Mathematical Development

Agenda

- The curriculum
- Numbers including counting and calculating
- Numerical patterns
- Shape, space and measure
- Supporting your child with maths at home
- Questions

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Getting to know you (Take this time to play and get to know the children!)			Just like me!			It's me 1, 2, 3!			Light and Dark		
Spring	Alive in 5!			Growing 6, 7, 8			Building 9 and 10			Consolidation		
Summer	To 20 and Beyond			First, then, now			Find My Pattern			On the Move		

Additional Downloads

The Curriculum

- Mathematical development – 3 aspects: number, numerical patterns and shape, space and measure.
- This area of learning and development will focus on children being provided with practical activities to help them compare, sort, match, sequence and count.
- Children will develop an understanding of numbers and will learn to record and use the appropriate mathematical language involved.
- They will learn names and properties of 2D and 3D shapes and look at measures exploring length, weight size, height, capacity, time and money.

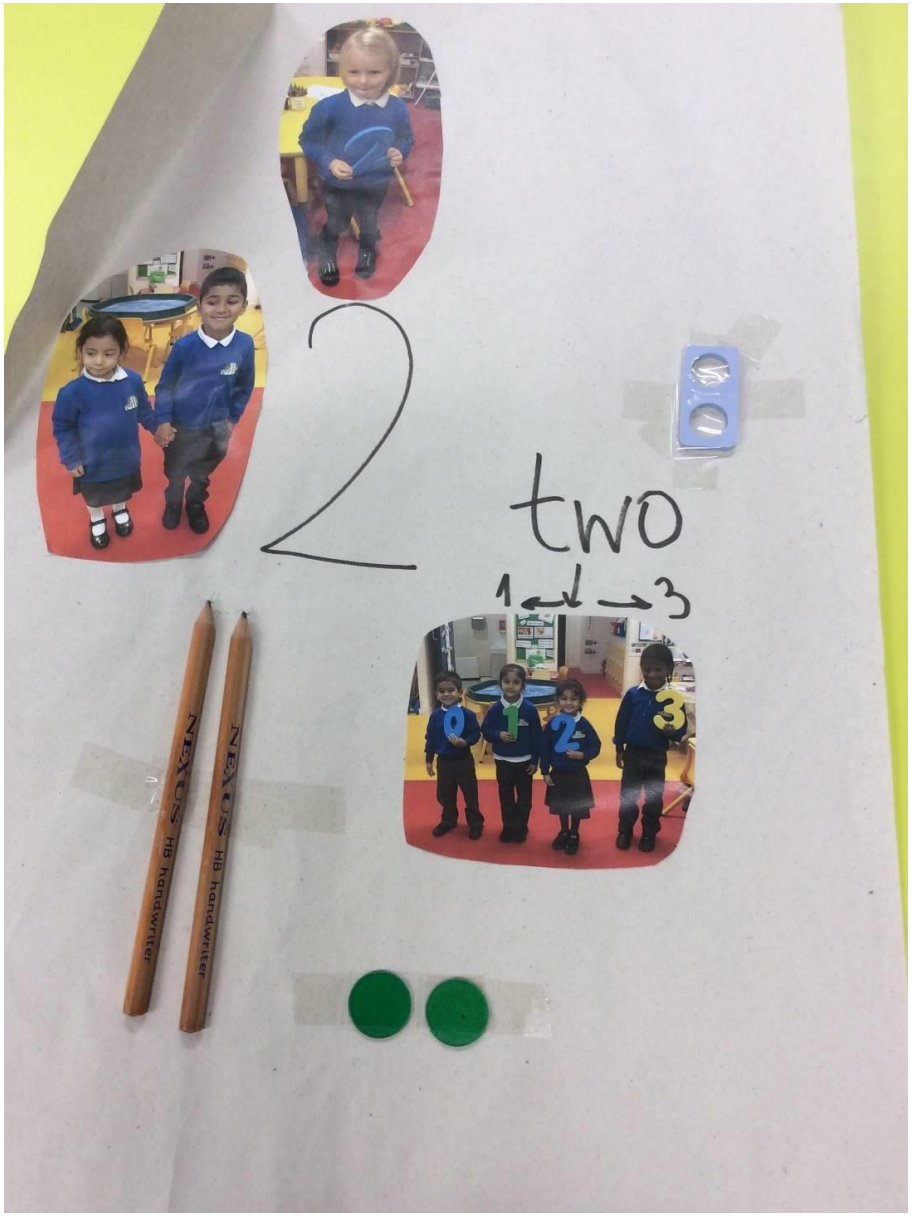
Numbers and counting

- At the start of the year children work mostly with numbers to 5, although by the end of the year they will be able to talk about numbers to 20 and beyond.
- Understanding the sequence of numbers is one of the most important building blocks of mathematics. Children in reception classes spend a great deal of time counting, ordering and reciting numbers, and learning to recognise them as both numerals and words.


