THIRD SPACE LEARNING

# Summer Maths Activities

20 fun maths activities for the summer holidays

Year 4 to 5

# Note to children

Hooray! It's the summer holidays!
You've worked so hard this year, and learned so many new things in Year 4 you deserve a big pat on the back. You also deserve to be able to start Year 5 knowing what you know now – and not forgetting everything over the summer!
So in between your summer adventures and relaxing, are you up for an extra challenge?

Your task is to complete 10 of the activities in this special Summer Maths Activities pack. As well as being lots of fun, the activities will help make sure all of the amazing maths that you have learned in Year 4 sticks in your brain, ready for your new learning adventures in Year 5.
Simply tick off the activities you have attempted and bring this pack back with you when school starts again!
Have fun!

# Note to parents and carers

The summer holidays are finally here! Your child has worked hard all year learning all the maths we expect Year 4 students to know, and now they deserve some rest and relaxation. BUT... this pack is here to make sure they also don't forget all that they've learned and have some fun maths activities to keep them going over the summer!
There is lots of evidence that doing just a little bit of maths practice over the summer holidays will make it much, much easier for them to start the next year.

The activities are not intended to be too much like 'work'. They should provide just a bit of a mathematical focus every now and then, and most will fit into your day-to-day plans and life during the summer holidays. We're setting a target for your child to complete 10 activities over the holidays, which is only a couple of activities a week. If children are struggling with maths, just knowing that they can tick off a handful of activities over the holidays will really boost their confidence and success when they move into Year 5.

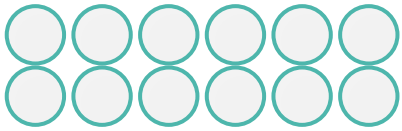
Other children may want to do more and really push themselves. Do what's right for your child. When they've done each activity, please date and sign it so the child knows it's important. Thank you for your support, and we hope you and your child have fun with the activities!

## 1 Hunting for Arrays

### You will need

- Resource Sheet 1

Arrays are all around you! An array shows objects arranged into rows and columns. Remember, an array is a really useful way to show multiplication facts.



For example, this array shows that 2 x 7 = 14. However, arrays are amazing – because of the commutative property, this array also shows 7 x 2 = 14. Finally, we can also see 14 ÷ 2 = 7 and 14 ÷ 7 = 2!

**Your challenge:**

- Can you spot at least eight arrays 'out and about' over the holidays?

**How to play:**

1. Record the arrays you have spotted on Resource Sheet 1.
2. Write down 4 maths facts that each array shows.
3. You may even want to draw each array that you find!

Completion date: .....

Adult initials: .....

## 2 Who Creates the Most Washing?

**Your challenge:**
Can you find out who creates the most washing in your house?

**You will need**

- Resource Sheet 2

**Things to remember:**

1. This one involves helping out with the washing for a week. (Sorry!) Families generate a LOT of washing, right? But who in your house generates the most washing?

2. Before you begin, predict who you think will create the most washing over the next week.

3. I think that the following person will make the most washing:

   .....

4. Over the next week, use Resource Sheet 2 to record your results. In the table, record how many items of washing each person in your house makes in the table.

5. Next create a bar chart of your results.

6. The person who created the most washing was .....

Completion date: .....

Adult initials: .....

## 3 The Great Maths Bake Off

**Your challenge:**

- Can you bake something tasty and find the hidden maths?

### You will need

- A recipe for something yummy
- Ingredients
- An adult to help you

**What to do:**

1. Cooking is so much fun! But did you know it involves a lot of amazing maths too?
2. Work with an adult to bake something yummy. Need an idea of some recipes? Head to bit.ly/TSLrecipes to get some ideas. Have fun in the kitchen, and then fill in the details below. What did you make, and what maths skills did you think you used!?
3. Don't forget to taste what you have made!

I made: .....

The maths I used was .....

Completion date: .....

Adult initials: .....

## 4 How Much Screen Time?

### You will need

- Resource Sheet 3
- A pencil or pen
- A clock or watch

**Your challenge:**

- Ever wondered how much time you spend on a 'screen' (watching TV, using a tablet, a computer or a phone) over two days? Well, let's find out!

