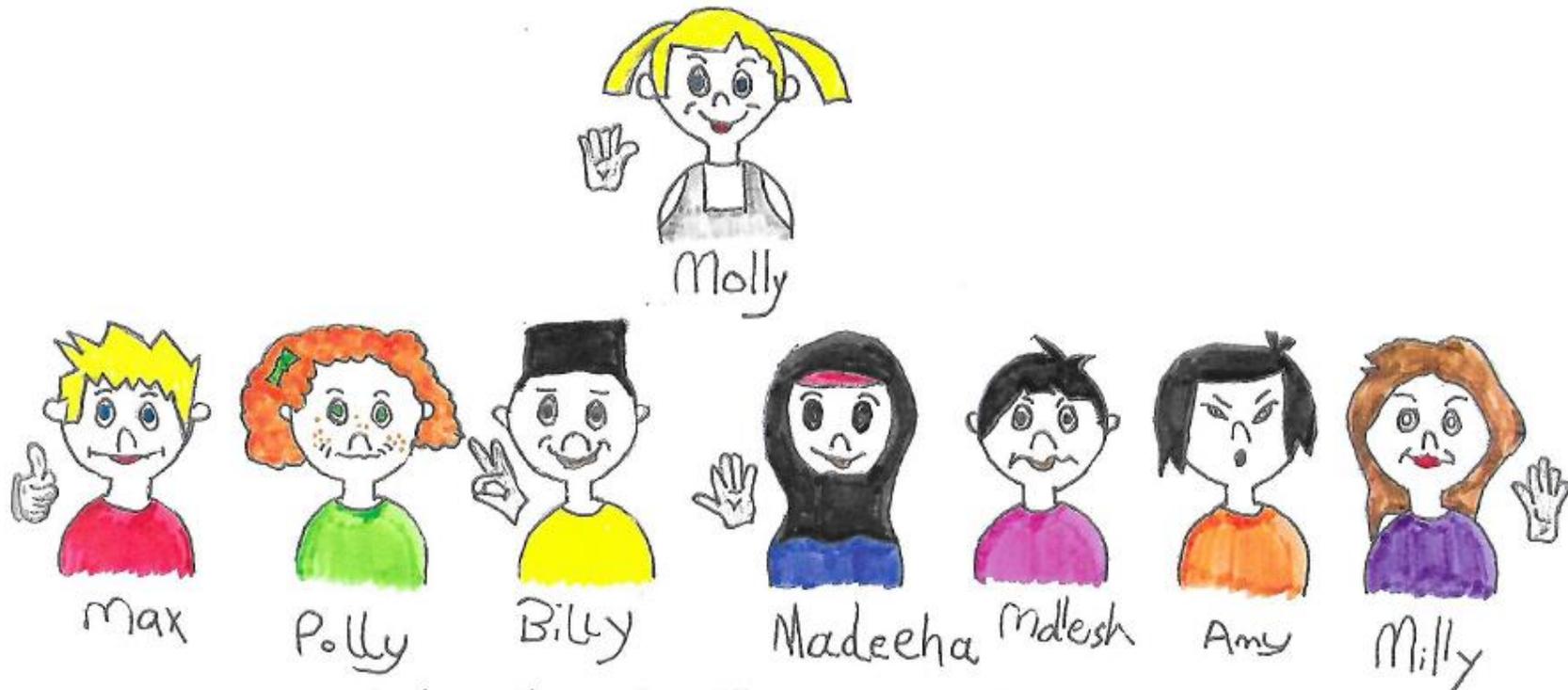


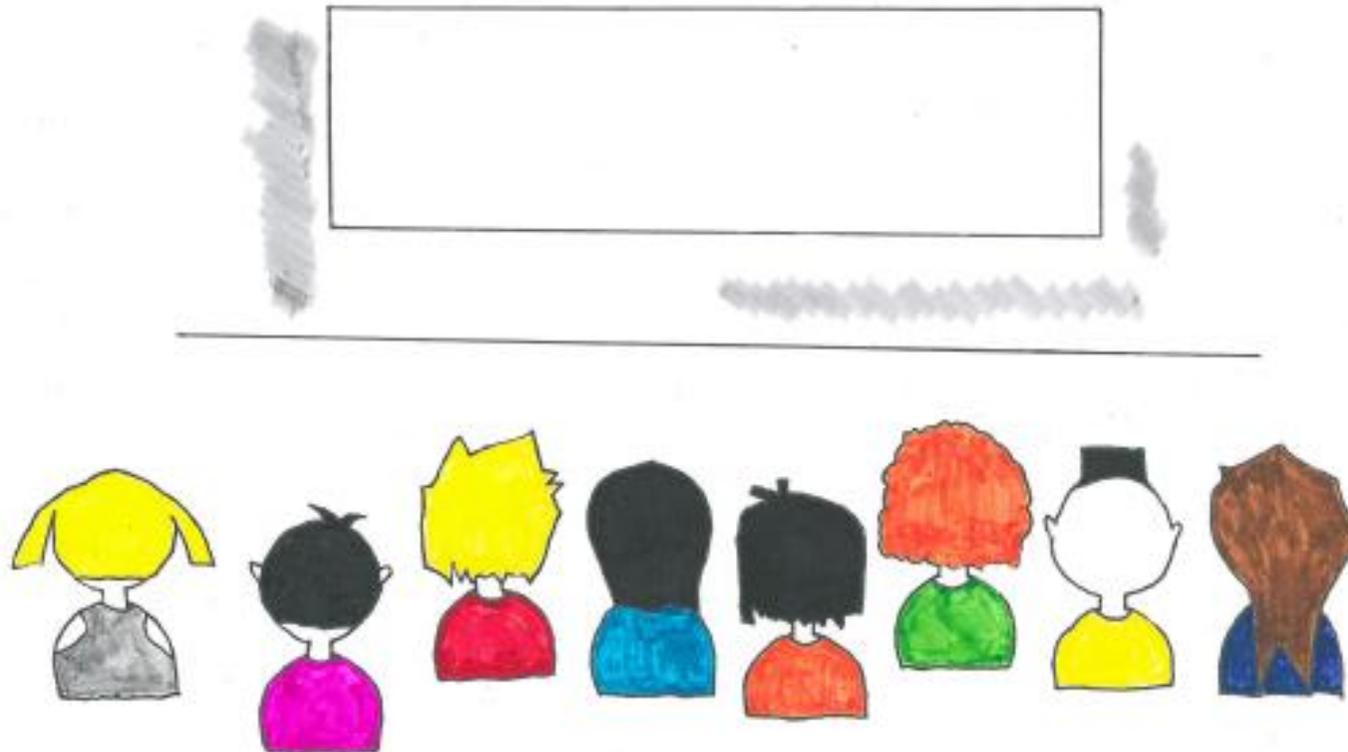
Molly and Friends: Exploring Names



Author: Sharon Day

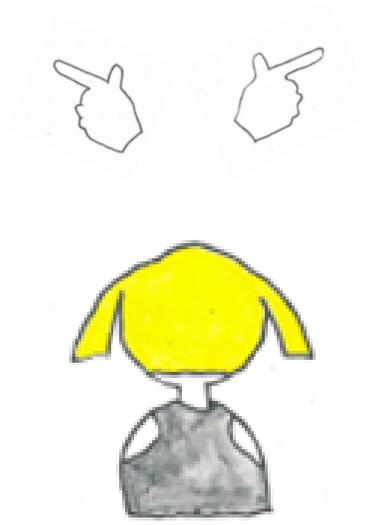
Illustrator: Stephen Day

Molly and friends were looking at their names on the register.



Molly noticed that there was something the same about the two names Molly and Mallesh.

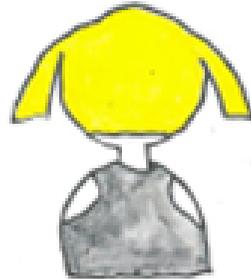
Molly ***Mallesh***



“I have noticed that Mallesh and I both have the same first letter as each other!” exclaimed Molly.

There was also something the same about the names Molly and Billy.

Molly *Billy*



“I have also noticed that Billy and I both have the same last three letters as each other.”

Then Molly started to wonder if there were any other names that contained similar letters. She looked down the list and she copied four of the names:

Polly, Milly, Max, Amy

“These names all have something the same as my name!”
insisted ***Molly***.

Do you agree with Molly?

Molly was amazed!

There are names that have double letters.

Molly
Milly Polly
Malleesh
Madeeha

There are names that have the same number of letters as each other.

3 letters
Amy
Max

5 letters
Polly Milly
Molly Billy

7 letters
Madeeha
Malleesh

There are names that start with the same letter.

Molly Madeeha
Max Milly
Malleesh



Have a look at the children's names in your class.

Are there any names that begin with the same letter?

Are there any names that have the same number of letters as each other?

Are there any names with double letters?



Do you notice anything else about the letters in the names of the children in your class?

Molly  and Mallesh  decided to put the names into a Carroll diagram.