9 nine
10 ten
11 eleven
12 twelve
13 thirteen
14 fourteen
16 sixteen
17 seventeen
18 eighteen
19 nineteen
20 twenty
Be a mathematician

Teaching sequence

- Counting in order, recognising numbers
- Common mistakes – 1 to 1 correspondence
- When counting, last number is the total amount in the set.
- Subitising – recognise amounts without counting
- Matching number to amount
- Which is smaller number? Bigger number?
- Estimating – doesn't have to be right, near guess
- Number line – one more one less, missing numbers

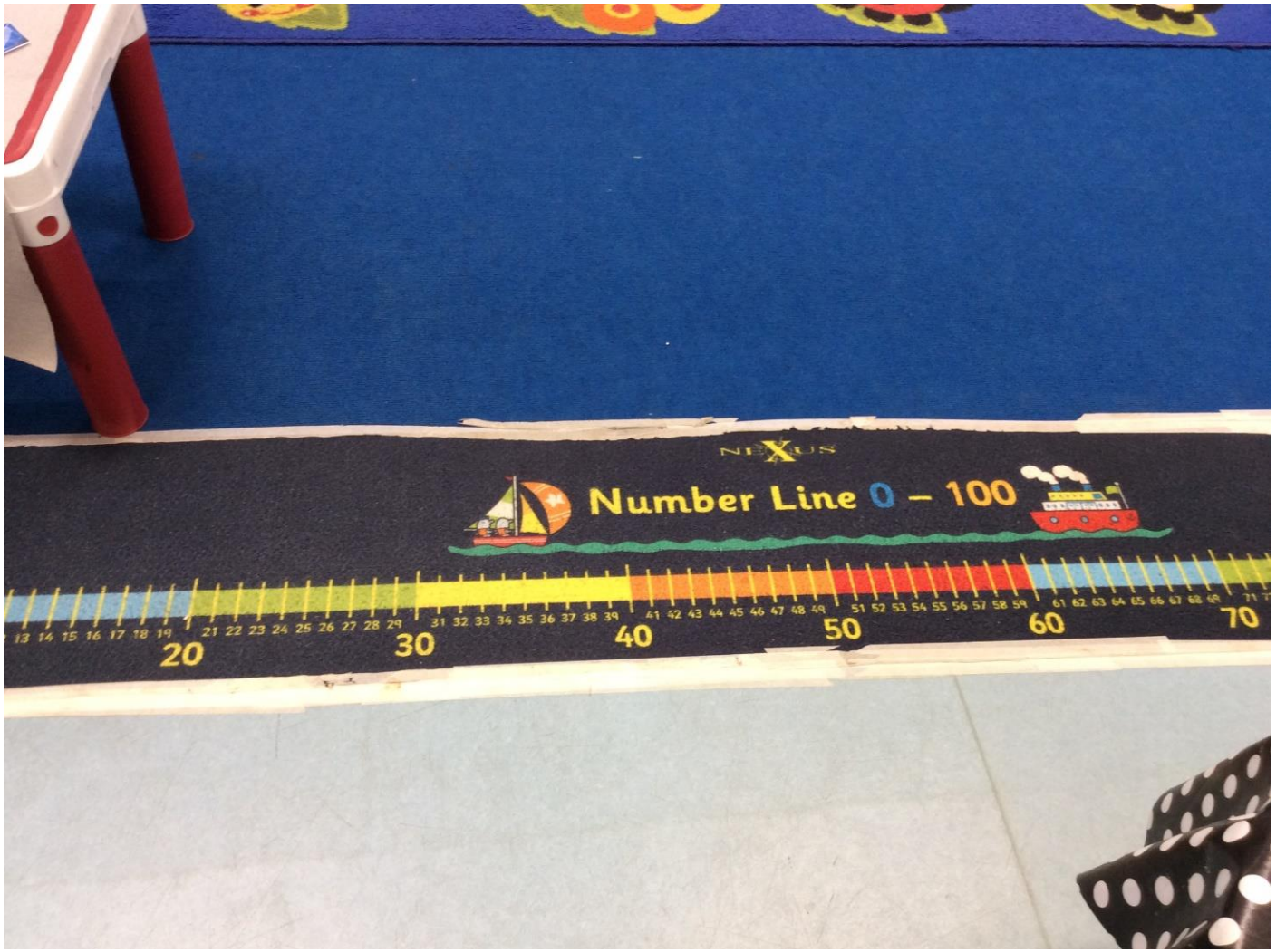

2
two
1 and 3
NEXUS HB handwriter
NEXUS HB handwriter

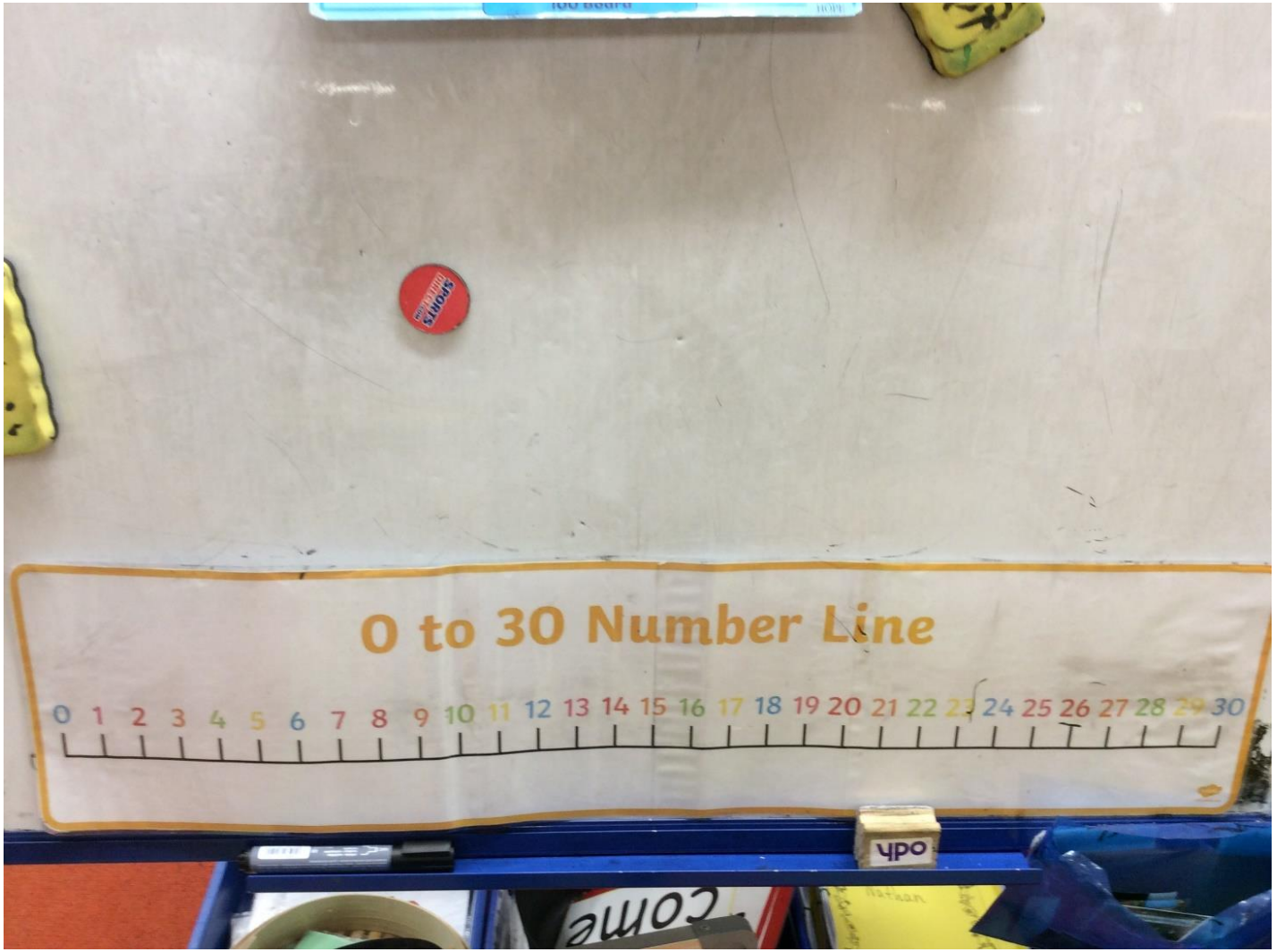

We
are in
Sapphire Class
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
21 22 23 24 25
26 27 28 29


