# YEAR I STUDENT BOOK Mailhseeds 

## Add and Subtract

 to 20

My Name
www.mathseeds.com.au

## Mathseeds Add and Subtract to 20 Year 1 Student Book

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## In this book

The Mathseeds program teaches children the core maths and problem solving skills needed to be successful at school.
Each online lesson begins by introducing and modelling a mathematical concept. The child then completes a wide range of activities where they practise the new skill. These activities present the content in many different ways so that children learn to use and apply each new skill in a variety of situations.
This book is designed to supplement the online program with more exercises in the core mathematical concepts. Each unit focuses on a topic within the main learning strand, presenting a series of pen and paper activities, word problems, puzzles and games to practice their skills and understanding.
The topics in this book align with the following components of the Australian Curriculum:

## Australian Curriculum content codes and descriptions

ACMNAOO4 - Represent practical situations to model addition and sharing ACMNA015-Represent and solve simple addition and subtraction problems using a range of Doubles including counting on, partitioning and rearranging parts


## Count on to add

I Add Mango's fruit together.


$$
3+2+1=\square
$$

2 Find the answers.

$3+2+2=\square$


$$
4+1+3=\square
$$

## Count on a number line

Use the number lines to find the answers.


$$
2+3+2=\square
$$



$$
4+2+4=\square
$$



$$
1+3+5=\square
$$



$$
5+2+3=\square
$$

Add 3 numbers
I Count and add.

$$
\begin{aligned}
& \theta_{b}^{-t}+b t+\theta_{0}^{0}=
\end{aligned}
$$

$$
\begin{aligned}
& \theta \theta+\theta+\theta=
\end{aligned}
$$

2 Find the answers.

$$
\begin{array}{ll}
1+5+2=\square & 5+3+1=\square \\
2+4+2=\square & 4+5+1=\square \\
3+2+4=\square & 2+5+2=\square
\end{array}
$$

3 Find the missing numbers.

$$
\begin{array}{ll}
3+3+\square=7 & 5+2+\square=10 \\
1+1+\square=5 & 4+2+\square=8
\end{array}
$$

## Write the sum

Fill in the number sentences.


$$
\square+\square=\square=\square
$$



## Fluent addition to IO

Add numbers to the middle number in each wheel.


## Toy cars problem

I Read.
Waldo has 5 toy cars, Mango has 3 toy cars and Doc has 2 toy cars. How many cars altogether?


2 Underline the question. 3 Circle the facts.
4 Complete the number line to add.


5 How many toy cars altogether?
6 Solve the same problem in a different way.

7 Which strategy have you used here?

Count on from the first number. Find the answer.

$$
\begin{aligned}
& { }_{-0}^{0} \\
& 7+5= \\
& 8+7= \\
& { }_{0}^{\circ} \\
& 9+6=\square \\
& 13+4= \\
& \|+3=\square 16+2=
\end{aligned}
$$

2 Count on from the larger number.

$$
\begin{aligned}
& 7+4=\square \quad 8+5=\square \\
& 10+2=\square \quad 12+3=\square \\
& 14+2=\square \quad 15+4=\square \\
& 9+8=\square \quad 11+5=\square
\end{aligned}
$$

Number line addition
Use the number lines to find the answers.


$$
9+4=
$$

$\square$


$$
\|+5=
$$

$\square$


$$
14+6=
$$

$\square$

2 Find the answers.


$$
10+4=
$$

$\square$


$$
12+5=
$$

$\square$

Number sentences
Make these sums true.

$$
\begin{array}{lll}
1+\square=5 & \square+3=7 & 2+6=\square \\
12+5=\square & 14+\square=19 & \square+7=20
\end{array}
$$

2 Colour the true sums. Cross out the false sums.

$$
\left\{\begin{array}{c}
3+6=9 \\
2+5=9 \\
\{+5=20\}
\end{array} 11+5=17\right\}
$$

3 Write three sums which equal the same amount.
$\square$
$\square$ $=10$ $\square$ $+\square$ $=10$ $\square$ $+\square=10$
$\square$ $+$ $\square$ $=15$ $\square$ $+$ $\square$ $=15$ $\square$ $+$ $\square$ $=15$
$\square$ $+$ $\square$ $=18$ $\square$ $+$ $\square$ $=18$ $\square$ $+$ $\square$ $=18$
$\square$
$\square$ $=20$ $\square$ $+$ $\square$ $=20$ $\square$ $+$ $\square$ $=20$