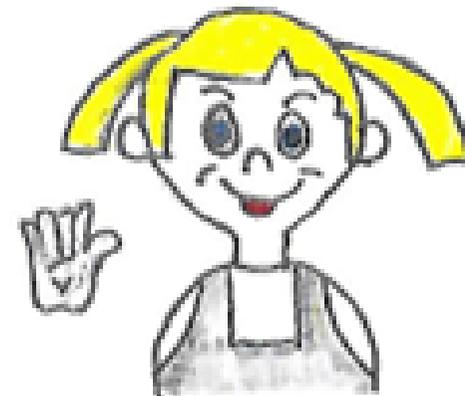
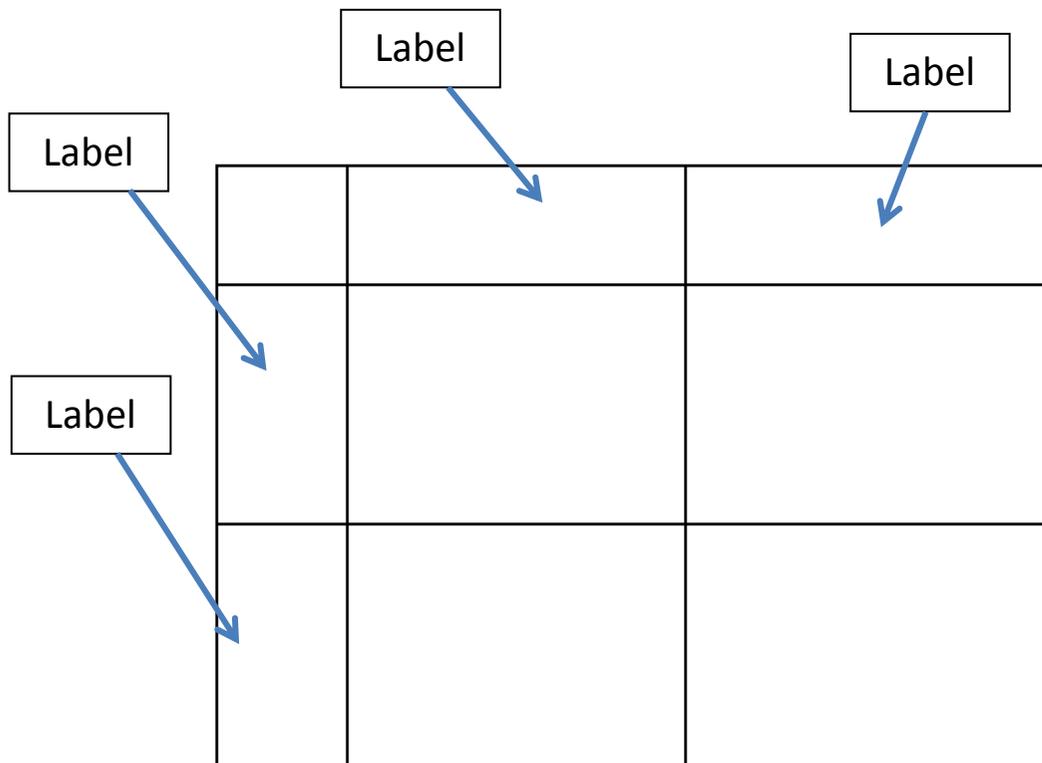
“Did you know that Carroll diagrams were invented by the man who wrote *Alice in Wonderland*? His name was Lewis Carroll,” stated Molly.

“Ah!” replied Mallesh. “I will try and remember that.”

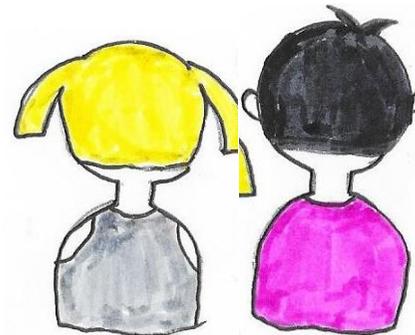
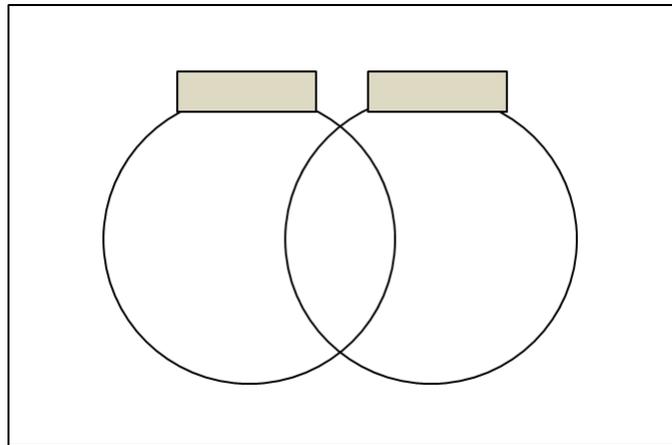
Here are the names sorted in two different ways using a Carroll Diagram:



Sort some of the names in your class into a Carroll diagram. What will your labels be?

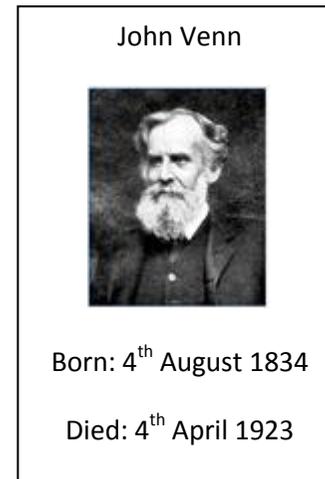


Mallesh decided to sort the names again. This time he decided to use a Venn diagram.



