$$
\begin{gathered}
\text { RS1 Maths } \\
\text { Summer term } 2 \\
\text { Weeks } 3 \text { \& }
\end{gathered}
$$



## Guidance for Parents

When young children are learning about maths, it is important that they do their calculations physically using equipment and when they are comfortable they can move on to using models and images to help them in their mathematical thinking before writing number sentences.

Here are some models and images to support with multiplication and division, the children will be looking at this term.

## Models and images for understanding multiplication and division



To do the maths activities at home, everyday materials can be used to provide the equipment required:

| $\circ$ | ruler | $\circ$ |
| :--- | :--- | :--- |
|  | straws |  |
| $\circ$ | buttons | $\circ$ |
|  | coins |  |
| $\circ$ | coat hanger | $\circ$ |
|  | pegs | $\circ$ |
| $\circ$ | plastic containers and |  |
| $\circ$ | pebbles |  |
| $\circ$ | egg bottles |  |

The 'Give me 5' activities will cover the mathematics your children should have been taught in school during the Autumn and Spring terms. The daily 'Give me 5' questions are to recall what they can remember and apply.



1. Fill in the missing gaps
one, two, three, $\qquad$
eight, seven, six, $\qquad$
eleven, twelve, $\qquad$ fourteen
sixteen, fourteen, twelve, $\qquad$
2. Name the shapes

3. Match the month to the celebration:

| Christmas | January |
| :--- | :--- |
| New Year | September |
| New school year | December |

4. Look at the coins I have and the cost of my sweets. Write the calculation to show the change I would get.

5. What is 50 subtract 10 ?
6. Fill in the missing gaps

Fifteen, eighteen, twenty-one, $\qquad$

One hundred, two hundred, $\qquad$
Seventy-five, eighty, $\qquad$
Ninety, eighty, $\qquad$ , sixty
2. Name the shapes

3. Match the correct month to the description:

| October | $2^{\text {nd }}$ month after March |
| :--- | :--- |
| April | Month between September <br> and November |
| May | Last month of the calendar <br> year |
| December | $4^{\text {th }}$ month of the calendar <br> year |

4. Look at the coins I have and the cost of my apple. Write the calculation to show the change I would get.

5. What is 65 subtract 15 ?

Mr. Nowak was the sports teacher and at the end of each day would count the footballs returned to the shed. This is what happened over a week:


1. How many footballs were in the shed on Monday?
2. Which day did the most footballs go missing?
3. What was the difference between the number of footballs returned between Wednesday and Thursday?
4. How many footballs went missing between Monday and Tuesday?
5. Why do you think there were the same number of footballs on Monday and Friday?

Mr. Carson arranged for an incubator to be delivered to Penguin Class. They were doing a topic on lifecycles. The chicks were just starting to hatch:


1. 4 chicks hatched on Monday and 12 chicks hatched on Tuesday. How many times more chicks hatched on Tuesday compared to Monday?
2. What was the difference between the number of chicks hatching on Thursday compared to Monday?
3. Circle the right statement:

Half the number of chicks hatched on Friday compared to Tuesday

Double the number of chicks hatched on Friday compared to Tuesday
4. How many chicks hatched between Monday and Wednesday?
5. Only 2 eggs did not hatch in the incubator. How many eggs in total were in the incubator?


1. Apples cost 20p per kilogram. The scales show how many I would like.
How much would this cost?


Cost
2. Carrots cost 15 p per kilogram. The scales show how many I would like. How much would this cost?


## Cost

3. Strawberries cost 50p per kilogram. The scales show how many I would like.
How much would this cost?


Cost


1. Melon costs 20p per kilogram. The scales show how the melon weighs.
How much would this cost?


Cost.
2. Cabbage costs 15 p per kilogram. The scales show how the cabbage weighs.
How much would this cost?


Cost
3. The pumpkin cost $£ 1.50$


How much was it per

Before the scales, you can see how much money I have in my purse.
4. Do I have enough money to buy the apples, carrots and strawberries.
5. Will I have any money left over? How much?
4. How much would the pumpkin, cabbage and melon cost altogether?
5. Look at the total money I have (above the scales). Do I have enough money to buy all three items? Is there and money left?