**What to do:**

1. Use Resource Sheet 3 to record the start and end time whenever you have 'screen time'.
2. Work out the length of time you spent on the screen.
3. At the end of two days, add up the total amount of time. How many hours and minutes have you spent on a screen?

I spent ..... minutes on a screen over 2 days.

This is the same as ..... hours and ..... minutes.

Completion date: .....

Adult initials: .....

## 5 Card Game Multiplication

**Your challenge:**

- How well do you know your multiplication facts? You will be multiplying the numbers represented by the playing cards.

### You will need

- Deck of cards (Ace = 1, Jack = 11, Queen - 12, King = 13)
- A friend or family member to play against
- Paper/ pencil
- 2 or more players

**How to play:**

1. Deal the entire deck between you and your partner.
2. On the count of three, both players throw down a card and quickly multiply the number on their card by the number on their partner's card.
3. Whoever gets the answer first wins the round.
4. 1 point goes to the winner of each round.
5. The first player that gets 10 points first wins.

I played against .....

Who got 10 points first? .....

Completion date: .....

Adult initials: .....

## 6 Maths, Paper, Scissors

**Your challenge:**

- Can you win the maths version of 'Rock, Paper, Scissors?'

### You will need

- 2 or more players

**How to play:**

1. Explain that this is a maths version of 'Rock, Paper, Scissors'. (It may be useful to demonstrate the game initially.)
2. Players stand facing each other. Players make two fists, and simultaneously say 'maths, paper, scissors' while moving their fists up and down (like when you actually play "Rock, Paper, Scissors'). On scissors, each player puts out between 1 and 10 fingers.
3. Players race to multiply the number of fingers they put out by the number of fingers their partner put out and call out the answer. The player to call the correct answer first wins a point.
4. Play for the time period (for example 2 minutes).
5. Once the game is played a couple of times, begin to think about the possible answers based on the number of fingers.

I played with: .....

How many rounds did you play? .....

Completion date: .....

Adult initials: .....

## 7 Roll the Place Value

**Your challenge:**

- Can you write 4-digit numbers in expanded form?

### You will need

- 1 dice
- Paper/ pencil
- 1 or more players

**How to play:**

1. Player rolls the dice 4 times. The first roll represents the hundreds place, the second roll represents the tens place, and the third roll represents the ones place.
2. Write down the number you have made.
3. Take the number and then write it in expanded form. For example 4,362 in expanded form is 4,000 + 300 + 60 + 2

I played with: .....

How many rounds did you play? .....

Completion date: .....

Adult initials: .....

## 8 Maths Snap

**Your challenge:**

- Can you find equal cards?

**How to play:**

### You will need

- Resource Sheet 4 cut up (or you can create your own cards)
- At least one other person

1. Shuffle the cards from the Resource Sheet 4 and deal them between the players.
2. Play just like you would do in 'normal' snap – take turns to turn over one of your cards and place it in the middle.
3. If the two cards are equivalent, the first person to call 'snap' and place their hands on the pile of cards wins the pile of cards. Remember, equivalent means they are worth the same, for example:
   $\frac{1}{4}$ and $\frac{2}{8}$ or $\frac{1}{8}$ and $\frac{3}{24}$
4. The first player to get all of the cards wins! Try to play the game at least twice.

The first time I played, I played against .....

and the person who won was .....

The second time I played, I played against .....

and the person who won was .....

Completion date: .....

Adult initials: .....

## 9 Water Balloon Maths

**Your challenge:**

- How many calculations can you solve before the water balloon breaks?

