

# Maths Games And Activities Pack

20 Fun Maths Challenges To Do At Home

Year 2

## Note to Parents and Carers

Your child works hard during school and we know they deserve some rest and relaxation when they're at home. BUT... this pack is here to help you with some ideas of how to bring maths into your home in a fun way. The challenges are not intended to be too much like 'work'. They should provide just a bit of a mathematical focus every now and then.

The activities are separated into individual activities and partner activities. We understand that pupils are not always able to complete activities with others and as such hope this will help you and your child select appropriate activities to complete.

### Individual activities

#### 1 Number Bond Mosaic

**Your challenge:**

- Can you use your number bonds knowledge to reveal the picture hidden in the grid?

**How to play:**

1. Work out the answer to the calculation in each square using your knowledge of number bonds to 10, 20 and 100.
2. Colour in each square based on the key at the top of the sheet.

**You will need:**

- Challenge 1 Sheet
- Colouring pencils or felt tips

#### 2 Multiplication Mosaic

**Your challenge:**

- Can you use your multiplication skills to reveal the picture hidden in the grid?

**How to play:**

1. Work out the answer to the calculation in each square using your knowledge of the 2, 5 and 10 times tables.
2. Colour in each square based on the key at the top of the sheet.

**You will need:**

- Challenge 2 Sheet
- Colouring pencils or felt tips

#### 3 Get Arty!

**Your challenge:**

- Can you make a picture from at least one of each of these shapes: triangle, square, rectangle, pentagon, hexagon?

**Things to remember:**

1. You can use any type of materials you like (pencils, pens, paint).

**You will need:**

- A piece of plain paper
- Colouring pencils or crayons

# Challenge 1 Sheet Number Bond Mosaic

Answer the questions in the squares below. Colour in the squares with the colours based on your answer. What picture will you make?

**Pink:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

**Red:** 11, 12, 13, 14, 15

**Orange:** 16, 17, 18, 19

**Green:** 0, 20, 30, 40, 50, 60, 70, 80, 90, 100

$60 + ? = 100$	$? + 8 = 10$	$100 - 30 = ?$	$40 + ? = 100$	$? + 20 = 100$	$100 - 70 = ?$	$20 - 8 = ?$	$? + 30 = 100$
$0 + ? = 10$	$5 + ? = 20$	$10 - 9 = ?$	$80 + ? = 100$	$50 + ? = 100$	$7 + ? = 20$	$20 - 17 = ?$	$20 - 3 = ?$
$20 - 7 = ?$	$17 + ? = 20$	$20 - 1 = ?$	$6 + ? = 10$	$? + 8 = 20$	$10 + 0 = ?$	$20 - 4 = ?$	$? + 2 = 10$
$10 - 1 = ?$	$3 + ? = 20$	$10 - 0 = ?$	$6 + ? = 20$	$9 + ? = 10$	$1 + ? = 20$	$10 - 4 = ?$	$9 + ? = 20$
$? + 2 = 20$	$8 + ? = 10$	$20 - 9 = ?$	$5 + ? = 10$	$20 - 2 = ?$	$10 - 8 = ?$	$8 + ? = 20$	$? + 5 = 10$
$? + 6 = 10$	$? + 5 = 20$	$3 + ? = 10$	$20 - 3 = ?$	$11 + ? = 20$	$20 - 6 = ?$	$? + 7 = 10$	$2 + ? = 20$
$10 + ? = 100$	$20 - 12 = ?$	$4 + ? = 20$	$10 - 5 = ?$	$? + 7 = 20$	$? + 3 = 10$	$4 + ? = 20$	$100 + ? = 100$
$? + 80 = 100$	$? + 100 = 100$	$4 + ? = 10$	$? + 9 = 20$	$10 - 6 = ?$	$? + 4 = 20$	$90 + ? = 100$	$? + 40 = 100$
$? + 60 = 100$	$100 - 40 = ?$	$100 - 20 = ?$	$? + 9 = 10$	$? + 3 = 20$	$100 - ? = 70$	$? + 50 = 100$	$100 - 0 = ?$
$? + 70 = 100$	$100 - 50 = ?$	$30 + ? = 100$	$100 - 60 = ?$	$100 - 10 = ?$	$100 - 90 = ?$	$20 + ? = 100$	$100 - ? = 100$

# Challenge 2 Sheet Multiplication Mosaic

Solve the questions in the squares below. Colour in the squares with the colours based on your answer. What picture will you make?

