Sample Pack
This book contains a selection of content from Mathletics Workbooks covering Kindergarten to Year 6.
The Printed Workbooks Series

Introduction

The huge library of Mathletics workbooks has been specifically written by educators – totalling over 120 books. Each year is broken into a number of topics, beautifully laid out to be clear and easy for students to understand and master key skills – from basic introductions to a concept, through to more advanced applications.

The Mathletics workbooks are produced by the same award-winning team that created the online program. All our team are experienced educators, many having been teachers in a previous life, so you can be sure these workbooks are a strong and powerful learning aid.

For schools, every one of the student workbooks has an accompanying teacher version – including answers and teaching concept notes.

This book contains just a small sample of the huge volume of content available across the Mathletics printed workbooks series.
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<td>Geometry</td>
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</table>
Length – height

1 Find someone in the room who is taller than you. Find someone in the room who is shorter than you. Draw and name them. Don’t forget to draw you! Cut out the frame and fold the sides back to show you on the front. Ask people to guess who could be on the other pages.

________ is shorter than me. Me ________ is taller than me.
Grouping and sharing – groups

You will need: 🤝 a partner 🔪 scissors

What to do:
Cut out the animals below and sort them into groups.
Tell your partner how you sorted them.
Now sort them another way into different groups.
Tell your partner how you sorted them.

What to do:
Cut out the animals below and sort them into groups.
Tell your partner how you sorted them.
Now sort them another way into different groups.
Tell your partner how you sorted them.
Addition – make 5

1 How many more to make 5?
Place counters in the empty squares to find out.

4 and 1 makes 5

and makes 5

and makes 5

and makes 5
Addition – make 5

What to do:
Use chalk to draw 6 number squares on the asphalt that are big enough to stand in.
Stand in 0. Your teacher or partners will say a number between 0 and 5. Take that number of steps.
Your job is to find out how many more steps to get to 5. Count the steps you take until you are in 5.
Can you say the number fact you have made?

3 and 2 more is 5.
Data – collecting and representing

1 Draw a picture of yourself and write your name in the box below. Cut out your picture.
   Help to arrange the class pictures into columns of boys and girls.

Name ________________________________

2 Now think of other ways you could sort the class. Perhaps you could sort yourselves into people with brothers and people without brothers or people who like swimming and those who don’t.
Fractions – halves of shapes

When we divide a whole into 2 equal parts, we call each part a half.

This is one whole apple. The apple is now cut into halves.

1 Colour one half of each shape.

2 Draw a line to cut each food in half.

3 Which shows half a glass of milk? Circle it.
Number relationships – zero

1 Do you know any other words for zero? Write them here.

2 What happens when we add zero to a number? Try these.
   a 1 + 0 = ____  b 3 + 0 = ____  c 4 + 0 = ____
   d 2 + 0 = ____  e 6 + 0 = ____  f 5 + 0 = ____
   g What do you notice?

3 What about if we subtract zero from a number? Try these.
   a 10 − 0 = ____  b 7 − 0 = ____  c 6 − 0 = ____
   d 9 − 0 = ____  e 8 − 0 = ____  f 5 − 0 = ____
   g What do you notice?
Number relationships – zero (continued)

4 Jump along from 0 to answer these.

a 0 + 2 = _____  b 0 + 5 = _____  c 0 + 7 = _____

d 0 + 6 = _____  e 0 + 9 = _____  f 0 + 10 = _____

What do you notice?

5 Are you ready for some really, really hard sums? Are you sure? OK then clever-sticks, here they are!

a 250 + 0 = _____  b 0 + 500 = _____

c 0 + 725 = _____  d 0 + 999 = _____

WOW! You are clever.
Ordinal numbers – explore further

You will need:  a partner  long strip of paper  pencils

What to do:
Work with a partner to solve this problem.
Nina decorated 24 cakes for her class party.
She lined them up and put chocolate icing on every 2nd cake.
She put a jube on every 3rd cake. She put sprinkles on every 4th cake.
Show what the cakes looked like. You might need a long strip of paper!

What to do next:
How many cakes have no decorations at all?

How many cakes have all 3 decorations?
Addition and subtraction – explore

You will need: a partner, scissors, counters

What to do:
Cut out the number cards below and put them in a pile face down. Decide if you are playing an adding or subtracting game and if you are going to race against each other or take turns. Take 2 cards and add or subtract the 2 numbers. If you are subtracting, make sure you start with the bigger number. Record your fact. Use counters to help if you want. Play until you have used all the cards. Ask your teacher to check your facts!