### You will need

- 10 water balloons
- Water
- 2 or more players
- Whiteboard pen

**How to play:**

1. Fill 10 balloons with water and with a whiteboard pen write calculations on the balloons (see the list below).
2. Arrange players in groups of 2 or 3 about 2m away from each other.
3. Take turns throwing the balloon to one of the other players.
4. When the player catches the balloon, they must say the answer to the question on the balloon.
5. Each time a player answers correctly, they must take a step backward.
6. The goal is to answer as many calculations correctly as possible before the water balloon breaks.

| | |
|---|---|
| 6 x 6 | 12 ÷ 3 |
| 10 x 3 | 42 ÷ 7 |
| 9 x 7 | 80 ÷ 10 |
| 11 x 4 | 48 ÷ 6 |
| 8 x 6 | 60 ÷ 5 |

Completion date: .....

Adult initials: .....

## 10 Let's Go Shape Hunting

**Your challenge:**

- Shapes are everywhere! Can you find 15 shapes in your town, garden, home, friend's home?

### You will need

- A partner
- Paper/ pencil

**How to play:**

1. You and your partner go exploring for 2-D or 3-D shapes.
2. You can look in your house, garden, friend's house, town, playground, beach, etc..
3. Find 15 shapes in the world around you.
4. When you find a shape, write it down.
5. Once you have found 15 shapes and they are written down – identify the shape using their mathematical name.
6. Bring your list to school at the beginning of the year.

I went exploring with: .....

Completion date: .....

Adult initials: .....

## 11 Frisbee Maths

### You will need

- A frisbee
- A whiteboard pen
- 2 or more players

**Your challenge:**

- How confident are you adding 4-digit numbers? Can you find the sum of two numbers using mental maths?

**How to play:**

1. Take the frisbee and write 4-digit numbers around the edge of the frisbee with a whiteboard pen.
2. Go outside, one player throws the frisbee to the other player. The player catching the frisbee has to catch it with two hands.
3. The two numbers that the player's hands are touching are the two numbers that the player has to add together.
4. That player then has to throw the frisbee back to the other player where the second player now has to add the two numbers together.
5. You can do this with addition, subtraction, multiplication or division.

I played with: .....

Who got the most sums correct? .....

Completion date: .....

Adult initials: .....

## 12 Hopscotch Maths

**Your challenge:**

- Can you hop number patterns?

### You will need

- 2 or more players
- Outdoor chalk
- Sample 5 x 5 grid

**How to play:**

1. Find a place outside to play.
2. Draw a large 5 by 5 grid with the outdoor chalk.
3. Number each square on the grid starting with 1.
4. Decide what pattern you want to hop (for example, hop on all the even numbers, hop on all the numbers that are a multiple of 2)
5. Once you decide on the pattern, player 1 goes first by hopping with one foot on all the numbers in the pattern.
6. The next player then goes, hopping on the same pattern.
7. Whoever hops on the correct numbers without putting their other foot down wins the round.

I played with: .....

Who won the first round? .....

Completion date: .....

Adult initials: .....

## 13 Count the Change

**Your challenge:**

- Can you count the change?

**How to play:**

### You will need

- Paper/ pencil
- A friend or family member

1. Find a friend or family member to do this challenge with.
2. Over the course of a week, look for spare change in jars around the house, change purses, on the floor, in between the couch pillows, on the ground outside.
3. Keep a log of all the change you find in a week.
4. At the end of the week, add up the total amount of money you found.
5. Did you get to keep it?

I did this challenge with: .....

Completion date: .....

Adult initials: .....

## 14 Number Line Jump

**Your challenge:**

- Can you jump to the correct multiples?

### You will need

- 2 or more players
- Outdoor chalk

**How to play:**

1. Find a place outside to draw a number line up to the number 50.
2. Decide which player will be the caller and which player will be "jumper".
3. The caller calls out, "Multiples of ....." and picks a number (e.g. multiples of 2).
4. Starting at 0, the jumper has to jump to all the numbers that are a multiple of the given number.
5. In the next round, switch positions.

I played with: .....

We played ..... rounds.

Completion date: .....

Adult initials: .....

## 15 Walking Heart Rate

### You will need

- Paper/ pencil
- Resource Sheet 5
- Heart beat monitor (if available)

**Your challenge:**

- How does your heart rate change when you walk?