1. How many numbers are yellow?
2. How many numbers are green?
3. What is the sum of all the green numbers?
4. What do you think the white numbers are?

## Week 4



1. How many dominoes in the picture?
2. What is the total of all the $5 s$ in the picture?
3. How many double dominoes are there?

What is the sum of these double dominoes?
4. What is the total of all the 6 s in the picture?

| 5. Choose 2 red numbers and multiply them. <br> Write down your calculation: |
| :--- |
| Number Squares     <br> 1 2 3 4 5 <br> 6 7 8 9 10 <br> 11 12 13 14 15 <br> 16 17 18 19 20 <br> 21 22 23 24 25 <br> 25 27 28 29 30 |

1. Look at the number 18. What is the number
above it $\qquad$
below it $\qquad$
2. Can you complete the calculations?
$18-13=$
$18+5=$
What do you notice about these calculations and your answer to question 1 ?
3. If I start at 7 and make 3 jumps of 5 forwards, where would I land?
4. If I start at 28 and make 2 jumps of 5 going backwards, where would I land?
5. What is 5 more and 5 less than 24 ?
6. There are 6 of each number in the picture above? Is this always true? Explain your answer?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

1. Guess my number.

34 is above me and 54 is below me.

I am $\qquad$
2. Guess my number 56 is to my left and 58 is to my right.

I am $\qquad$
3. What is 20 more than 55 ?
4. What is 20 less then 43 ?
5. Look at this section of the 100 square:

| 26 | 27 | 28 |
| :--- | :--- | :--- |
| 36 | 37 | 38 |
| 46 | 47 | 48 |

Is the difference between the other pair of diagonals the same (those in pink)?




Week 3, Term 2-Measures: Comparing Capacity and Volume

This week the children will be comparing the capacity of containers and the volume within them.

For this work, the children would benefit hugely from investigating capacity and volume.

The kitchen sink, the bath and outside in the garden with a bucket of water or even a paddling pool are ideal places for children to find out about capacity and volume.


A range of household containers


Your child(ren) will need to know the difference between capacity and volume:

Capacity - the amount the container can hold.

Volume - the amount the container is actually holding.

Your child(ren) will need to use the language of 'full', 'half full' and 'empty'. Once confident in using this language they can use $<,>$ and $=$ to compare the capacity and volume.

Children then move on to looking at $1 / 4$ and $3 / 4$ full containers.

When experimenting at KS1, children are expected to compare capacity of and the volume within containers using non-standard measures (such as cups of liquid) and then standard measures of millilitres ( ml ) and litres ( L ).

Your child(ren) will be asked to read scales that have intervals of either 1, 2, 5,10 or 100 .
Year 2 children should know that $1000 \mathrm{ml}=1 \mathrm{~L}$.

## Activity 1 - Comparing Containers.

For this activity your child will need 5 different containers.

e.g.

First of all, ask your child(ren) which container has the smallest capacity and will hold the least amount of water. The which has the greatest capacity and will hold the most amount of water.

Next, fill the containers with different amounts of water.

Ask your child to say whether the container is

| full | half full |
| :---: | :---: |
| nearly full | empty |
| half empty | nearly empty |

Discuss that half full = half empty

Now use a cup of a plastic beaker to fill the containers to see which has the greatest capacity.

The bottle needed 4 cups of water to fill it
e.g.


Draw each container and say how many cups of beakers of water it took to fill it.

| Container | Number of full cups/beakers of <br> water to fill it |
| :--- | :--- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## Follow up tasks

In the pictures below the number of full beakers of water poured in to the container can be seen by the number of blue lines.

Write how many full beakers of water each container holds.


Now order the containers from the smallest to largest capacity.

Circle the objects with the smallest capacity (holds the least amount)


Circle the objects with the greatest capacity (holds the most amount)


Now look at the containers and complete the sentences with has less than, has more than or is equal to.