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<td>6</td>
<td>7</td>
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</tbody>
</table>
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Division – grouping (quotition)

You will need: a partner or you can work alone 48 counters

What to do:

You and 3 friends have won a prize from the local bakery. There are 48 delicious mini cupcakes available to be shared out.

Would you get more if they said,

‘Share these cupcakes evenly among you.’

OR

‘Each winner can have 6 cupcakes.’

Work with a partner to solve this problem. Show your working out below.
Patterns and rules – skip counting

When we skip count, we follow number patterns.

1  Count by 2s to find how many wheels.

2  Count by 5s to find how many toes.

3  Count by 2s to fill in the gaps. Watch out! Your starting point is not 2. You can use a hundred grid to help.

4  Count by 5s to fill in the gaps. Watch out! Your starting point is not 5.

What pattern do you notice?
2D space – tessellation

When we fit pattern blocks together like this, we are **tessellating**. When we tessellate, the shapes fit together without any spaces or overlapping.

We often **flip**, **slide** and **turn** shapes when we tessellate.

You will need: 🤪 a partner or work by yourself 🎨 pattern blocks

**What to do:**

Create a pattern or picture with pattern blocks. You could create a robot, person, butterfly or flower.

What different 2D shapes did you use? Record them here.

---

**What to do next:**

Experiment with the pattern blocks to answer these questions. Remember, you may need to flip, slide or turn the blocks.

Can we tessellate if we **only** use:

- **a** squares?
- **b** rhombuses?
- **c** trapeziums?
- **d** triangles?
- **e** pentagons?
- **f** hexagons?

[Blank lines for answers]
Data – analysing data

When we look at data we have to think carefully about what information it actually tells us.

1 Look at this graph. Does it tell us that:

   a The 2 favourite subjects in 2Y are writing and art?

   b The least favourite subject in 2Y is spelling?

   c That everybody in 2Y loves art?

2 a One student says that this graph shows that 2Y shouldn’t learn spelling because only 4 students say it is their favourite subject. What do you think of their argument?

   b Does this graph mean that no one likes PE or Science? Explain your thinking.
Place value of whole numbers – trading

These place value boards show us how trading works. If we have 10 units, we should trade them for a ten. If we have 10 tens, we should trade them for a hundred. This is how our number system works.

Practise trading by adding the amount to each place value board. Draw the amount to be added on the first board and show it regrouped on the next board. Write the answer in the top box. The first one has the amount to be added drawn on to show you.

1. a 17 more
   
   

2. b 80 more
   
   

3. c 27 more
   
   

Reading and Understanding Whole Numbers
Copyright © 3P Learning
4 Label the number line so it goes up in 3s:

| 0 | 3 |   |   |   |   |   |

5 Write two turnaround facts for each array. The first one has been done for you.

- a) \(4 \times 3 = 12\)
  \(3 \times 4 = 12\)

- b) 

- c) 

- d) 

- e) 

- f)
Find the mass of each of these items.

a

\[ \text{Ice cream} = \quad \text{g} \]

b

\[ \text{Brekkie Flakes} = \quad \text{g} \]

c

\[ \text{Turkey} = \quad \text{g} \]
Money – coin combinations

It is important to be able to recognise coins and add different combinations quickly.

1 Label each of these coins:

2 Add each amount of coins:

3 Show $10 using a combination of all the coins in question 1.

50¢ has twelve sides, so just use circles with the amount inside.
1. Jess spent half of her pocket money on a magazine. If she gets $10 pocket money, how much was the magazine?

2. If one quarter of a packet of jubes is 8 jubes, how many jubes are there in the whole packet?

3. Marley and Matt shared a pizza that had been cut into 8 pieces. Marley ate $\frac{1}{4}$ of the pizza and Matt ate $\frac{1}{2}$. How many pieces were left?

4. Amy made 24 cupcakes. She iced $\frac{1}{8}$ of them pink, $\frac{1}{4}$ of them blue and left the rest plain. How many plain cupcakes were there?