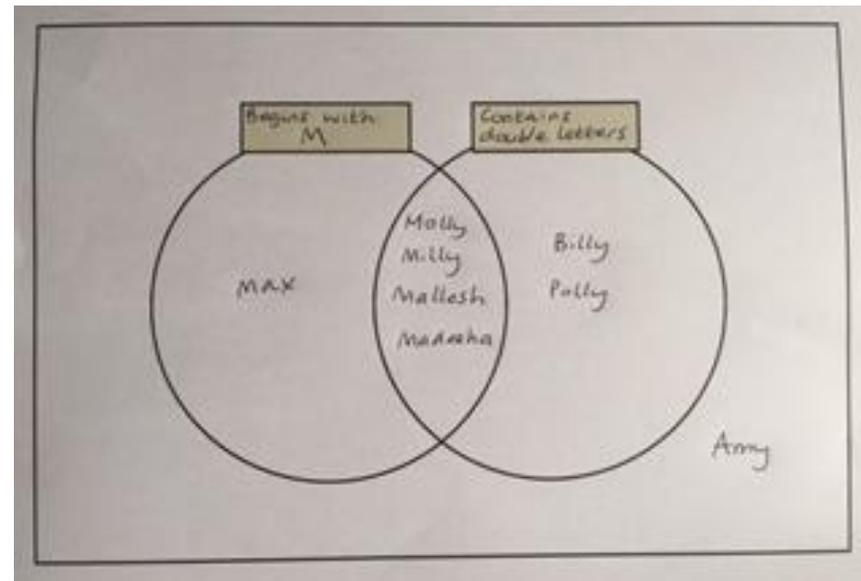
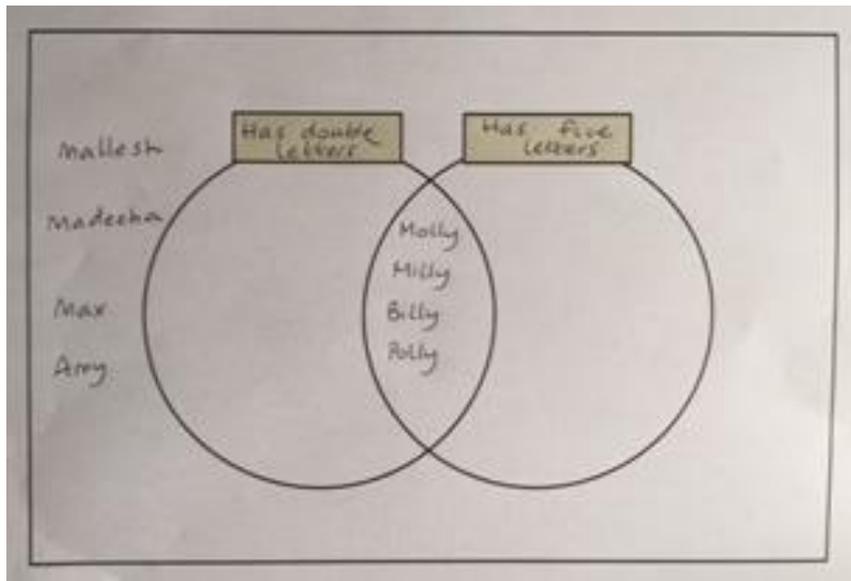
“Who invented Venn diagrams?” asked Molly.

“I don’t know,” replied Mallesh. “Let’s look it up on the internet.

