

Year 2 Maths Activities - Week Beginning 8.6.20.

Dear Parents and Carers,

We are going to continue with our revision and this week the activities will be about Statistics.

I have decided not to divide the sessions up into 3 levels of difficulty, as this topic is a bit more straight forward than some of the others. However, I have tried to find some extra challenges for those children Working At Greater Depth.

Before we begin, let's take a look at what children need to know about Statistics in Year 2.

The National Curriculum States that;

Pupils should be taught to:

- interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- ask and answer questions about totalling and comparing categorical data.
- record, interpret, collate, organise and compare information (for example, using many-to-one correspondence in pictograms with simple ratios 2, 5, 10).

Activity 1	Objective: To make tally charts. Tally charts need to be taught as a systematic method of recording data as a running total for an unknown quantity. Children should be confident counting in 5s and have an understanding of the vocabulary <u>total</u>, <u>altogether</u>, <u>more</u>, <u>less</u> and <u>difference</u>. Tally charts are used to collect data quickly and efficiently. Filling in a chart with marks representing numbers is faster than writing out words or figures and the data is collected into sub-groups immediately, making it easy to analyse.
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Favourite part of Christmas	Number of people
Decorating the tree	
Opening presents	
Playing in snow	
Carols and music	
Time with friends and family	
Christmas food	

When collecting the information, for every person who liked a particular part of Christmas the most, a line would be drawn in the correct box. When the child gets to five lines, the fifth line needs to be crossed through the first four (this makes counting the lines at the end easier!).



The finished tally chart might look like this:

Favourite part of Christmas	Number of people
Decorating the tree	
Opening presents	
Playing in snow	
Carols and music	
Time with friends and family	
Christmas food	

This chart shows that the **most popular** part of Christmas was Opening Presents, with eleven people liking this the best. The **least popular** activity was eating Christmas food, because only two people chose this as their

favourite. We can work out the difference between the most popular and least popular by doing a subtraction;

$$11 - 2 = 9.$$

The difference between the most popular activity and the least popular activity is 9. This means that 9 more people liked opening presents than eating Christmas food.

Mathematical Talk

What does 1 mark represent? How would we count the single marks?

What do you notice about every fifth marker? How would we count these?

Why do we count in 5s and 1s? What makes this method of counting more efficient?

How do we ensure that we use our tally marks to work systematically? (Recording tally marks systematically 1:1 as objects are counted NOT counting objects as a set then recording the matching tally in order to avoid miscounting)

Activity

Have a go at the Tally Charts Sheet.

Have a go at creating your own tally chart (the sheet asks you to do this, but I've given some ideas below).

Topics might include;

- Types of soft toy you have (bears, cats, rabbits, etc),
- Items in your fridge (meat, dairy, drinks, other),
- Colours of toy cars you have (blue, red, white, etc),
- Types of transport passing your house (car, bike, van, bus, etc).
- Shapes you can see around your house (circles, triangles, squares, etc).

Your tally chart could be about anything in your home, or it could be linked to something you are interested in or something you are doing, e.g;

- Number of star jumps I did on Monday, number I did on Tuesday, etc,
- Number of times my favourite football teams have scored goals this year,

Your tally chart could be about ANYTHING!!!!

After making your tally chart, can you answer the following questions;

- What was the most popular / the most common?
- What was the least popular / least common?
- What is the DIFFERENCE between the most and least?

Extra Activities for Children Working at Greater Depth

1.

What is the same? What is different?

Favourite ice-cream flavours in class 1	Tally
Vanilla	
Chocolate	
Strawberry	
Mint	

Favourite ice-cream flavours in class 1	Tally
Vanilla	
Chocolate	
Strawberry	
Mint	

Looking at the above tally charts (about ice cream flavours), what is the same and what is different? Also, how many children are in each class? How do you know?

2. The tally chart shows the number of children in each class.

Class	Tally	Total
Class 1		10
Class 2		22
Class 3		13
Class 4		17

The tally for Class 3 is covered up. Complete the tally for Class 3.

Which is the largest class? Explain how you know.

Which is the smallest class? Explain how you know.

How many more children are in the largest class, compared to the smallest? Explain how you know.

How many children are in the school altogether? Explain how you know.

3. Jane made a tally chart.

Birds I saw



thrush		
sparrow		/ /
blackbird		
gull		/ /
magpie		/

How many **more** gulls than blackbirds did she see?

How do you know?

gulls

Activity
2

Objective: To draw and interpret pictograms (1 to 1 correspondence).

Children use tally charts to produce pictograms.

It is important that children see pictograms both horizontally and vertically.

A pictogram is a chart that uses pictures to represent data.

Pictograms are set out in the same way as bar charts, but instead of bars they use columns of pictures to show the numbers involved.

FRUIT	NUMBER OF CHILDREN WHO CHOSE IT
PEAR	
WATERMELON	
ORANGE	
APPLE	
BANANA	

Pictograms are most commonly used in Key Stage 1 as a simple and engaging introduction to bar charts. Sometimes teachers will give children cut-out pictures to count out and stick onto a ready-made sheet. This physical activity makes the concept very clear for young children.