5. Josie ordered two pizzas cut into eighths. If he ate $\frac{5}{8}$ of a pizza, how much was left?
Addition mental strategies – jump strategy

When we add, we can use the jump strategy to help us. Look at $57 + 22$:

1. First we jump up by the tens.
2. Then we jump up by the units.

$$57 + 22 = 79$$

1. Practise jumping in tens along the arrows:
   a. 12
   b. 53
   c. 123

2. Use the jump strategy to add these:
   a. $78 + 52 = \boxed{}$
   b. $115 + 44 = \boxed{}$
   c. $185 + 63 = \boxed{}$
Harder perimeter challenges solve

Use the clues in each of these diagrams to find the perimeter.

Diagram 1

Perimeter = 

Diagram 2

Perimeter = 

What to do

Addition and Subtraction

Use the jump strategy to add these:

a  

b  

c  

Practise jumping in tens along the arrows:

a

b

c

Addition mental strategies – jump strategy

When we add, we can use the jump strategy to help us. Look at 57 + 22:

1
2

57 + 22 = 79
Work out the value of each type of fruit:

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<th>Value</th>
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<td>Apple</td>
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<td></td>
<td>13</td>
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<td></td>
<td>28</td>
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</tbody>
</table>
Looking at whole numbers – create and compare numbers

1. Use the following digits to make:
   
   1  7  3  6  4

   a. The highest number
   b. The lowest odd number
   c. The lowest number
   d. The amount of money you would like to win
   e. The highest even number

2. Use the digits 5 2 6 3 8 to make different 3 digit numbers.

   

3. Use the numbers you have made in Question 2 to make the statements true:

   a. is greater than
   b. is less than
   c. is close to
   d. is about double
In this activity, you’ll use your knowledge of multiplication, division, subtraction and addition to find as many number statements you can to create one number.

Using ONLY the number 2, +, ×, – and ÷ keys on your calculator, find as many ways as you can to create the number 13. For example, you could make:

\[22 + 2 + 2 = 26 \div 2 = 13\]

Record your statements on a piece of paper.

Now, compare your answers with a partner’s. How many did they find? Can you supplement each other’s lists? What’s the longest statement? What’s the shortest?

Choose another number to make and see how many statements you can find or challenge a partner to a competition. Set a time limit and see who can find the most ways to make 15 within the time span.

Use your knowledge of multiples to help you work out how many boy bugs and girl bugs there are in the problem below. Listing all the multiples is a strategy that would help.

Girl bugs have 4 splodges on their backs, boy bugs have 9. Altogether there are 48 splodges. Work out how many girl bugs and how many boy bugs there are.

What if girl bugs have 8 splodges and boy bugs have 6 and there are 120 splodges altogether? How many different answers can you find?
Pizza Pizzazz is the name of a pizza delivery company that you work for on the weekends. You drive all around town delivering hot and tasty pizzas in record time.

To encourage you to uphold the company guarantee of delivering pizzas in record time, your boss has given you a choice of bonus scheme.

What scheme pays the best bonus?

Use the tables below to work out which payment system is best.

<table>
<thead>
<tr>
<th>Payment System 1</th>
<th>For each pizza that you deliver, you will get $2.</th>
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<tbody>
<tr>
<td>Number of pizzas</td>
<td>Bonus</td>
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<table>
<thead>
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<th>Payment System 2</th>
<th>For each pizza that you deliver, your bonus will double, starting at 50¢.</th>
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<tbody>
<tr>
<td>Number of pizzas</td>
<td>Bonus</td>
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<tr>
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</table>

Which bonus scheme would you choose and why?

Can you think of when the other bonus scheme would be better?

Which bonus scheme do you think your boss would prefer you to choose?
Five friends like five different TV shows: a cartoon, a crime show, a reality show, football and a sitcom. They all screen on different channels (2, 7, 9, 10, 12) and on different nights of the week. Your job is to match the friend with their favourite show.

Read the clues below and use the information to eliminate possibilities. Show your choices on the grid below. You may want to use the grid on the following page to help you arrange your thoughts.

1. Luke’s favourite show airs on the weekend. He doesn’t watch crime shows and thinks sitcoms are a waste of time.
2. The sitcom screens on Tuesday evening on Channel 12.
3. The cartoon is on Channel 10.
4. Hung’s show is on the lowest numbered channel on the first day of the school week. He can’t stand reality TV.
5. No one’s favourite show is on Sunday or Friday.
6. Macey hates sports. Her favourite show is Hung’s least favourite show and screens 2 days after Jamie’s.
7. The crime show airs on Channel 2.
8. Britt’s favourite show screens on Wednesdays on Channel 10.
9. Jamie’s show screens on Channel 12, one day before Britt’s favourite show.
10. The football screens on Saturday on Channel 7.