**How to play:**

1. You are going to go for a walk and track how your heart rate change.
2. Measure your heart rate before you go for a walk and write it down. You can measure your heart rate using a monitor (such as a smart watch) or using your fingers.
3. Every 10 minutes during your walk, measure your heart rate and write it down.
4. Measure your heart rate when you get home.
5. Make a line graph to show your results using Resource Sheet 5.

Completion date: .....

Adult initials: .....

## 16 How many ways?

**Your challenge:**

- How many calculations can you write?

**How to play:**

### You will need

- 2 or more players
- A dice
- Paper/ pencil

1. Throw the dice 3 times to generate a 3-digit number - write down that number.
2. Players then have 3 minutes to make as many different calculations where the target number is the answer.
   For example. If a 3, 2, and 1 were thrown, this would give a target number of 321. The players could create an addition example such as 169 + 152 = 321, or a subtraction calculation such as 825 - 504 = 321. Another example could be 642 ÷ 2 = 321.
3. 1 point is given for each correct calculation.

I played with: .....

Who won? .....

Completion date: .....

Adult initials: .....

## 17 Flip For Dominoes

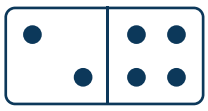
### You will need

- Dominoes
- Paper/ pencil
- 2 players or more

**Your challenge:**

- How well do you know your multiplication facts?

**How to play:**

1. Take all the dominoes and sort them evenly among all the players with the "dot" side down.
2. On the count of 3, all players flip one of their dominoes.
3. Players have to multiply the dots together. For example, if you have this domino  you would multiply 2 x 4.
4. The player with the highest product keeps the dominoes in that round.
5. The player with the most dominoes at the end, wins the game.

I played with: .....

Who won? .....

Completion date: .....

Adult initials: .....

## 18 Roll to Win

**Your challenge:**

- How high can you roll?

**How to play:**

### You will need

- Dice
- Paper/ pencil
- 2 or more players

1. Player 1 rolls the dice three times. The first roll is the hundreds place, the second roll is the tens place and the third roll is the ones place. Write the number on the paper. For example if 5, 2 and 6 are rolled, the number is 526.
2. Player 2 does the same.
3. When it is player 1's turn again, roll the dice three times and write down the number. Add this to your start number. For example if 1, 3 and 1 were rolled then this calculation would be completed: 131 + 526 = 657
4. Do this 8 times.
5. After the 8th time, the player with the highest total wins the round.

I played with: .....

Who won the first round? .....

Completion date: .....

Adult initials: .....

## 19 Multiplication Bingo

**Your challenge:**

- Can you use your multiplication facts to win at Bingo?

### You will need

- 3 or more players
- A piece of paper and a pen or pencil for each player

**How to play:**

1. Decide who is going to be the leader.
2. Select a times table to focus on and each player writes five numbers from that times table (for example, the 4 times tables, you might write down 8, 20, 28, 36, and 44).
3. The leader of the game then calls out various expressions from the selected times table (for example, 6 x 4, 2 x 4, 11 x 4, etc...)
4. If an expression is called and a player has the answer to it on their paper, they cross out the number.
5. The winner is the person to cross out all their numbers and shout 'bingo'.

I played with: .....

How many times did you get bingo? .....

Completion date: .....

Adult initials: .....