10
10
Large



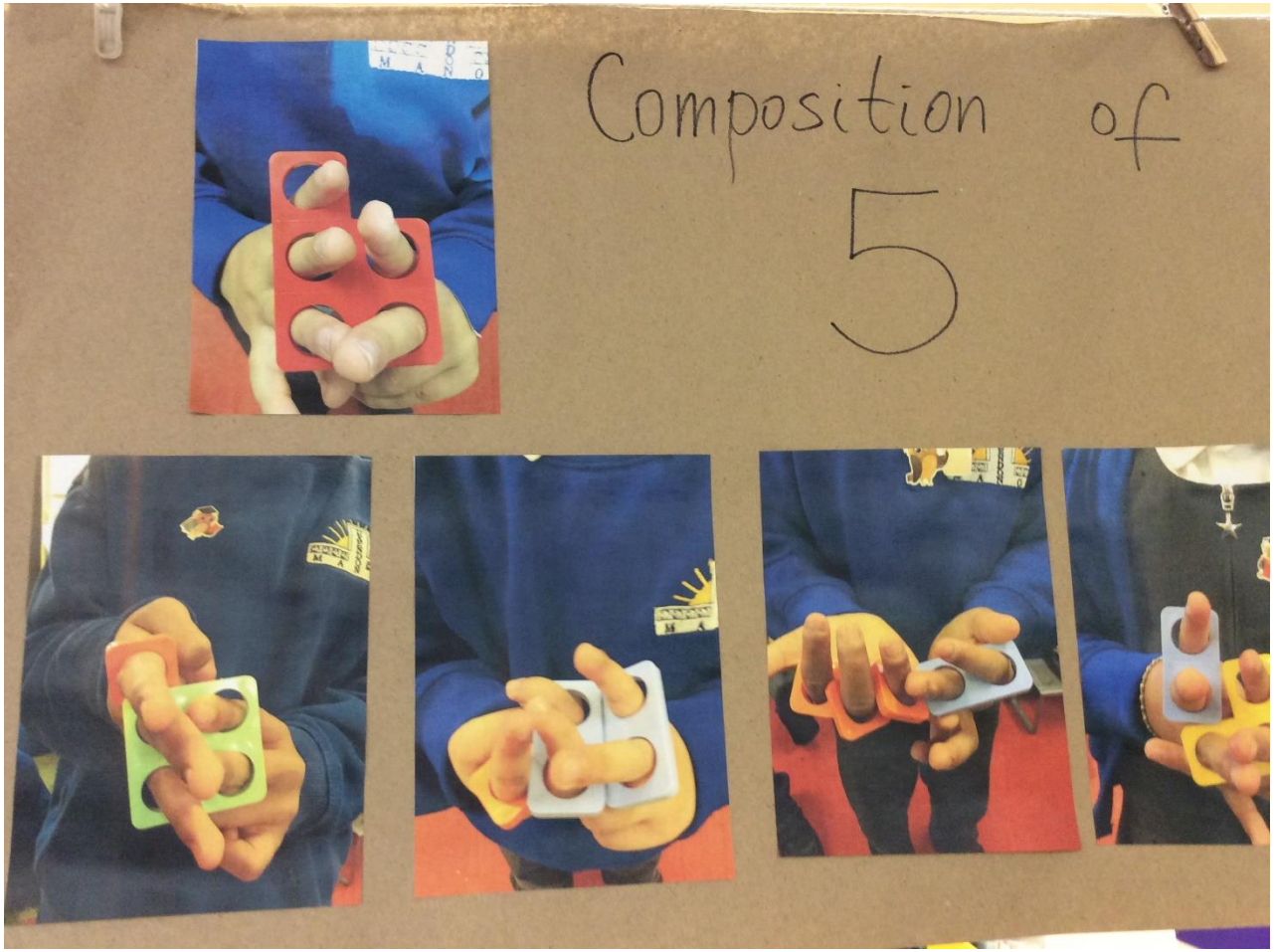

2
3
4
5


NEXUS
Number Line 0 – 100
20
30
40
50
60
70


0 to 30 Number Line
0 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



- Children at this age begin to learn to add by bringing groups of objects together and counting the total, or by 'counting on'. Similarly they will learn to subtract by splitting up groups of objects or by 'counting back'. Recall Number bonds to 10 by end of year.
- Reception children will learn about composition of numbers to 5 then to 10
- Most of this work will be practical, and you will notice that your child does much less written number work than you may remember doing yourself at the same age.
- What is important is that children talk about their learning and ideas, developing a 'mathematical vocabulary' and a solid understanding of the number system.