A $\qquad$ B.
B $\qquad$ C.
C $\qquad$ A.
B $\qquad$ D.

## Activity 2: Understanding that the tallest does not mean the greatest capacity.

Many children understandably, compare things in relation to height and often will think a tall narrow container will have a greater capacity than a shorter wider container.

In order to help with their future perception of volume and space, it is important that they have the opportunity to experiment with this concept.

Storage boxes and empty plastic containers/bottles are really useful to do this comparison.

Water sold in bottles by different manufacturers are particularly good since often the shapes of the container look very different for the same volume sold.


For this investigation, fill the containers with water and then get your child(ren) to pour the water to count how many cupfuls or beakers full of water they contain. This is good for developing your child's pouring skills and accuracy.

| Container | Cups /beakers full of water |
| :--- | :--- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## Follow up tasks

Fred, Wilma and Dino are comparing how much water they have in their bowls.



Wilma says she has more water in her container because the level is higher. Is she correct? Explain why.

Who do you think has the most water? Explain why.

Draw the correct amount of liquid in each container.


## Reasoning

Simon measures the capacity of the bottle.
He says the bottle has the capacity of four cups.


Do you agree?

Explain why.

## Reasoning

Katie measures the capacity of the bottle.
She says the bottle has the capacity of four cups.


Do you agree?

Explain why.

## Reasoning

Max measures the capacity of the bottle.
He says the bottle has the capacity of four cups.


Do you agree?

Explain why.

## Activity 3 - Using different non-standards measure.

For this activity your child (ren) will need some different different nonstandard measures:
A spoon

> an egg cup or small vessel
a food container




Select 3 different containers e.g. jug, cup, bowl and get your child to measure how many spoonfuls of water it takes to fill each vessel. Then repeat with the egg cup and food container.

| Container | Number of <br> teaspoonfuls of <br> water | Number of egg <br> cupfuls of <br> water | Number of food <br> containers of <br> water |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Discuss why it takes more spoonfuls of water than food containers of water to fill up the containers chosen.

Ask, if you went to the shops, would you want to buy 5 spoons of milk for 50p or 5 food containers of milk for 50p?

This is to be able to reason why standard measures are required.
Follow up activities
It takes



 to fill 1





## How many

 will it take to fill:


Is there a pattern?

If I had 8 buckets, how many cups of water would it take to fill it?

Reasoning
$\theta=\theta_{0} \theta_{0} \theta_{0}$


How many


## Activity 4: Comparing Containers

For this activity, it would be useful to have similar types of containers of different sizes e.g. plastic bottles or food containers.

The method shown will be with bottles.
A
B
C
D


$\mathrm{C}=$

Can you put the letters in the boxed below:


Use your containers now and make some comparisons like above:

| Container A | Container B |  |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
| Cupfuls |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Fill in the letters for your results.


## Activity 4 - Reasoning with non-standard measures



Wilma says this container holds 4 cupfuls of juice. Is this true?

Have a look at the graph which show the total number of cupfuls each container held - their capacity.


Which 2 containers held the same number of cupfuls of water?

Which container held the most water?

How many more cupfuls of water did the food box hold compared to the plastic carton?

How many cereal bowls full of water would it take to fill the saucepan?

This time we are going to look at a pictogram.


This pictogram shows how many cupfuls of water the Flintsone family drank in a day


Who drank the most water?
Who drank the least? Why do you think this is?

How much more water does Fred drink than Wilma.

How much water does Bambam and Dino drink altogether?

Can you count how many cups/glasses of water your family drinks?

My family

| Name | Cups/glasses of water |
| :--- | :--- |
|  |  |
|  |  |
|  |  |
|  |  |

Draw a bar graph to show this


## Activity 5

Today we re going to look at measuring the volume inside a container using standard units.

We measure liquids in litres ( L ) and millilitres ( ml ).
There are 1000 millilitrs in a litre.

Let's have a look at some measuring cylinders.