<table>
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<tr>
<td>Jamie</td>
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<td></td>
</tr>
<tr>
<td>Hung</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Britt</td>
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What’s on the box? solve

<table>
<thead>
<tr>
<th>Puzzle Grid</th>
<th>Luke</th>
<th>Macey</th>
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It’s graduation time

246 people will be attending your end of year graduation dinner and you are on the organising committee. You need to work out the following:

Getting ready

246 people will be attending your end of year graduation dinner and you are on the organising committee. You need to work out the following:

What to do

If you put people in groups of 8, how many tables will you need?

You think groups of 6 will be better as you can use the round tables. How many tables will you need?

You buy helium balloons to decorate the hall. The balloons come in packs of 25. You want to cover the entire roof and will need 1350 balloons. How many packets do you need?

You estimate that each person will drink 3 glasses of soft drink/water over the evening. If your glasses hold 200 mL and you purchase 2 litre bottles, how many bottles will you need for the 246 attendees?

You are serving platters of finger food and have ordered:
- 20 bags of sausage rolls (24 in a bag)
- 10 bags of spring rolls (36 in a bag)
- 100 sushi rolls that you plan to cut into 4 pieces each
- 150 mini quiches

If you want every guest to have 6 items, have you ordered enough? If not, how much more do you need?

Plan a dessert menu. Work out what you will serve and how much you will need to order to feed all 246 people.
Discount dilemmas

Solve these shopping dilemmas. You can work with a partner or by yourself. Show your mathematical reasoning for each problem.

DILEMMA 1
You have been eyeing off a new pair of jeans available at your local jeans shop and also online. They are $100 at both suppliers.

In the sales, your jeans shop offers a discount of 20%, followed by a further reduction of 40% on the marked sale price. The online supplier offers a straight 60% discount.

Are these discounts the same? If not, which is the better deal?

DILEMMA 2
Would you rather become 50% poorer and then 50% richer or become 50% richer and then 50% poorer?

DILEMMA 3
The new game you want costs $175 at one store and $180 at another. The first store then offers a discount of 5% while the second offers a discount of 10%.

Which deal gives you the cheapest price?
**Area and perimeter puzzles**

**What to do**

Shakira has had it with her brothers wrecking her stuff and decides to fence off her own area of the family room using the sofa cushions. There are 8 cushions, each 50 cm long. If she uses two of the walls as part of her boundary, what is the largest area she can make for herself that is brother-free?

Show her best option below:

The garden path on the left is made up of 9 identical squares.

a. If the perimeter of the path is 20 m, what is its area?

b. What about if the perimeter was 60 m? What would then be the area?

c. If the area of the path is 36 m², what is its perimeter?

Paige wants to paint the walls of her room purple. Her parents say she can do it but only if the paint costs less than $250. Paige has found some purple paint going cheap at $55 per 4 litre pot. Each pot will cover 9 m².

Her bedroom is 3 m × 4 m and each wall is 2.5 m high. She has one window with an area of 1 m² that doesn’t need to be painted. The ceiling is covered in silver stars already so she won’t paint that either.

Can she do it? Show your working out.
Lines and angles – classifying angles

An angle is the amount of turn between the intersection of two rays (lines).

Angles are conventionally measured in degrees on a protractor. 360° is a full turn, 180° is a half turn, and 90° is a quarter turn.

Have you heard someone say, “He did a complete 180° on that.”? What do you think they meant? What does, “She did a full 360°” mean?

1. Complete the table and use the information to help you to classify the angles below. Use a maths dictionary to help you work out any unknown terms.

<table>
<thead>
<tr>
<th>角度</th>
<th>右角</th>
<th>钝角</th>
<th>锐角</th>
<th>平角</th>
<th>钟角</th>
<th>周角</th>
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</thead>
<tbody>
<tr>
<td>right angles are</td>
<td>90°</td>
<td>obtuse angles are greater than 90° and less than 180°</td>
<td>acute angles are less than 90°</td>
<td>straight angles are exactly 180°</td>
<td>reflex angles are greater than 180° and less than 360°</td>
<td>revolution angles are exactly 360°</td>
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</tbody>
</table>

2. Look at the interior angles in this shape. Mark any acute angles with a red arc; obtuse angles with a blue arc; reflex angles with a green arc; and right angles with an orange arc:

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Geometry
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SERIES 1 TOPIC 31
The complete workbooks series

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