**Yellow:** 2, 12, 22, 25, 55

**Green:** 4, 8, 14, 18, 24, 45

**Purple:** 5, 6, 15, 16, 35

**Blue:** 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120

$7 \times 10 =$	$11 \times 10 =$	$1 \times 10 =$	$12 \times 10 =$	$4 \times 5 =$	$10 \times 10 =$	$8 \times 10 =$	$10 \times 2 =$
$5 \times 4 =$	$11 \times 2 =$	$2 \times 10 =$	$11 \times 5 =$	$10 \times 6 =$	$6 \times 2 =$	$10 \times 11 =$	$6 \times 5 =$
$5 \times 10 =$	$1 \times 5 =$	$2 \times 3 =$	$3 \times 5 =$	$7 \times 5 =$	$3 \times 2 =$	$10 \times 8 =$	$10 \times 5 =$
$10 \times 3 =$	$8 \times 2 =$	$5 \times 1 =$	$3 \times 2 =$	$4 \times 4 =$	$5 \times 7 =$	$5 \times 8 =$	$10 \times 9 =$
$6 \times 10 =$	$5 \times 6 =$	$4 \times 4 =$	$5 \times 3 =$	$2 \times 8 =$	$9 \times 10 =$	$10 \times 12 =$	$10 \times 7 =$
$10 \times 1 =$	$12 \times 5 =$	$10 \times 4 =$	$2 \times 4 =$	$3 \times 10 =$	$3 \times 2 =$	$5 \times 5 =$	$5 \times 7 =$
$1 \times 2 =$	$2 \times 9 =$	$10 \times 9 =$	$2 \times 2 =$	$10 \times 10 =$	$1 \times 5 =$	$3 \times 5 =$	$2 \times 8 =$
$7 \times 2 =$	$5 \times 2 =$	$9 \times 5 =$	$12 \times 2 =$	$10 \times 1 =$	$5 \times 12 =$	$2 \times 7 =$	$4 \times 10 =$
$2 \times 4 =$	$4 \times 5 =$	$7 \times 10 =$	$4 \times 2 =$	$2 \times 2 =$	$8 \times 5 =$	$4 \times 2 =$	$2 \times 5 =$
$12 \times 2 =$	$2 \times 2 =$	$9 \times 2 =$	$2 \times 12 =$	$7 \times 2 =$	$9 \times 5 =$	$2 \times 9 =$	$5 \times 9 =$

## 4 Making Money

### Your challenge:

- Which coins can you use to make £2.50?

### What to do:

1. Write £2.50 in the middle of a piece of plain paper.
2. Write around £2.50 the different coins you could use to make this.

E.g.

$$£2 + 20p + 20p + 10p$$

**£2.50**

Remember to only use real coins (3p coins and 25p don't exist!).

### You will need:

- Coins
- A piece of plain paper

## 5 Change, Please!

### Your challenge:

- You have £5.00 to spend, what could you buy and what is your change?

### What to do:

1. Use Challenge 5 Sheet to buy items from an imaginary shop.
2. Work out the total price you would pay for the items then work out the change you would be given from your £5.00.

Remember that you can use real coins to help you.

### You will need:

- Challenge 5 Sheet
- Coins

## 6 How long?

### Your challenge:

- Can you estimate the length of items then measure them?

### What to do:

1. Find 10 items in your house that you can measure with a ruler.
2. Estimate how long the items are (think about if you'll measure in mm, cm or m) and write it on the Challenge 6 Sheet.
3. Measure how long the items actually are. How close were you to your estimate?

### You will need:

- A ruler
- Challenge 6 Sheet

# Challenge 5 Sheet Change, Please!

Below are items in a shop. You have £5.00 to spend in the shop. What different items can you buy and what would your change be for each total?

Make at least 6 different combinations.

Items for sale	
Sweets (mixed) ..... £1.00	Cuddly toy ..... £2.50
Ice Cream ..... £1.50	Slime Pot ..... £1.25
Bottled Water ..... £1.00	Rubber and Pencil Set ..... £3.00
Fizzy Drink ..... £0.75	Notebook ..... £2.00

Use this space to write what you could buy and the change given.

# Challenge 6 Sheet How long?

Find 10 items in your house that you can measure with a ruler. Estimate how long the items are (think about if you'll measure in mm, cm or m) and write it in the table.

Measure how long the items actually are. How close were you to your estimate?