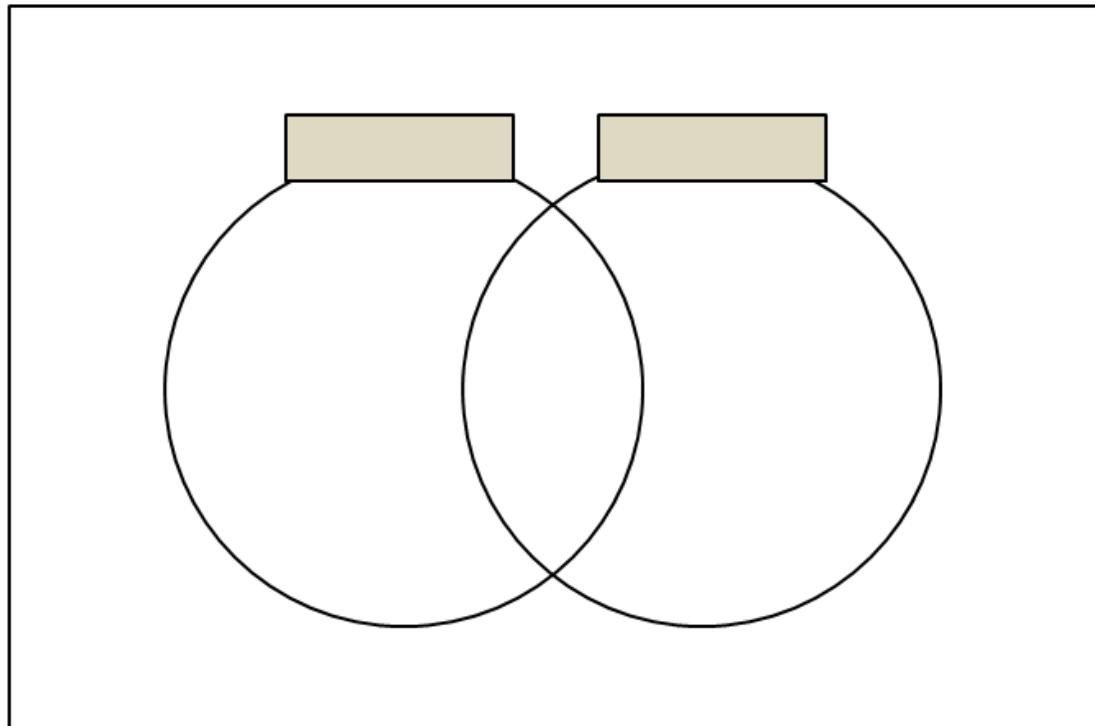


“Aha! It was John Venn who was an English mathematician. He died in 1923. He invented the Venn diagram. It is named after him!” Molly exclaimed.

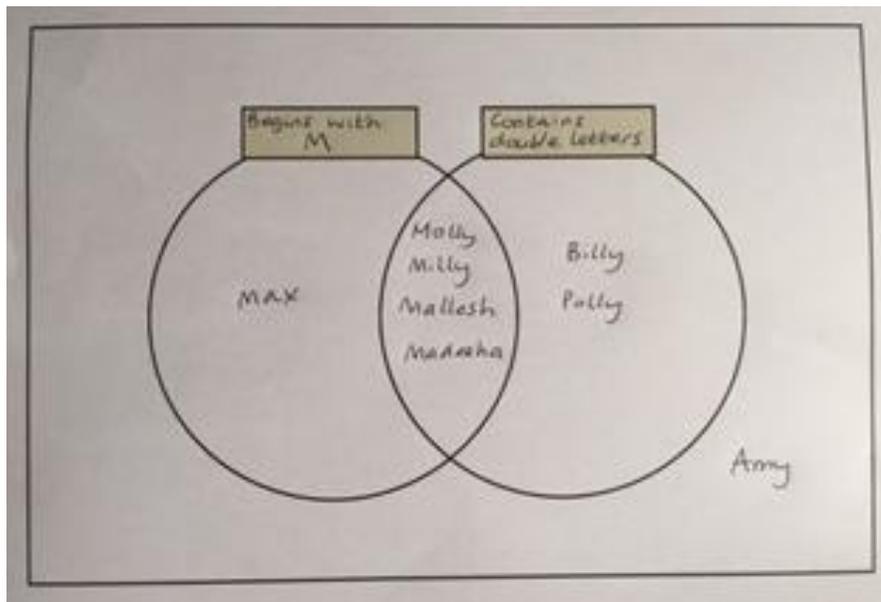
“Let’s sort the names again using the Venn diagram. Let’s also use the same labels that we used with the Carroll Diagram,” suggested Molly.



Sort your names into a Venn diagram. What labels will you choose?



“Which parts of the Venn diagram and the Carroll diagram are the same?” pondered Molly.



	Begins with the letter M	Does not begin with the letter M
Contains double letters	Molly Milly Malleesh Madaaha	Billy Polly
Does not contain double letters	Max	Amy

What do you notice about the diagrams?

“I like sorting things. Do you?” enquired Molly.

“I do,” replied Mallesh.

Just then the bell rang for lunch.

“I am going to sort my vegetables into order of size before I eat my lunch!” announced Mallesh.

“I am just going to eat mine. I haven’t got time to sort them first. I am hungry!” stated Molly.

(Blurb)

This book is the first in the series for year 2 however it could be used with other year groups in Key Stage 2. It is designed to be used during the first week in class or as an activity during ‘transition’ so that the teacher can learn the children’s names.

There are links to sorting and doubling. The book establishes the behaviours of noticing, wondering, testing and concluding – all necessary skills for a mathematician (and a scientist).

Teachers' notes: Despite there not being specific reference to Venn and Carroll diagrams in the National Curriculum, they are a crucial tool when looking for rules and relationships. They are used for:

- sorting and classifying
- promoting the 'discovery' of mathematical rules
- encouraging justification

Carroll diagrams always have labels which are opposites and expressed as 'not...'. If you wanted to sort odd and even numbers, for example, using a Carroll Diagram the labels would need to be 'odd numbers' and 'not odd numbers' or 'even numbers' and 'not even numbers'.

