

Year 2 Maths Home learning

Dear parents,

We will now be starting the next Mathematics Mastery home learning pack. Each day there will be a 'talk task' and an 'independent task' for your child to complete, a similar format to the lesson structure that we follow at school. Please engage in discussion with your child during the talk task that should typically last around 20 minutes.

- Get them talking and grow their language.
- Get them to use equipment and images to show and explain.
- Challenge them to think mathematically. Use the Prompts for Thinking that are suggested on the Mathematics Mastery planning.

Once the talk task is completed there will be an independent task that your child should around 10 minutes completing.

This document will provide further guidance and challenge where necessary. It will also continue to share the **why** this maths is important and **how** you could teach it.

A star rating has been used to explain the different levels your child could be working at.

All children should be able to complete the  task.

Most children should be able to complete the  task.

Some children should be able to complete the  task.

If you have any questions, please email us using our class email address.

Best wishes,

Miss Pickering and Mrs Horne



Mathematics
Mastery

**At home materials
Learner Pack
Year 2 Weeks 6-8**

Pack 1: Addition key facts Session A) Addition and subtraction Session B) Using key facts within ten Session C) Using key facts within twenty Session D) Modelling problems
Pack 2: Multiplication and division Session A) Describing equal groups Session B) Multiplication situations Session C) Arrays Session D) Times greater
Pack 3: Numbers Session A) Counting and grouping Session B) Value of place Session C) Regrouping Session D) Build and adjust



Session A (Monday): Describing equal groups

WHY?

The purpose of this task is to explore the language and symbols of multiplication and division when describing equal groups.

Groups of counters are used to show that multiplication is commutative and to explore the relationship between multiplication and division.

HOW?

Talk task:

1. Discuss the images of counters and ask your child to discuss what they see and notice.
2. Look at each model and discuss how it can be linked to the calculations below. E.g.
 $3 \times 4 = 12$ 'There are 3 groups with 4 counters in each group. There are 12 counters altogether.'
 $4 \times 3 = 12$ 'A group of 4 counters, 3 times is equal to 12 counters.'
 $12 \div 3 = 4$ '12 is split into 3 equal groups. There are four in each.'
 $12 \div 4 = 3$ '12 is split into 4 equal groups. There are three in each.'
3. Discuss the relationship (there is a doing and undoing relationship). If I know a multiplication fact I also know a division fact.
* Note multiplication is commutative - the order in which you multiply does not change the result. 5×2 can be thought of as 2 groups of 5 or 5 groups of 2 as the result will be the same.

Independent task:



Complete independent task 1 and 2. Repeat with different numbers if consolidation is needed.

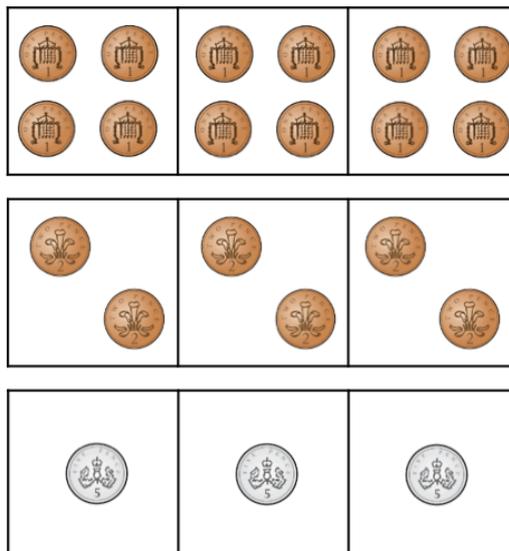


Complete independent task 1, 2 and 3.



Complete independent task and solve the problem below.

Which group of money is the odd one out?



Explain why.

Session B (Tuesday): Multiplication situations

WHY?

The purpose of this task is to explore situations involving multiplication and division and models that can be used to represent them.

Building confidence with interpreting and building models will allow pupils to use them to make sense of mathematical situations and support understanding of calculation strategies.

HOW?

Talk task:

1. Start by discussing the models and ask your child to describe what they can see.
2. Read a word problem and discuss which model can be used to represent the problem (there will be more than one possible one model).
3. Describe how the model represents the problem e.g. what each part of the model means in the problem. 'The counters can represent the sugar in the problem. Each counter is 1kg of sugar.'
4. Discuss the calculation that can be used to answer the problems.

** Encourage your child to think about when there can be more than one answer. For example, a problems involving division can be thought of as multiplication with an unknown factor. This problem is asking how many lots of 4 minutes are there in 12 minutes. I can think of this as $4 \times \underline{\quad} = 12$.*

**The problem involving money has the language 'times as much' to compare two amounts. When choosing a model, ask pupils to think about how much money there is altogether. This will draw attention to the two amounts that are being compared and so the model with two bars is a logical choice. The other models can be used and they show the amount the brother has. Times greater is the focus of session D.*

Independent task:



Complete independent task 1 and 2.

1. Read the problem and fill in the blanks. Look at the model to work out what the problem is asking.

(How many days are there in 3 weeks? How many weeks is in 21 days.)

Complete the calculations and record the answer.

2. Read the problem and complete the model.

(Continue to draw 4kg weights until you have reached 24kg.)

Complete the calculations and record the answer.



Complete independent task 3.

Read the problem and draw the model, record the calculations and the answer.



Solve the problems below.

There are four baskets. There are three dolls in each basket.
How many dolls are there altogether?
Draw an image and write a calculation to represent the problem.

Write a word problem for the calculation 4×10 .

Draw an image to illustrate your word problem.

Session C (Wednesday): Arrays

WHY?

The purpose of this task is to explore arrays and see the connection between multiplication and division. You want to establish a clear understanding as to how one array can be described in many different ways.

