## Year 1

## At home materials

## Task Bank



## Mathematics Mastery

## What is 'Mastery'?

The 'mastery approach' to teaching mathematics is the underlying principle of Mathematics Mastery. Instead of learning mathematical procedures by rote, we want your child to build a deep understanding of concepts which will enable them to apply their learning in different situations. To achieve this we aim to develop pupils' Conceptual Understanding, Mathematical Thinking and Language and Communication (see diagram).

Representing concepts using objects, pictures, words and symbols; making
connections

Explaining, justifying and discussing using accurate mathematical language

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## Ideas for Depth

We have developed ten ideas that challenge pupils to develop a depth of understanding within a concept and build up habits of thinking mathematically.. Each of the ten ideas is represented by a picture or symbol and you will see these throughout the task bank. Each is explained below.


What's different?


## 'Reason it'

Explain how you know. Remember to use the star words!

## 'Show me!'

Build something to convince me that you are right.

## 'What's wrong with this?'

Can you explain what is wrong with this and correct the error?

## 'What's the same? What's different?'

Describe as many things as you can.

## 'Have you found all possibilities?'

Is there more than one way of completing this? Is there more than one answer? Have you found them all?


## 'Draw it'

Draw a picture to explain or demonstrate what you have worked out.

## Maths story'

Make up a real-life story using your equation/numbers or shapes. Try to use the star words.

## 'What's the question?'

If this is the answer, what could the question have been?

## 'Odd one out'

Find an odd one out and explain why it doesn't fit. Does your partner agree with you? Could another one be the odd one out? Why?

## Find a pattern'

Can you see a pattern? Continuing this pattern, what would happen if...? What came before? What comes next? Explain how you know

## Contents

Task banks are organised by the following themes:

Week 6: Applying addition and subtraction strategies

Week 7-8: Money
Week 9-10: Measures


## Adding Circles

For this game, you need dice, a pencil and paper.

- Each of you should draw four circles on your piece of paper.
- Write a different number between 2 and 12 in each circle.

- Roll two dice. (Or roll twice, if you only have one die). Add the two numbers.
- If the total is one of the numbers in your circles then you may cross it out.
- The first person to cross out all four circles wins.

Use the key vocabulary: part whole add is equal to

## Grab bag subtraction

Choose a number of things to work with and put that many objects into a bag. You can use crayons, coins, beans, buttons, etc.

- Grab a handful of the items and count them. Ask your partner how many items are now left. "I started with $\qquad$ items. I've taken out $\qquad$ . How many are left?"
- Write down the calculation.
- Encourage counting up or back, use manipulatives e.g. counters if you need to.
- You get a point for getting each calculation correct.
- Let your partner have a turn.


Use the key vocabulary: part whole subtract partition is equal to

## Bus problem



One afternoon, the bus driver sets off with 12 people on his bus. He stops at three stops. After the third stop, there are 15 people on the bus.

What might have happened at each of the three stops?

What are the different possible answers?
Create your own problem like the bus problem.

## Bus problem - Adult guidance

Purpose: To consolidate addition and subtraction within 20 and give pupils opportunity to work systematically through a problem with more than one right answer.

## Suggested sequence of learning:

Allow your child to think about a possible answer then discuss together. Ask them if there is more than one way to answer the question. Investigate using manipulatives (such as counters) to represent the people on the bus. Prompt children with questions such as at the first stop did anyone get on the bus? Did anyone get off the bus?
See how many ways you can solve the problem.

## Adaptations:

Constraints can be added to this problem using "What if....":
What if....

- At the first and second stops, people get off but no ones gets on?
- When the bus driver is calculating how many people are on his bus, he uses the 'Make ten' strategy at two stops?
- By the second stop, the bus is full?
- There are only two stops instead of three?
- At the first stop some people get off and some people get on?