A simple Carroll diagram has only one row to complete. These are most appropriate in KS1:

Here the numbers from 1 to 20 are being sorted into 'even' and 'not even':

even numbers	not even numbers
2, 4, 6, 8, 10, 12, 14, 16, 18, 20	1, 3, 5, 7, 9, 11, 13, 15, 17, 19

Carroll diagrams, where you are sorting to two descriptions, are appropriate for greater depth at year 2 and for KS2. Again, both labels appear in the positive and the negative and the title from both the rows and the columns are taken into consideration.

Here is an example for sorting numbers from 1 to 50 with the labels appropriate to year 2 and lower Key Stage 2:

	even numbers	not even numbers
multiples of 5	10, 20, 30, 40, 50	5, 15, 25, 35, 45
not multiples of 5	2, 4, 6, 8, 12, 14, 16, 18, 22, 24, 26, 28, 32, 34, 36, 38, 42, 44, 46, 48	1, 3, 7, 9, 11, 13, 17, 19, 21, 23, 27, 29, 31, 33, 37, 39, 41, 43, 47, 49

Here is an example for sorting numbers from 1 to 50 with the labels appropriate to upper Key Stage 2:

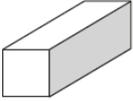
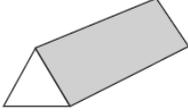
	prime numbers	not prime numbers
even numbers	2	4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50
not even numbers	3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47	1, 9, 25, 49 15, 35, 45 21, 27, 33, 39

Here are examples that have appeared in the SAT papers:

Sample SAT KS1

One shape is in the **wrong** place on the sorting grid.

Draw a cross (X) on it.

Shapes with a square face	Shapes without a square face
	
	
	

Sample SAT KS2

Here is a diagram for sorting numbers.

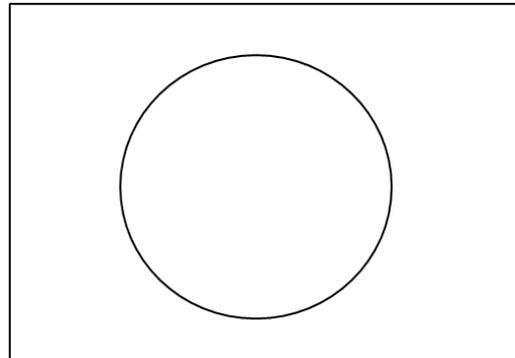
Write **one number** in each box.

One is done for you.

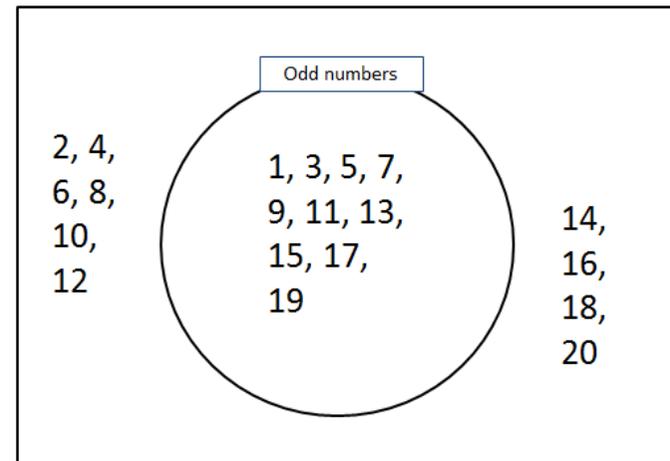
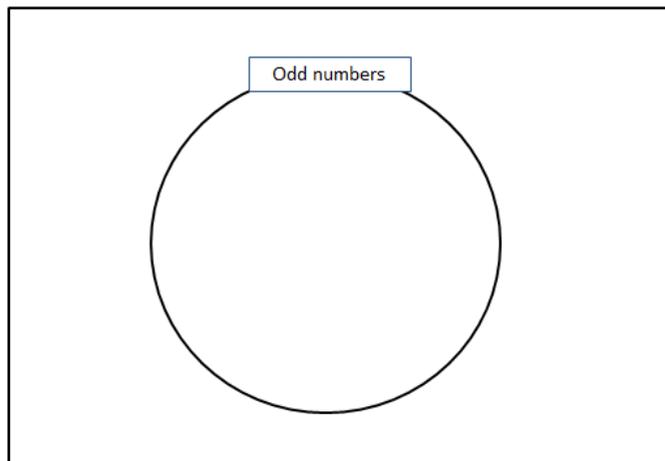
	multiple of 5	not a multiple of 5
multiple of 3	30	
not a multiple of 3		

There are different versions of Venn diagrams. Here are some examples that you could use.