Equal sums
I Colour the sums which are equal. Cross out the sums which are not.

$$
6+3+1+8
$$

2 Match the equal sums.

$$
\begin{array}{ll}
1+9= & =15+4 \\
12+5= & =11+3 \\
10+9= & =10+7 \\
7+7= & =6+4
\end{array}
$$



3 Make these equal sums true.

$$
\begin{array}{ll}
10+1=9+\square & 12+4=\square+3 \\
10+\square=12+1 & 15+\square=16+2 \\
\square+4=13+1 & 5+5=\square+\square \\
13+\square=15+2 & \square+\square=11+9
\end{array}
$$

## The equals sign

I Put the correct sign in each box. You can use + , - or $=$.
$10 \square 5 \square 15$
$6 \square 3 \square 3$
II

$10 \square 2 \square$ 8
16

17
5



2 Colour the equals sign when it is true. Cross it out if it is false.

$$
\begin{aligned}
& 4 \square 3 \\
& 12+0 \square 10+2 \\
& 5+6=12 \quad 10+10=18+1 \\
& 5 \square 5 \\
& \|+4 \square 15
\end{aligned}
$$



## Writing sums

I Write the sums. The first is done for you.

$\square$


2 Draw lines to join the equal sums.

## Different but the same problem Add to 20

## Read.

# Doc wrote 2 different addition equations with the same answer. What could they be? 



2 Underline the question. 3 Circle the facts.
4 Solve it!

5 Which strategy did you use to solve the problem?
$\qquad$
6 Find more addition equations with the same answer.

## Counting doubles

I Draw matching spots. Write the answers.


Double 6 is


Double 8 is $\square$


Double 7 is $\square$

2 Write the answers.

$$
\begin{aligned}
& +\square: \square \\
& \left.\left.+\begin{array}{ll}
\bullet & \bullet \\
\bullet & \bullet
\end{array}\right]+\begin{array}{ll}
\bullet & \bullet \\
\bullet & \bullet
\end{array}\right]=\square
\end{aligned}
$$

## Draw doubles

Double the number of items. Write the missing numbers.


## Adding doubles

Write the missing numbers.


## Doubling

## (2) $\int_{2}$ numbers! <br> 

Write the answers.


## Double marbles problem

I Read.
Ruby has 2 marbles. Dizzy has double the number of marbles as Ruby. Doc has double the number of marbles as Dizzy. Mango has double the number of marbles as Doc. How many marbles do they each have?

2 Underline the question. 3 Circle the facts.
4 How can you solve it?

5 How many marbles do they each have?
Ruby $\qquad$ Dizzy
Doc $\qquad$ Mango $\qquad$

6 Who has the most marbles? $\qquad$

7 Check with a partner. Tell each other which strategy you used to solve the problem.

Near doubles
Colour the near doubles dominoes.


2 Match each sum to its nearest double.


3 Complete.

$$
\begin{array}{lll}
2+3 & =2+2+1 & =\square \\
4+5 & =4+4+1 & =\square \\
7+8 & =7+7+1 & =\square \\
5+6 & =5+5+1 & =\square \\
9+10 & =9+9+1 & =\square
\end{array}
$$



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## Adding near doubles

Add Ruby's near double dice rolls.


## Near doubling

I What comes out of the doubles machine?


2 What comes out of the near doubles machine?


## Domino dots problem

I Read.

Doc picked this domino | 0 | 0 | 0 |
| :--- | :--- | :--- |
| 0 | 0 | 0 |
| 0 | 0 | 0 | He looked at the dots and quickly found the total. How did Doc find the answer?



2 Underline the questions. 3 Circle the facts.
4 Use a near doubles strategy to solve the problem. Show your working.

There are $\qquad$ dots altogether.

5 Compare your answer with a partner's. Is the answer the same if you used a different double?

6 Make these into a different near doubles domino.


Swap with your partner. How quickly can you find all five totals?