## 20 Star Jump Fun

### You will need

- At least 5 people
- A timer
- Paper/ pencil

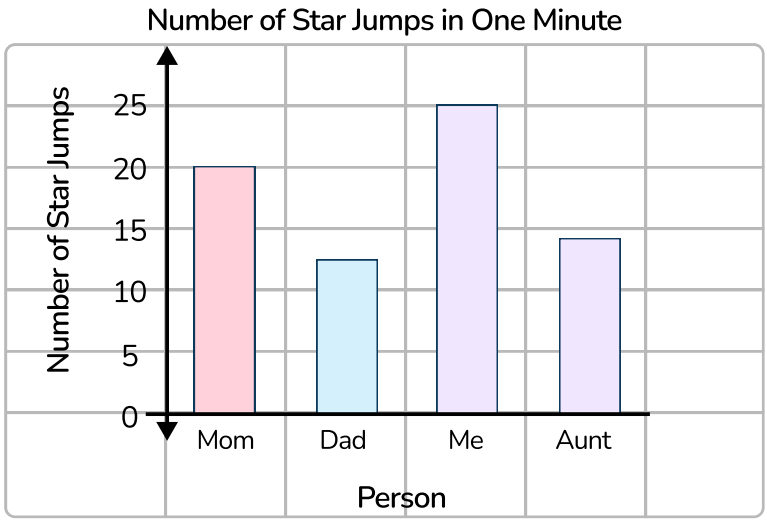
**Your challenge:**

- How many star jumps can you do in a minute?

**How to play:**

1. Set the timer for 1 minute.
2. Have person 1 do as many star jumps as possible in the one minute. Record the number of star jumps completed on the paper.
3. Have the other participants do the same, recording each of the results.
4. Create a bar graph of the results.

Here is an example graph of the results.




Completion date: .....

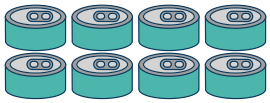
Adult initials: .....

# Resource Sheet 1: Hunting for Arrays

Use this sheet to record 8 different arrays that you have spotted during the holidays. Write down 4 calculations that each array shows.
One has been done for you.

**1) The array I spotted was:**

cans at the supermarket



4 x 2 = 8
2 x 4 = 8
8 ÷ 2 = 4
8 ÷ 4 = 2

**2) The array I spotted was:**

..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....

**3) The array I spotted was:**

..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....

**4) The array I spotted was:**

..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....

**5) The array I spotted was:**

..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....

**6) The array I spotted was:**

..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....

**7) The array I spotted was:**

..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....

**8) The array I spotted was:**

..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....
..... ☐ ..... = .....

# Resource Sheet 2: Who Creates the Most Washing?

A Use the table below to help you record your data.

| Family member's name | Mon | Tues | Wed | Thur | Fri | Sat | Sun | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

B Use the space below to record make a bar chart showing your data.

Bar Chart Title: .....

# Resource Sheet 2: Who Creates the Most Washing?

**C** Write down four things you can tell from the data.

.....

.....

.....

.....

.....

.....

.....

.....

# Resource Sheet 3: Screen Time

Use this table to keep track of your screen time over the 2 days.