Item	Estimate (mm, cm or m)	Real (mm, cm or m)

## 7 Tallying Totals

### Your challenge:

- How many items do you have in your house?

### What to do:

1. Pick 6 items you know you have in your home (windows, doors, pens, pencils, people, etc).
2. Go round your house and complete the tally chart, showing how many of each item you have in your home.

### You will need:

- Challenge 7 Sheet

## 8 Shape Hunt (3D)

### Your challenge:

- Which 3D shapes can you find in your house?

### What to do:

1. Look at Challenge 8 Sheet where there is a list of 3D shapes.
2. Find as many of these around your house as you can. Draw or write which items you find in the correct column.

### You will need:

- Challenge 8 Sheet

## 9 Shape Hunt (2D)

### Your challenge:

- Which 2D shapes can you find in your house?

### What to do:

1. Look at Challenge 9 Sheet where there is a list of 2D shapes (remember these are flat shapes - look for them in pictures, on books and on packages).
2. Find as many of these around your house as you can. Draw or write which items you find in the correct column.

### You will need:

- Challenge 9 Sheet

## 10 How many ways can you make...

### Your challenge:

- How many ways can you find to make 24?

### What to do:

1. Write 24 in the centre of a piece of plain paper.
2. Around the number, write at least 10 ways to make it.
3. For example:
  - $20 + 4$
  - $2 \times 10 + 4$
4. Try to make sure you have a good range of different types of facts.

### You will need:

- A piece of plain paper

# Challenge 7 Sheet Tallying Totals

Pick 6 items you know you have in your home (windows, doors, pens, pencils, people, etc) and write them in the 'item' column.

Go round your house and complete the tally chart, showing how many of each item you have in your home.

Item	Tally	Total

# Challenge 8 Sheet Shape Hunt (3D)

Look at the list of 3D shapes. Find as many of these around your house as you can. Draw or write which items you find in the correct column.

Cube	Cuboid	Cylinder	Sphere

# Challenge 9 Sheet Shape Hunt (2D)

Look at the list of 2D shapes (remember these are flat shapes - look for them in pictures, on books and on packages).

Find as many of these around your house as you can. Draw or write which items you find in the correct column.

Rectangle	Circle	Pentagon	Hexagon

## Pair activities

### 11 Place Value Duel

#### Your challenge:

- Can you make a larger two-digit number than your partner?

#### How to play:

1. Get your digit cards ready. Cut them out from the Digit Cards Resource Sheet.
2. Shuffle both sets of the digit cards. You and your partner must each draw two big lines on your sheet of paper like this:  
  
\_\_\_\_\_
3. Take it in turns to turn over a digit card and decide where in your number you are going to place the digit.
4. Put the digit in that position and tell your partner what value that digit has. For example, if you put a 2 in the tens column, you would say 'this 2 is worth 2 tens or twenty'.
5. Once you have placed a digit in your number, you can't move it! So, it's important to think about where you're putting the digit.  
Play at least six rounds.

#### Who will be the champion?

I played with \_\_\_\_\_

The person who won was \_\_\_\_\_

#### You will need:

- Digit Cards Resource Sheet
- Two sheets of plain paper
- A partner

## 12 2, 5 and 10 Duel

### Your challenge:

- Are you ready to have a times table duel?

### How to play:

1. This game is simple, but addictive! Shuffle two sets of digit cards from resource sheet 1 and put them in a pile between the two players.
2. Turn over the card in the middle, and for the first set of rounds, race to multiply the number by 2. So if you turned over an 8 you'd need to shout out 16 as  $8 \times 2 = 16$ .
3. The person who shouts out the correct answer first gets to keep the cards. Keep playing until there are no cards left in the centre. The player with the most cards wins!
4. Once you have played with the 2 times table, play again, then play twice with the 5 times table, then twice with the 10 times table.

First, I played 2 times table duel against \_\_\_\_\_

and the person who won was \_\_\_\_\_

Then, I played 2 times table duel against \_\_\_\_\_

and the person who won was \_\_\_\_\_

Next, I played 5 times table duel against \_\_\_\_\_

and the person who won was \_\_\_\_\_

Then, I played 5 times table duel against \_\_\_\_\_

and the person who won was \_\_\_\_\_

After that, I played 10 times table duel against \_\_\_\_\_

and the person who won was \_\_\_\_\_

Finally, I played 10 times table duel against \_\_\_\_\_

and the person who won was \_\_\_\_\_

### You will need:

- Two sets of the Digit Cards on Resource Sheet 1
- A partner

## 13 One-handed Maths, Paper, Scissors – All the Twos

### Your challenge:

- Have you ever played 'Rock, Paper, Scissors'? Well this is a maths version of the same game!