Count to subtract
Use your hand to cover up. Write the answer.
Cover 5 eggs.
How many left? $\square$


Cover 4 pencils.


Cover 3 pots. How many left? $\square$


Cover I orange.

$$
8-1=\square
$$



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Take away
Find the answers.


## Number sentences

Fill in the number sentences.
Take away I.


Take away 2.


Take away 3.


Take away 4.


Take away 5.


Take away 6.


Subtract
Write the sums.

$$
\begin{aligned}
& 10-\square=\square \\
& 10-\square=\square \\
& 10-\square=\square
\end{aligned}
$$



2 Draw.

5
Take away 3.


Take away 2.

$$
5-3=\square
$$

$$
7-2=
$$

$\square$

## Count back

I How many? Circle the number.



 $\stackrel{r}{3}$


Cross out 3.
Jump back to show how many are left. $\square$

2 How many? Circle the number.


## Cross out 5.

Jump back to show how many are left.


3 Write a number sentence for each take away above.
$\square-\square=\square=\square$

Number line subtraction
'Subtract within 10 '
Hop back 3 places.


The number is $\square$


The number is $\square$
2 Trace the hops. Answer the sums.


$$
8-3=
$$

$\square$


$$
6-2=
$$

$\square$


$$
7-4=
$$

$\square$

## Take away

I Fill in the equations.

$$
\begin{gathered}
b=8 \pm \Rightarrow 8 \Rightarrow 8 \Rightarrow \\
\square-\square=\square
\end{gathered}
$$



$$
\square-\square=\square
$$



$$
\square-\square=\square
$$

2 Match each sum to its answer.


Number lines
Count back.


2 Match each sum to its number line.


## Carrots problem

Read.
Snowy the rabbit dug up 8 carrots. He ate 3.

How many carrots are left?
2 Underline the question. 3 Circle the facts.


4 Complete the number line to take away.


5 How many carrots are left?
6 Write it as a number sentence.


7 How do you know your answer is right?

## Count the difference

Count to find the difference.
$\stackrel{1}{2}$








The difference between 6 and 4 is $\square$


The difference between 7 and 3 is


#  DDDDD 

$$
8-5=\square
$$

## -

 o OOOOO$$
9-6=\square
$$

## Difference on a number line

 Count the jumps to find the difference.

The difference between 10 and 4 is $\square$


The difference between 9 and 5 is $\square$


$$
8-4=\square
$$



Write the number sentence
How many more?


## Difference problems

Draw the problems and find the answers.
I Mango has 10 pink marbles. Dizzy has 8 blue marbles. How many more pink marbles are there?


2 Ruby has 9 green bows. Doc has 3 red bows. How many more green bows are there?

There are
 more green bows.

## Find the difference problem

I Read.
The difference between Doc's two numbers is 4 . What could his numbers be?

2 Underline the question. 3 Circle the facts.
4 Have a guess! and
5 Now check using a number line. Count to find the difference.


Doc's numbers could be $\qquad$ and $\qquad$ Or $\qquad$ and $\qquad$ Or $\qquad$ and $\qquad$ .

Or $\qquad$ and $\qquad$ Or $\qquad$ and $\qquad$ .

6 Fill this number line with different numbers.


Doc's numbers could be $\qquad$ and $\qquad$ .

Or $\qquad$ and $\qquad$ Or $\qquad$ and $\qquad$ .

## 7 Compare your answers with a partner.

Are your answers the same?

## Count the difference

What is the difference?


The difference between 17 and $I 2$ is $\square$


The difference between 15 and 10 is $\square$
 $\langle\rangle\langle\langle\rangle\langle\langle\langle\rangle\rangle\langle\rangle\rangle$

$$
20-19=\square
$$




$$
18-15=\square
$$

Number line difference
I Jump back to find the difference.


$$
20-4=\square
$$



$$
18-6=\square
$$

2 Count the spaces to find the difference.


$$
16-11=\square
$$

Write the number sentence (Subtract within 20): Write the number sentence and find the difference.

##  




## Difference problems

Use the number line to find the difference and fill in the sum.
Mango has 17 apples. Ruby has 8 pears. What is the difference?


Waldo has 19 carrots. Doc has 5 beans. What is the difference?