This measuring cylinder has a scale of one:


How many ml?

This next measuring cylinder has a scale of two:

How many ml?


The one below has a scale of 5 .


How many ml?
$\qquad$

The last measuring cylinder has a scale of 10.

How many ml?


For the tasks below, you will need to be able to count in $2 \mathrm{~s}, 5 \mathrm{~s}, 10 \mathrm{~s}$, and 100s!


20


4


22


6


24


8


26


12


14


32


16


34


18


36


| 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 |
| 310 | 320 | 330 | 340 | 350 | 360 | 370 | 380 | 390 | 400 |
| 410 | 420 | 430 | 440 | 450 | 460 | 470 | 480 | 490 | 500 |



| 100 | 200 | 300 | 400 | 500 | 600 | 700 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |



Now have a go at reading the scales below:


## Week 4- Standard measures: Activity 6

How much water is in each jug?

$\qquad$

$\qquad$


Colour in the right amount of water in each jug


500ml


900 ml


600 ml


200 ml


400 ml


800 ml

## Activity 7

This time instead of measuring jugs, we are going to look at measuring cylinders.

Write the volumes shown on the cylinders below:
1)

2)

3)

4)

5)

$\qquad$
mL
$\qquad$ mL
$\qquad$ mL
$\qquad$
mL
$\qquad$ mL
6)

$\qquad$ mL

8)

9)

10)

$\qquad$ mL
$\qquad$ mL
$\qquad$ mL
$\qquad$ mL

If you have a measuring jug at home or school, measure how much water a cup, bowl and a saucepan holds.

Activity 8 - Comparing volumes using >, < and =

Have a look at the pairs of containers below and compare the volumes. Put the correct sign, >, < or = between them.



A holds 5 ml of liquid.

How many of liquid are there in each container?


How many teaspoons of water will it take to make 20ml?

How many teaspoons of water will it take to make 45 ml ?

How many teaspoons of water will it take to make 100 ml ?

## Activity 9: Using Litres

Today we are going to look at using litres. A litre is a very much larger measure than millilitres and we use this measure of volume when we buy things like petrol or heating oil. If you go to the supermarket you can buy milk in litre containers.

Let's look at some different sized measuring cylinders:


There are 1000 ml in 1 litre. $1 / 2$ litre $=500 \mathrm{ml}$

You can also see the comparison when using dienes apparatus


To start with, we will look at the volume of liquid in litre containers.

Show the amount of liquid in the containers below:


1000 ml (11)


250 ml


700 ml


750 ml

How much water is in the containers?

$\qquad$
a) If Sara drinks 1 litre of water a day, how many litres of water does she drink in a week?
b) If a cup holds 200 ml of water, how many cups of water are there in a litre bottle of water?
c) If one saucepan holds $21 / 2$ I of water, how much will 2 saucepans hold?
d) If one bucket holds 3 litres of water, how much will 10 buckets hold?
e) Orange squash comes in 2 I bottles. I buy 5 bottles for my party. How much orange squash do I have?

## Activity 10 - reasoning with capacity and volume

Think about this: squash comes in 1 litre bottles:


Which of the following holds more or less than a litre?

| A coffee cup | A spoon | A bathtub |
| :---: | :---: | :---: |
| Less than / More than | Less than / More than | Less than / More than |
| A tube of sunscreen | A mug | A yogurt cup |
| Less than / More than | Less than / More than | Less than / More than |
| Juice box | Dump truck | Milk carton |
| Less than / More than | Less than / More than | Less than / More than |

## Which holds more?

Remember this:


Circle the set that holds more:

a) Each bottle of milk contains 500 ml. I buy 3 I of milk. How many bottles do I buy?
b) A watering can holds 5 I of water. If it takes 10 jugs to fill it, how many millilitres does the jug hold?
c) If a bottle holds 500 ml , how many bottles are needed to fill a saucepan
which can hold $21 / 2$ I of water?
d) If a bucket holds 3000 ml of water, how many 1 l bottles will it take to fill the bucket?