### How to play:

1. On scissors, each of you puts out between 1 and 5 fingers.
2. You then need to race to add the number of fingers you have put out with the number of fingers your partner put out (e.g  $4 + 2 = 6$ ) and then multiply that answer by 2 (e.g.  $6 \times 2 = 12$ ) and be the first to call out the answer.
3. The player to call the correct answer first, wins a point.
4. Record who wins each 'battle' in a simple table; the first player to 10 points wins!

I played with \_\_\_\_\_

The person who won was \_\_\_\_\_

### You will need:

- A partner

## 14 Twos Tennis

### Your challenge:

- Who can win a match of twos tennis?

### How to play:

1. Stand opposite your partner. The first player picks a number between 1 and 10 to start with and says that out loud. The other player must add 2 to the number. This becomes your running total.
2. Now it's back to the first player who adds 2 to the running total, and so on.

You win when:

- You are the first player to say a number over 40
- Your partner makes a mistake
- Your partner says 'umm'
- Your partner takes more than 3 seconds to answer.

Play at least 6 matches with your partner. Who will win the most games?

I played with \_\_\_\_\_

The person who won was \_\_\_\_\_

### You will need:

- A partner

## 15 Matching Pairs (Number Bonds)

### Your challenge:

- Find the pairs, with a maths twist!

### What to do:

1. Cut out the cards from Challenge Sheet 15. Place the answer cards (the cards with the shaded background) spread out face down on one half of your playing area. Then place the question cards (the non-shaded cards) face down on the other half of your playing area. You need to keep the questions and answers separate.
2. Take it in turns with your partner to turn over a question card, and then an answer card. If the answer matches the question, you get to keep the cards and take another go. If it does not, turn them back over, and your partner takes their turn.
3. Continue playing until all questions and answers have been matched. The player with the most cards at the end of the game wins.

Play the game twice. Did you get a different winner each time?

The first time I played the game \_\_\_\_\_ won.

The second time I played the game \_\_\_\_\_ won.

### You will need:

- Challenge 15 Sheet
- A partner

## 16 Matching Pairs (Times Tables)

### Your challenge:

- Find the pairs, with a maths twist!

### What to do:

1. Cut out the cards from Challenge Sheet 16. Place the answer cards (the cards with the shaded background) spread out face down on one half of your playing area. Then place the question cards (the non-shaded cards) face down on the other half of your playing area. You need to keep the questions and answers separate.
2. Take it in turns with your partner to turn over a question card, and then an answer card. If the answer matches the question, you get to keep the cards and take another go. If it does not, turn them back over, and your partner takes their turn.
3. Continue playing until all questions and answers have been matched. The player with the most cards at the end of the game wins.

Play the game twice. Did you get a different winner each time?

The first time I played the game \_\_\_\_\_ won.

The second time I played the game \_\_\_\_\_ won.

### You will need:

- Challenge 16 Sheet
- A partner

# Challenge 15 Sheet Matching Pairs (Number Bonds)

$10 + 90 =$	$8 + 2 =$	$70 + 30 =$	$5 + 5 =$	$12 + 8 =$
$19 + 1 =$	$6 + 4 =$	$7 + 13 =$	$60 + 40 =$	$3 + 7 =$
$5 + 15 =$	$50 + 50 =$		10	10
10	10	20	20	20
20	100	100	100	100

# Challenge 16 Sheet Matching Pairs (Times Tables)

$10 \times 3 =$	$10 \times 1 =$	$5 \times 8 =$	$5 \times 12 =$	$2 \times 0 =$
$10 \times 0 =$	$10 \times 6 =$	$5 \times 4 =$	$2 \times 5 =$	$10 \times 4 =$
$2 \times 10 =$	$5 \times 6 =$		0	0
10	10	20	20	30
30	40	40	60	60

## 17 Tug of War

### Your challenge:

- Why not play a maths version of Tug of War?

