do:

- Students use the learning object to practise recalling number facts by trying to answer the facts before the runner reaches the finish line.

Encourage students to share their strategies of recalling addition and subtraction number facts at the end of each round.



Let's calculate

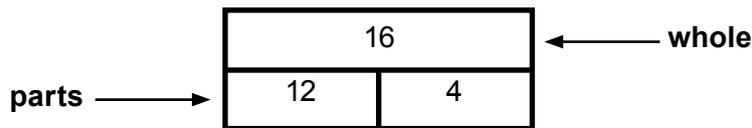
Addition and subtraction stories

Present, model and record addition and subtraction situations, for example:

- *There were 12 children playing soccer on the oval. Four more children joined the game. Now there are 16 children.*

Have the students:

- identify situations as an addition or subtraction
- act out, draw and use materials to represent the situation
- record the situation using a part-part-whole model and a number sentence, for example: $12 + 4 = 16$



Present a related subtraction situation, for example:

- *There were 16 children playing soccer on the oval but four children had to leave. This left 12 children playing soccer.*

Have the students act out, draw and use materials to represent this situation and record the situation using a part-part-whole model or number sentence.

Thinkboards for addition and subtraction

What you need:

- sheet **Thinkboard** and concrete materials for each student.

What to do:

- Present stories, for example:
 - *There were nine fish swimming and three fish hiding. There were 12 fish in the tank. (Addition)*
 - *There were 12 fish in the tank. Three had swum away to hide. Nine were left out in the open. (Subtraction)*

Have the students use their thinkboard to:

- model the story with materials
- represent the situation pictorially
- write a number sentence, using numbers and symbols
- record the situation using a part-part-whole model.

Adding on a number board

What you need:

- **0–129 number board** and two counters (preferably transparent) for each student.

What to do:

- Have the students use the counters and the board to model and solve problems similar to the following:
 - Start at 33. Add four. What is the answer? ($33 + 4 = 37$)
 - Start at 71. Subtract 20. What is the answer? ($71 - 20 = 51$)
 - The end number is 44. I added 20 to the start number. What was the start number? ($24 + 20 = 44$)
- Present the problems orally. Counters are used to mark start and end numbers, for example: Start at 46. Subtract five. Add 10. What is the answer? ($46 - 5 + 10 = 51$)

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 28 | 39 |
| 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 |

Solving word problems

Present addition and subtraction word problems involving two-digit numbers. Include bridging for addition once this has been introduced. Do not include bridging for subtraction.

Example word problems:

Joe planted 35 seedlings on Saturday and 21 seedlings on Sunday. How many seedlings did he plant altogether?

Hannah bought a box of 25 doughnuts. She gave 12 to her sister. How many doughnuts did Hannah have left?

Ask students to:

- use the SCAN-THINK-DO strategy
- attempt a mental calculation first
- represent both numbers with base ten modelling materials to confirm the sum
- record the strategy using an informal written method.

Everyday maths

Time

Have the students:

- use a calendar (for the current year) to:
 - identify today, tomorrow, yesterday, day after, day before, next week, last week
 - order months of the year
 - identify which season we are in
 - identify day, date and month
 - find how many days in June
 - find how many days until ... (for example: pick a date, a birthday or holiday).
-

Duration of time

Have the students:

- make comparisons of durations of time, for example:
 - short time/long time, shorter/shortest time, longer/longest time
 - fast/slow
 - suggest activities that take a month, a week, a day, an hour
 - use a clock (analogue and digital)
 - ask about o'clock and half-past, quarter to/past times.
-

Length

Have the students:

- make comparisons of objects and distances that are:
 - longer/shorter/longest/shortest
 - wider/narrower/widest/narrowest
 - thicker/thinner/thickest/thinnest
 - taller/shorter/tallest/shortest.
-

Capacity

Have the students:

- make comparisons of objects/containers that:
 - are full/empty
 - hold more than/hold less than
 - hold as much as
 - hold the most/hold the least.
-

Location

Have the students:

- follow directions by moving:
 - forwards/backwards/sideways
 - left/right
 - clockwise/anticlockwise
 - half turn/quarter turn.

Area

Have the students:

- make comparisons of shapes that:
 - cover more/cover less
 - have a larger area/smaller area
 - have a larger surface/smaller surface.
-

Mass

Have the students:

- make comparisons of objects that:
 - weigh more/weigh less
 - weigh the same
 - are heavier than/lighter than
 - are heaviest/lightest.
-

Money

Have the students:

- use collections of money to:
 - identify Australian coins and their value
 - describe features of coins
 - count collections of coins (5c, 10c, \$1, \$2)
 - identify familiar coin combinations.