## Subtrac† unknown numbers

Take away the answer to find the missing number.
The first one is done for you.

| 0 | 0 | 0 | 0 | 0 |  | $\theta$ |  |  |  | $\theta$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 0 | 0 | $\theta$ | $\theta$ |  |  |  |  |  |  |

$$
15-8=7
$$

| 0 | $\bigcirc$ | O | O | $\bigcirc$ | O | O | O | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\bigcirc$ | $\bigcirc$ | O | O | 0 | 0 | 0 |  |  |  |


| O | O | O | O | O |
| :--- | :--- | :--- | :--- | :--- |
| O | O | O | O | O |$\quad$| O | O | O | O |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |

$$
14-\square=9
$$



|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |


|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |

$$
16-\square=7
$$

## Count the difference

Circle the numbers and then count the difference.


$$
16-\square=14
$$



$$
13-\square=11
$$



$$
20-\square=12
$$



$$
17-\square=13
$$



## Number mountain

Make a number mountain. The first one is done for you.

$$
9-\square=4 \quad 4^{9}+\square 5
$$

$10-\square=3$

$$
\|-\square=7 \quad 7^{+\quad+\square}
$$

$$
15-\square=8 \quad 8^{+5}+\square
$$

## Unknown number problems

Write a sum and find the answer.
Ruby went shopping with
16 bags. She came home
with II. How many bags
did she lose?


2 Waldo took 13 fish cakes to the picnic. He ate some on the way and now has 7 left. How many did he eat?


3 Mango put 18 balls in a bag. It had a hole and now only 7 balls are in the bag. How many fell out?

4 Doc had 20 books. He gave some to his friends and now he has 14 left. How many did he give away?


Apples and pears problem
Read.
Mango has some apples. Ruby has some pears. The difference in number is 6 . How many apples and how many pears are there?

2 Underline the question. 3 Circle the facts.
4 Have a guess!
$\qquad$ apples and $\qquad$ pears
5 Now check using a number line.


There could be $\qquad$ apples and $\qquad$ pears.

6 Write it as a number sentence.


7 Are there any other answers to this problem? Share with a partner. Did you get different answers? Talk about why.

## Amounts in notes

I Colour the right amount of money.

c $\quad \$ 20$


## Amounts in coins

Colour the money to make the amount.


Adding money
How much do they cost altogether? Add to find the answers.

$$
\begin{aligned}
& \because \because+3+\infty= \\
& \text { (2) } 5 \mathrm{5c}+\sqrt{6} \\
& \text { 最 }+\square 6 \\
& 0-50 c+35 c=
\end{aligned}
$$

## Add within \$20

I Circle two items you can buy with a $\$ 20$ note and fill in the sum.


2 Circle the most expensive toy and cross out the cheapest toy.


3 Which three toys above can you buy with a $\$ 20$ note? There are two answers!
$\qquad$
$\qquad$


Change from $\$ 10$
What is the change from $\$ 10$ ?


$$
\$ 10-\square=\square
$$



$$
\$ 10-\$ 8=\square
$$



$$
\$ 10-\square=\square
$$

Change from \$20
Colour the notes and coins to show the change from $\$ 20$.


## Number line change

Count back to find the change.


## Match the sum

Match each item to a sum and find the change.


$$
\$ 10-\$ 5=\square
$$


$\$ 10-\$ 7=\square$


$$
\$ 10-\$ 3=\square
$$


$\$ 20-\$ 15=\square$

$\$ 20-\$ 12=\square$
$\$ 20-\$ 18=\square$

## Mango's shopping

Read.
Mango has $\$ 20$. She buys a notebook for $\$ 5$, pens for $\$ 3$ and stickers for $\$ 4$. How much change will she get?

2 Underline the question. 3 Circle the facts.
4 First, use the number line to add up how much the notebook, pens and stickers cost altogether.


The notebook, pens and stickers cost \$
Write it as a number sentence.

$$
\square+\square=\square
$$

5 Next, use a bar model to find out how much change Mango will get.

| $\$ 20$ |
| :--- |
|  |

Mango will get \$ $\qquad$ change.


#### Abstract

Write it as a number sentence. 


Share your answers with a partner. Talk about why these two strategies are useful for solving this problem.