When compiling information for a pictogram, a teacher will usually encourage their class to collect data about other children: for example, children might be asked to find out about favourite crisps, cakes, animals or colours of the children in their class or another class. Often, they will record this information on a class list and then put it onto a tally chart. This information is then converted into a pictogram.

Mathematical Talk

How did you know how many images to draw?

What is the same and what is different about these two pictograms? (same data but shown horizontally and vertically)

Which pictogram is easier to read? Why?

What symbol could we draw? Why did you choose this?

Activities

Complete the pictogram.

Hair colour		Number
Black		5
Blonde		7
Brown		9
Ginger		4

Use the tally chart to help you complete the pictogram.

Fruit	Tally
Banana	
Grapes	
Pear	
Apple	

Fruit	Number
Banana	
Grapes	
Pear	
Apple	

Complete the pictogram using the data given.

Name	Tally of goals scored
Raj	
Mark	
Rose	
Amal	

			
			
Raj	Mark	Rose	Amal
 = 1 goal			

Have a go at the 'Drawing Pictograms Sheet' and the 'Interpreting Pictograms Sheet'.

Extra Activities for Children Working at Greater Depth

1.

Here is a pictogram showing the number of counters each child has.

Tim	 
Sally	  
Tom	  
Kate	 

Write some sentences to explain how you improved the pictogram and why the changes you made were necessary.

How could you improve the pictogram?

2.

Use the clues below to help you complete the pictogram.

- More caramel was sold than Bubble-gum flavour, but less than strawberry flavour.
- Mint Chocolate was the most popular flavour by 2
- Vanilla was the least popular by 3



= 1 ice cream

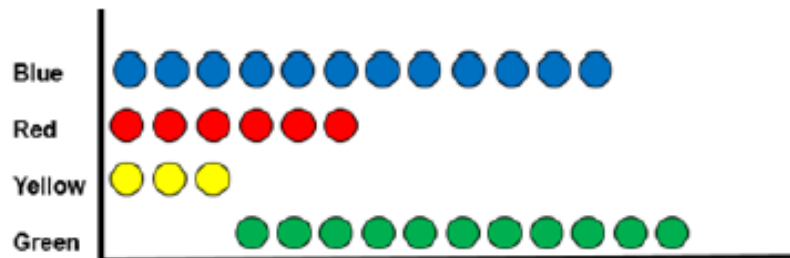
Flavour		Number
Strawberry	       	
Vanilla		
Chocolate	   	
Mint		
Caramel		
Bubble-gum	   	4

How many different ways are there to complete the pictogram?

3.

Here is a pictogram.

Number of sweets in a packet



The most popular
colour sweet is
green.

Do you agree with Anya?

Explain why and correct any mistakes.

Activity
3

Objective: To draw and interpret pictograms with 2, 5 and 10 to 1 correspondence.

Children look at pictograms where the symbols represent 2, 5 or 10 items.

Careful consideration needs to be given to the picture or symbol used so that it can be halved.

They count in twos, fives, and tens to complete and draw pictograms.

Mathematical Talk

Why is it important to use a picture to represent 10 objects in this pictogram?

Discuss with children that when using larger numbers, 1-1 correspondence becomes impractical.

If a symbol = 2, how can you show 3 on a pictogram? How can you show 5? How can you show any odd number?

- 1 Use the tally chart to complete the pictogram.

Animal	Tally of goals scored
Dog	
Cat	
Rabbit	
Fish	

● = 2 animals

Animal	
Dog	● ● ● ● ●
Cat	● ●
Rabbit	● ● ● ●
Fish	● ● ● ● ●

- 2 Use the information from the table to complete the pictogram.

Number of books read in each class

Class 1	
Class 2	
Class 3	
Class 4	
Class 5	
Class 6	

Number of books read in each class

Class 1	📖 📖
Class 2	📖 📖 📖 📖
Class 3	📖 📖
Class 4	📖 📖 📖
Class 5	
Class 6	📖 📖 📖 📖

📖 = 5 books

- 3 Year 2 sell cakes at a bake sale.

The table shows the data.

Draw a pictogram to represent the data.
Each circle represents 10 cakes.

● = 10 cakes

Number of cakes sold

Chocolate cake	
Lemon cake	
Red velvet cake	
Mint cake	
Carrot cake	

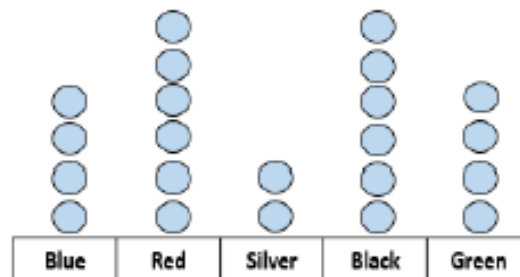
Complete the 'Draw Pictograms 2, 5 and 10 Sheet' and the 'Interpret Pictograms 2, 5 and 10 Sheet'.