### How to play:

1. First, decide which player is going to 'add' and which player is going to 'subtract', then shuffle the digit cards into one pile. Write down the number 30 at the top of your piece of paper.
2. The player who is adding starts first. They turn over 1 digit card and the player who is adding adds these to 30 (e.g.  $30 + 8 = 38$ ). The rest of this calculation is your new running total.
3. The player who is subtracting goes next. They turn over a digit and subtract it from the running total.
4. Keep playing in the same way, taking it in turns to make a number and add or subtract it. If the player who is adding gets above 70 they win, and if the player who is subtracting gets below 5 they win!

Who will win the tug of war?

I played with \_\_\_\_\_

The person who won was \_\_\_\_\_

### You will need:

- Digit Cards Resource Sheet 1
- A partner
- Paper to keep a track of your score

## 18 Unicorns Versus Giants

### Your challenge:

- Who will win in the battle between unicorn and giant?

### How to play:

1. Decide who will be the unicorn and who will be the giant and place the grid from Challenge 18 Sheet in between you.
2. Unicorn - you are trying to get to the giant's home.
3. Giant - you are trying to stop the unicorn. You do this by landing on the same hexagon as the unicorn.
4. Unicorn starts. Place your counter on one of the hexagons on the 'unicorn's home' side and carry out the calculation in the hexagon. If the calculation is correct (your partner needs to check and agree) you get to move to that hexagon. Then the giant does the same but starting at the 'giant's home'.
5. Carry on like this, moving one hexagon at a time. If you get the answer wrong, you don't move.
6. Try to play the game at least two times.

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 \_\_\_\_\_

### You will need:

- Challenge 18 Sheet
- A partner
- A counter each (you could make your own out of paper)
- Plain paper for any working out

# Challenge 18 Sheet Unicorns vs Giants

## Unicorn's House

A large hexagonal grid containing 70 math problems. The problems are arranged in 10 rows and 7 columns. The problems are:

$16 + 3 =$	$12 + 10 =$	$1 + 2 + 3 =$	$22 + 72 =$	$1 \times 5 =$	$2 \times 10 =$	$10 - 3 =$
$20 - 6 =$	Double 6	$10 + 24 =$	Half of 20	$30 - 15 =$	$7 + 2 + 3 =$	$22 - 8 =$
$5 \times 10 =$	$5 \times 6 =$	$2 \times 4 =$	$10 \times 9 =$	$12 \times 2 =$	$5 \times 7 =$	$10 \times 6 =$
$13 - 4 =$	$15 + 11 =$	$25 + 15 =$	$17 - 4 =$	$13 + 4 =$	$22 - 10 =$	$20 - 8 =$
$54 + 21 =$	$22 + 3 =$	$43 + 20 =$	$9 - 1 =$	$50 - 12 =$	$7 \times 5 =$	$8 \times 2 =$
$12 \times 2 =$	$10 \times 5 =$	$24 - 12 =$	Half of 10	$6 \times 2 =$	Double 9	Half 18
$25 + 12 =$	$32 - 13 =$	$13 - 8 =$	$44 - 40 =$	$23 + 12 =$	$19 + 21 =$	$2 + 34 =$
$30 - 30 =$	$40 - 9 =$	$21 + 24 =$	$85 - 8 =$	$37 - 2 =$	$50 - 9 =$	$11 + 9 =$

## Giant's House

## 19 Measuring Mass

### Your challenge:

- Can you find and compare different weights?

### What to do:

1. Find at least 12 different items in your house and put them into pairs.
2. Decide between the two which will be heavier and write this in the table on Challenge 19 Sheet.
3. With an adult or on your own, weigh the items on the scales and write the mass under the item name. Was your guess correct?

You could combine this with the next challenge and make something yummy. Which food item was the heaviest you used? Which was the lightest?

### You will need:

- Challenge 19 Sheet
- Scales

## 20 The Great Maths Bake Off

### Your challenge:

- Bake something tasty and find the hidden maths.

### 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](https://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!?

### You will need:

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

I made: \_\_\_\_\_

The maths I used was

\_\_\_\_\_

\_\_\_\_\_

# Challenge 19 Sheet Measuring Mass

Find at least 12 different items in your house and put them into pairs in the table below. Decide between the two which will be heavier (see the table for an example). With an adult or on your own, weigh the items on the scales and write the mass under the item name.

Was your guess correct?

Item 1	Item 2	My Guess (Heavier Item)
<p><i>Example: Pasta</i></p> <p><i>450g</i></p>	<p><i>Toy Car</i></p> <p><i>40g</i></p>	<p><i>I think the pasta will be heavier.</i></p>

# Resource Sheet 1

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