| Day | Time started | Time ended | Duration |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
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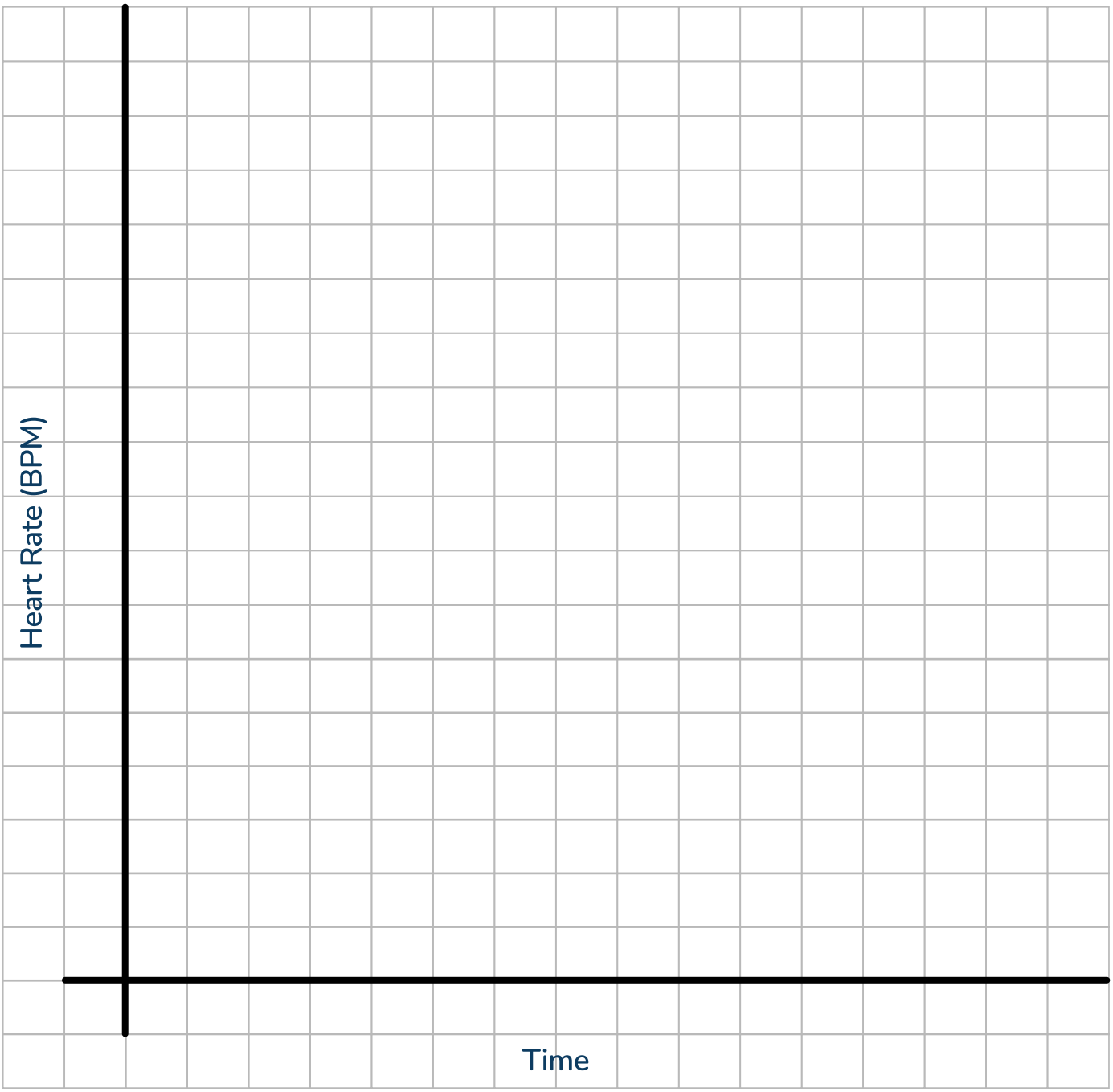
# Resource Sheet 4: Maths Snap

| | | | | |
|---|---|---|---|---|
| $\frac{1}{2}$ | $\frac{2}{4}$ | $\frac{1}{3}$ | $\frac{3}{9}$ | $\frac{1}{5}$ |
| $\frac{2}{10}$ | $\frac{1}{8}$ | $\frac{2}{16}$ | $\frac{3}{3}$ | $1$ |
| $\frac{2}{3}$ | $\frac{4}{6}$ | $\frac{1}{4}$ | $\frac{3}{12}$ | $\frac{5}{5}$ |
| $1$ | $\frac{1}{6}$ | $\frac{3}{23}$ | $\frac{3}{5}$ | $\frac{6}{10}$ |

# Resource Sheet 4: Maths Snap

| | | | | |
|---|---|---|---|---|
| $\frac{1}{7}$ | $\frac{2}{14}$ | $\frac{3}{4}$ | $\frac{6}{8}$ | $\frac{5}{10}$ |
| $\frac{3}{6}$ | $\frac{4}{5}$ | $\frac{8}{10}$ | $\frac{6}{6}$ | $1$ |

# Resource Sheet 5: Walking Heart Rate



THIRD SPACE LEARNING

# 0-9 Digit Cards

| | | | |
|---|---|---|---|
| 0 | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 |
| 8 | 9 | 0 | 1 |
| 2 | 3 | 4 | 5 |

THIRD SPACE LEARNING

# 0-9 Digit Cards

| | | | |
|---|---|---|---|
| 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 |
| 8 | 9 | | |

## Do you have a group of pupils who need a boost in maths this term?

Each pupil could receive a personalised lesson every week from our specialist 1-to-1 maths tutors.

- Raise attainment
- Plug any gaps or misconceptions
- Boost confidence

## Speak to us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