Simple Venn diagram (use this when sorting to one label and most appropriate in EYFS and Year 1):

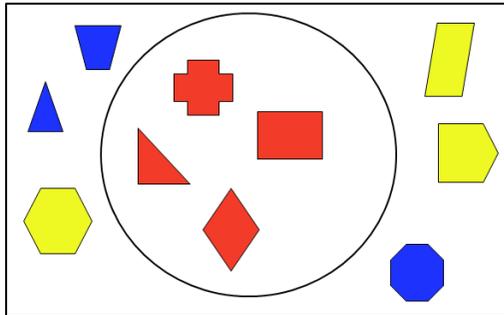


For example, finding just the odd numbers from 1 to 20:

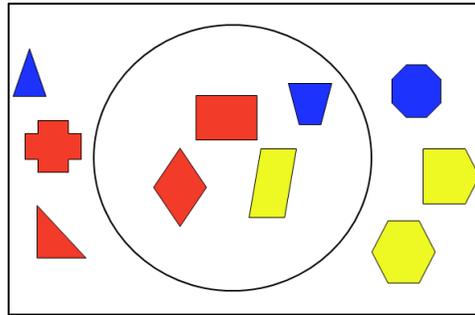


The even numbers are not in the circle labelled 'odd numbers' as they do not fit that description or have that property.

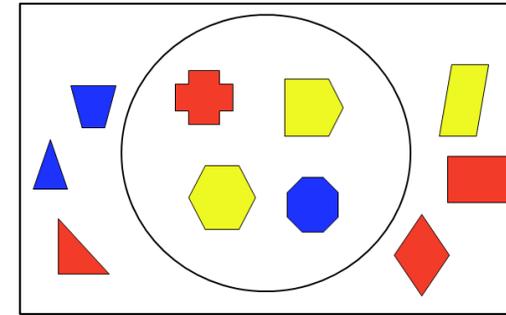
Here are three ways that the same shapes have been sorted into a simple Venn diagram. The label for each one needs to be identified:



red shapes

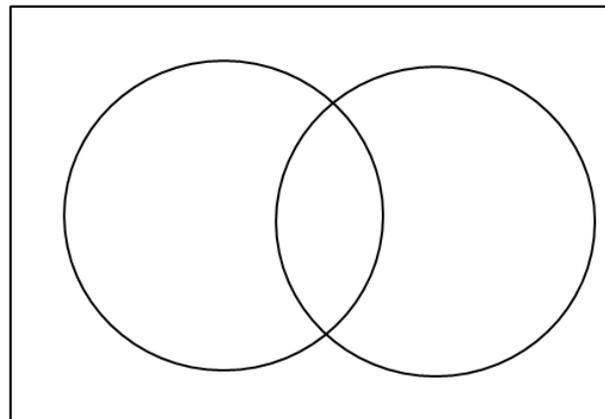


shapes with four corners

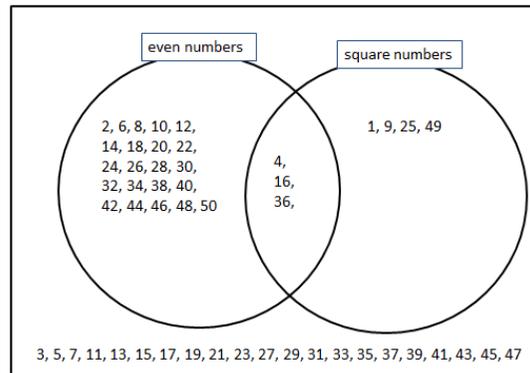


shapes with five or more sides

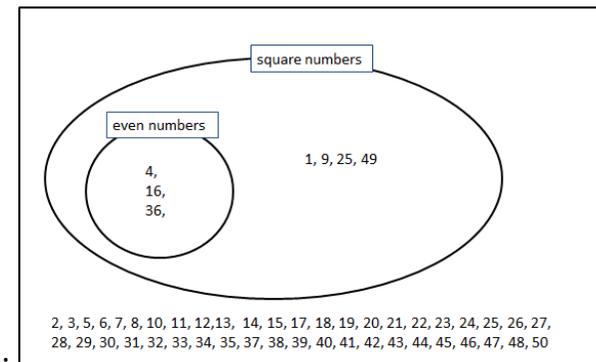
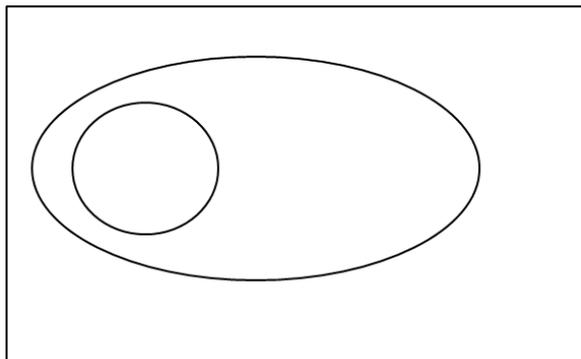
Venn diagrams where there are two overlapping circles are introduced from about year 2. They are used to see where numbers, items and shapes have two properties which are the same.