Array - An arrangement of objects, pictures, or numbers in columns and rows is called an array. Arrays are useful representations of multiplication concepts.

HOW?

Talk task:

1. Look at the first arrays and discuss the corresponding equations. Recapping the relationship between multiplication and division and discuss the commutativity of multiplication ($2 \times 5 = 5 \times 2$).
2. Repeat with the second array and the corresponding equations.
3. Compare the arrays. Possible discussion points include:
 - Comparing the value of the whole
 - Comparing the value of the parts
 - Comparing the number of parts

Possible extension: Ask your child to create their own array and to record the corresponding multiplication and division calculations.

Independent task:



Write the calculations that each array can represent.



Write a word problem for each array (either multiplication or division).



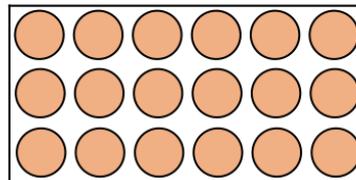
Solve the array problems below.

With 12 cubes, how many different arrays can you create?

Once you have created your array complete:

___ \times ___ = ___ \times ___

Find different ways to solve six lots of three.



Part of this array is hidden.



The total is less than 16

What could the array be?

Session D (Thursday): Times greater

WHY?

The purpose of this task is to explore the experiences where multiplication is used to compare two values. This involves using language such as 'times greater', 'times as much' or 'times as many'.

**This can also involve using the language of fractions and pupils should be encouraged to think about how to use the phrases 'a third of the amount' and 'a quarter of...' etc.*

HOW?

Talk task:

1. Two people have different amounts of money. Discuss how much money each person has.
2. Discuss the statements and work out which person says which statement.
3. Move on to look at the arrows above a number line and encourage pupils to add more information to the model (add missing values e.g. grey arrow = 24). Think about how to use similar language as before to describe the arrows.

The grey arrow is 4 times greater than the black arrow.

The black arrow is a quarter of the length of the grey arrow.

Independent task:



Complete independent task 1. Work out how much money each man has and then write statements that compare the amount.



Complete independent task 2. Work out the height of the young giraffe. Can you use division or a fraction to work out the answer?



Complete independent task 3.

The final problem challenges pupils to use multiplication to describe situation which is not as straight forward as the others. Prompt them to compare the price and the amount.

(Possible answers 'There are 4 times more yoghurts in the 12 pack.' 'The 12 pack costs 3 times the price.' 'The 3 pack is a third the price of the 12 pack.')

Consolidation (Friday): 2, 5 and 10 times tables

Today's maths lesson can be used to review previous learning if necessary. If your child has shown a clear understanding they can complete the tasks on the 2, 5 and 10 times table.



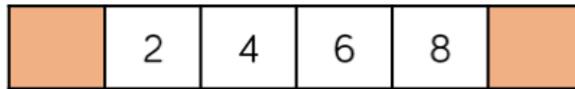
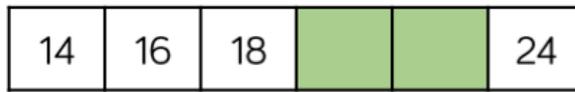
Count in 2s to calculate how many eyes there are.



There are ___ eyes in total.

___ × ___ = ___

Complete the number track.

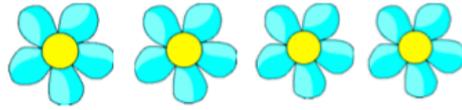


How many wheels are there on five bicycles?



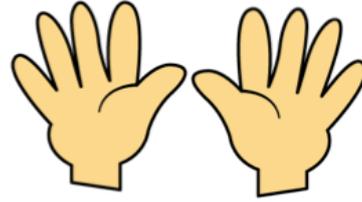
If there are 14 wheels, how many bicycles are there?

How many petals altogether?



Write the calculation.

There are 35 fingers.
How many hands?



___ \times 5 = 35

Use $<$, $>$ or $=$ to make the statements correct.

2×5 5×2

3×2 4×5

10×5 5×5

How many crayons are there altogether?



There are ___ crayons altogether.

___ \times 10 = ___

Altogether there are 30 bottles, how many walls are there?



___ \times 10 = 30

Think of a multiplication fact for 10s to go in each box.

2×10		9×10	0×10		2×10
smallest		greatest	smallest		greatest

	1×10	6×10		5×10	
smallest		greatest	smallest		greatest



Fill in the blanks.

$$3 \times \underline{\quad} = 6$$

$$\underline{\quad} \times 2 = 20$$

$$\underline{\quad} = 8 \times 2$$

Tommy says that $10 \times 2 = 22$

Is he correct?

Explain how you know.

Is Mo correct?



Every number in the 5 times table is odd.

Explain your answer.

Tubes of tennis balls come in packs of 2 and 5

Whitney has 22 tubes of balls.

How many of each pack could she have?

How many ways can you do it?

On sports day, Jack runs 10 metres, 7 times.



Which of these calculations do **not** describe this word problem?

$$10 + 7$$

$$7 \times 10$$

$$7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7$$

$$10 + 10 + 10 + 10 + 10 + 10 + 10$$

Explain why.



1. Some children share 12 strawberries. Each child gets 3 strawberries. How many children are there?
2. Tulips are sold in bunches of 5. Randle buys 30 tulips. How many bunches does he buy?
3. A large bag of frozen chips costs 30p. How much do 3 large bags cost?
4. Kate's teacher has asked her to arrange 40 chairs in 5 equal rows in the hall. How many chairs will there be in each row?
5. Jill saves 10p every week. She wants to buy a new game costing 60p. How many weeks is it before she can afford to buy the game?