Extra Activities for Children Working at Greater Depth

1.

Zac and Lily both draw a pictogram to show how many cars they have seen pass their school.

Pictogram to show the number of cars



= 5 cars



Mine is better because it shows big numbers.



Pictogram to show the number of cars

Animal	
Blue	
Red	
Silver	
Black	
Green	

= 10 cars

Mine is better because I can count in 10s

Whose pictogram is better?
Explain your reasoning.

2.

Harry and Lucy have carried out a traffic survey.

Van	  
Bus	   
Bike	  
Lorry	 
Car	    

$$\text{Van icon} = 10$$

Harry says;



If I add the number of lorries and bikes together then it will be equal to the number of cars

Is he right? Convince me

Lucy says;

To find the total number of vehicles I need to add all the images up.



Is she correct? Explain your answer.

3.



Convince me

On Sunday the most ice creams were sold.

True or False (Why?)

Three ice creams were sold on Tuesday.

Justify

If the staff needed to pick which day to have off during the week, which would be the best day and why?

Activity
4

Objective: Block diagrams.

Children use their knowledge of number lines to link to the idea of a scale up the side of a block diagram. They read the scale on the bar chart to work out what each block represents.

Children ask and answer questions using their addition, subtraction, multiplication and division skills.

Moving from concrete to pictorial, children build block diagrams using cubes and then move to drawing and interpreting block diagrams.

Mathematical Talk

Can you use data to draw a block diagram? What will each block be worth?

Can you make a block diagram about favourite colours about your own class?

Can you colour in the blocks on the axis to represent the data?

Can you create your own questions to ask about the block diagram?

Activities

- 1 Class 4 are collecting data about favourite colours.

Colour	Number of children
Red	5
Green	8
Blue	7
Yellow	2

Make a block diagram using cubes to represent the data.
Can you now draw the block diagram? Remember to label the blocks and draw a clear scale.

- 2 5 classes collected their house points.
Here are their results.

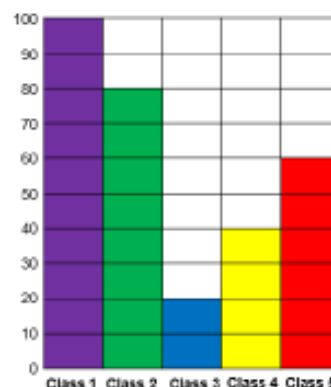
Which class collected the most house points?

Which class collected the fewest house points?

How many more points did Class 2 get than Class 4?

How many fewer points did Class 3 get than Class 5?

How many points did Class 2 and Class 3 get altogether?

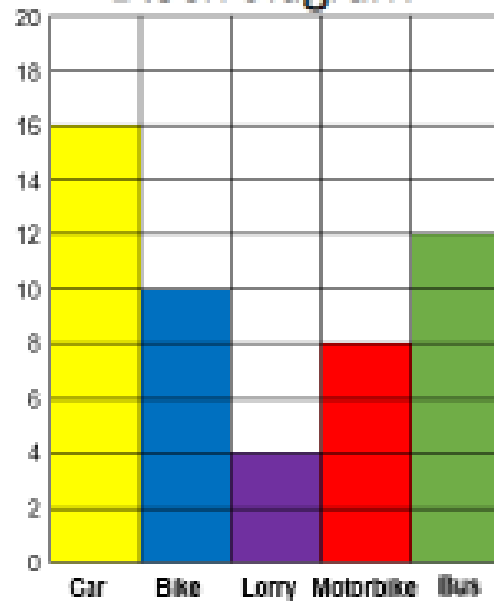


Have a go at the 'Block Diagrams Sheet'.

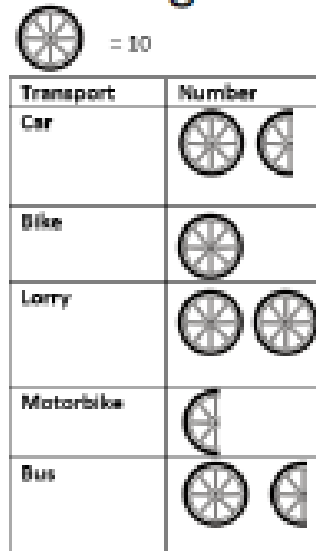
Extra Activities for Children Working at Greater Depth

Which one is the odd one out?
Explain why.

Block diagram



Pictogram



Tally Chart

Transport	Number
Car	
Bike	
Lorry	
Motorbike	
Bus	

Activity 5	Objective: Mixed Practise. Have a go at the SATs style questions. You might want to pick out the questions that you feel are most appropriate for your child or you might choose to do all of them.
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A Little Extra

The White Rose End of Block Assessment is also included here with the other resources. Children do one of these at the end of each maths topic, so they have already done this. You might want to give it to them at the end of this week to see if they can complete it independently and if there are still things they have not understood.