Here is an example where the numbers from 1 to 50 have been sorted into two properties (the labels here are appropriate to year 5 as it is in that year group's programme of study that square numbers are specifically mentioned, however it could be used in year 4 as the children in year 4 are learning all of the multiplication tables up to 12x12):

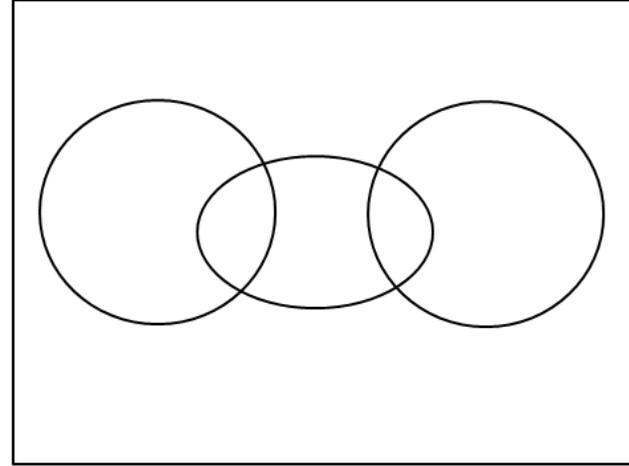
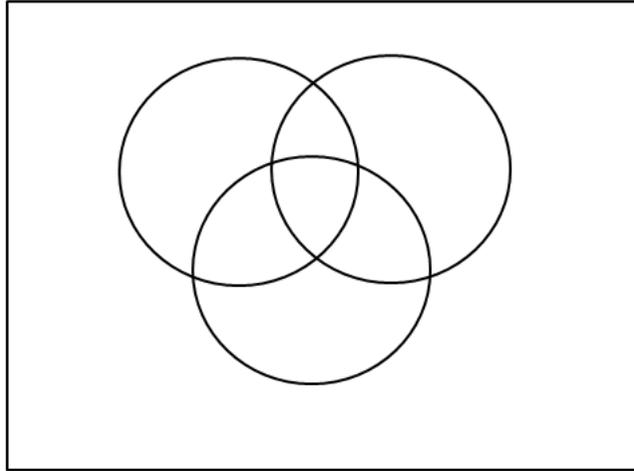


Another way to find a set within a set (even, square numbers) is to use a Venn diagram that looks similar to this:

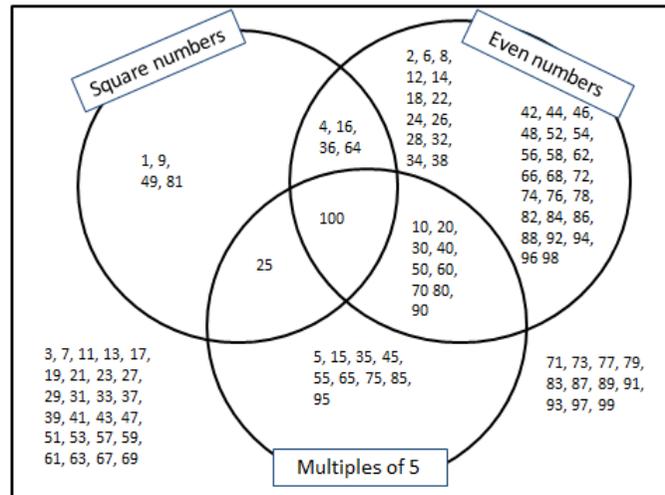


Here is the sort for the numbers from 1 to 50:

Other versions of Venn diagrams for KS2 can look like this:



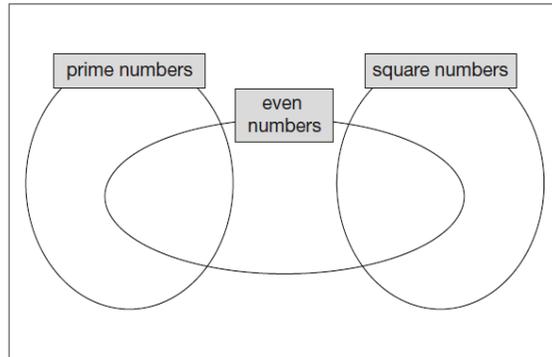
Sorting numbers from 1 to 100



They can appear in SAT papers:

Write each number in its correct place on the diagram.

16 17 18 19



2 marks

They can also be used by the children to find answers to questions where you trying to find numbers which fit two descriptions, such as:

Write three factors of 30 that are **not** factors of 15

2 marks

And:

Write **all** the common multiples of 3 and 8 that are **less than 50**