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## Finding the difference



Roll the dice. Find two numbers with a difference of the number you rolled and mark them on the number line using a counter or small object.
(Tip: select any number to start with then make the amount of jumps on the die)


Use the sentence examples below to help you describe the numbers you have identified.

I've rolled a four. I'll start at seven.
(Marking jumps) one, two, three, four. Four greater than seven is 11.

The difference between seven and 11 is four. The difference between 11 and seven is four.


## I'm thinking of a number



I'm thinking of two numbers with a difference of 3 . One of the numbers is 7 . What could the other number be?

What number could he be thinking of? Is there more than one answer?
You may want to use a number line to show your thinking.

What number stories can you create for someone else to solve?

I'm thinking of two numbers with a difference of __. One of the numbers is $\qquad$ . What could the other number be?


## A handful of coins 1

Grab a handful of coins like the one shown below.

What is each coin's name?
What's the same and what's different?
Can you order them from smallest to greatest value?


## A handful of coins 2



Look at each handful of coins. Which is the odd one out? How do you know? Could there be more than one answer?


Create your own handful of coins groups at home. What could the odd one out be?

## Would you rather?



Which coin would you rather have?


Read these answers with a family a member. Who do you agree with? How do you know they are correct or incorrect?


## Would you rather? 2



For each set of coins, explain which coin you would rather have.


## Money Puzzle

Can you make each column and row add up to make the correct amount?

If you have real coins, use them to place in the gaps. After you have found a solution, draw the coins in.

Once you have completed the puzzle, try creating your own money puzzle for a friend to solve.


## Different ways

## Make 20 p

Using one coin


Using two coins


Using four coins


Can you think of any other ways?
What happens if we change the target amount?

## Fairyland

## $\mathscr{J}_{\text {airyland }} \mathfrak{T H}_{\text {enu }}$

Cake.............................. 40 p
Qpple............................. 20 p
Sandwich........................... 50 p
3 Chocolate biscuit................. 10 p
Orange juice...................... 30 p
Banana.......................... 30 p
gTife. 40 p

Role play being at the Fairyland café with a family member, taking on the role of the customer and the waiter/waitress.

- Customer selects two or more items
- Waiter/waitress needs to add the amounts together.
- Swap roles.

If you had $£ 1$ to spend, what could you buy?

## Fairyland Receipt Checker

All of these Fairyland receipts say the total cost is 60 p . Which ones are correct and which ones are incorrect?

| Cake ............ 40 p |
| :--- |
| Apple........... 20 p |
| Total............. 60 p |


| Banana......... 30 p |
| :--- |
| Apple........... 20 p |
| Total............. 60 p |


| Milk ............40p |
| :--- |
| Apple............20p |
| Total........60p |


| Sandwich......50p |
| :--- |
| Chocolate |
| biscuit...........10p |
| Total........60p |


| Banana ........ 40 p |
| :--- |
| Chocolate |
| biscuit.......... 10 p |
| Chocolate |
| biscuit.......... 10 p |
| Total............. 60 p |


| Orange juice |
| :--- |
| .................. 30 p |
| Apple........... 20 p |
| Total............. 60 p |


| Orange juice |
| :--- |
| $\ldots \ldots . . . . . . . . . . . . . . ~$ |
| $30 p$ |
| Banana....... 30 p |
| Total............. 60 p |

Another receipt had a total of 80 p . What could they have bought?

## What did they buy?

If the total amount is 70 p . What could they have bought?
Think of at least 4 ways.

| GFairyland OICenu |  |
| :---: | :---: |
| Cake........................... 40 p |  |
| Qpple........................ 20 p |  |
|  | Sanduich....................... 50 p |
| Chocolate biscuit............... 10 p |  |
| Orange juice.................... 30 p |  |
| Banana......................... 30 p |  |
|  | $\text { פrilk.................................... } 40 \text { p }$ |



## Measure up!

Gather five objects from around your house.
Order them according to their size.
What could you use to measure each object?
For example: hands, coins, tin cans
Use your chosen unit to estimate and measure each object. Record your results in the table:

I am measuring using:

| Object |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Estimate |  |  |  |  |
| Actual |  |  |  |  |

## Object hunt

Around you home, can you find an object that is.....

We have used cubes for this task, but you could replace this
with an everyday item such as button, paperclip, bead, marble, coin etc.

- About 5 cubes long
- About 10 cubes long
- Longer than 5 cubes but shorter than 8 cubes
- Longer than 8 cubes but shorter than 12 cubes
- Longer than 12 cubes but shorter than 20 cubes
- Longer than 20 cubes but shorter than 25 cubes


## Curvy lines

Estimate which curvy line you think is the longest and the shortest. Use a piece of string to compare each one.


Tip: For each line mark the length on the string using a pen, cut the string and put it to one side. Afterwards, compare your pieces of string to see which was the longest.

## Heavier or lighter?

Look through your kitchen cupboards.
Select 5 items to compare mass.
Can you order them from lightest to heaviest?


Use the following sentence stems to create sentences about your items:
The $\qquad$ is the heaviest item.
The $\qquad$ is heavier than the $\qquad$ .
The $\qquad$ is lighter than the $\qquad$ .
The $\qquad$ is the lightest item.

## Crazy capacities

Collect five different empty containers from around the house.

Which one do you think holds the most?
Investigate!


Tip: You may want to use one container as your unit of measure, for example count how many cups of water fit into each container.

Were your estimates correct?

## Making gingerbread men

Work with an adult to prepare ingredients to make gingerbread men.

- 200 g plain flour

- 150 g light soft brown sugar
- 100 g butter
- 1 medium egg
- 5 dessert spoons golden syrup
- 1 teaspoon bicarbonate of soda
- 2 teaspoons ground ginger
- 1 teaspoon cinnamon

Tip: Feel free to change the recipe to suit tastes at home and ingredients you have available. Ideally this should include different items to measure at different masses or measures, as above.

## Making gingerbread men - full recipe

## This makes about 10 gingerbread biscuits.

## Instructions

1. Sift together the flour, bicarbonate of soda, ginger and cinnamon and pour into the bowl of a food processor. Add the butter and blend until the mix looks like breadcrumbs. Stir in the sugar.
2. Lightly beat the egg and golden syrup together, add to the food processor and pulse until the mixture clumps together. Tip the dough out, knead briefly until smooth, wrap in cling film and leave to chill in the fridge for 15 minutes.
3. Preheat the oven to 180C/160C Fan/Gas 4. Line two baking trays with greaseproof paper.
4. Roll the dough out to a $0.5 \mathrm{~cm} / 1 / 4$ in thickness on a lightly floured surface. Using cutters, cut out the gingerbread men shapes and place on the baking tray, leaving a gap between them.
5. Bake for 12-15 minutes, or until lightly golden-brown. Leave on the tray for 10 minutes and then move to a wire rack to finish cooling. When cooled decorate with the writing icing and cake decorations, if using..

## Ingredients

- 200 g plain flour
- 150 g light soft brown
sugar
- 100 g butter
- 1 medium egg
- 5 dessert spoons golden syrup
- 1 teaspoon bicarbonate of soda
- 2 teaspoons ground ginger
- 1 teaspoon cinnamon
- icing for decorating
- raisins for decorating

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[^0]:    Success for all
    At school we believe all pupils can achieve success in maths. We encourage pupils to have a belief that effort leads to success and that challenges are opportunities to learn.
    Here are a few tips to encourage your children at home with maths:
    $\checkmark$ Talk to your children about everyday maths
    $\checkmark \quad$ Play games with them
    $\checkmark \quad$ Value mistakes as learning opportunities
    $\checkmark$ Recognise that there is more than one way to work things out
    $\checkmark$ Praise children for effort over outcome
    $\checkmark$ Avoid saying things like "I'm useless at maths"