Composition of
5

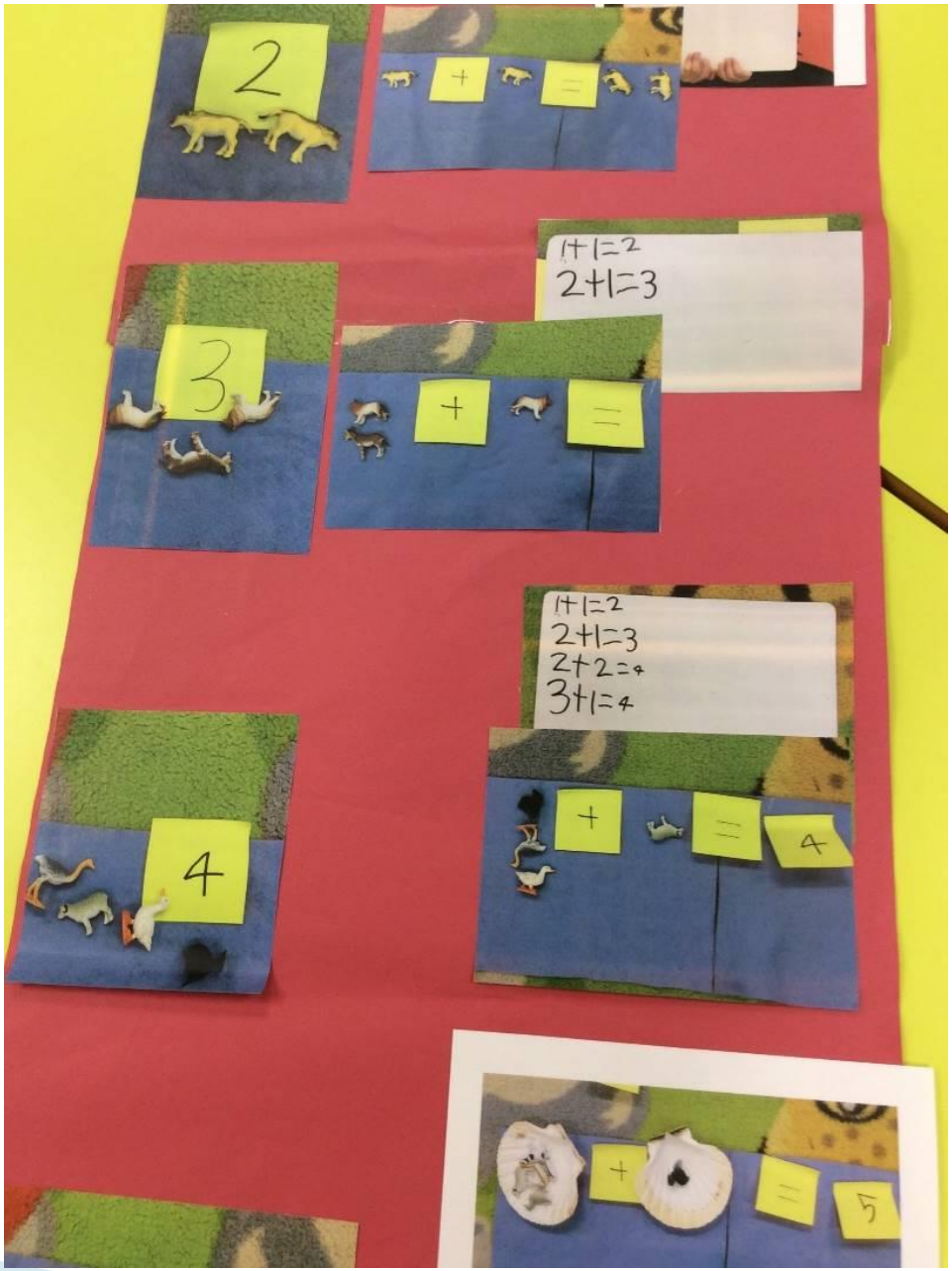

Different ways to make
5 using smaller number
1 and 4
number frame
16 17 18 19 20
5 and 0
composition to 5
4 and 1
15
3 and
2 and 3

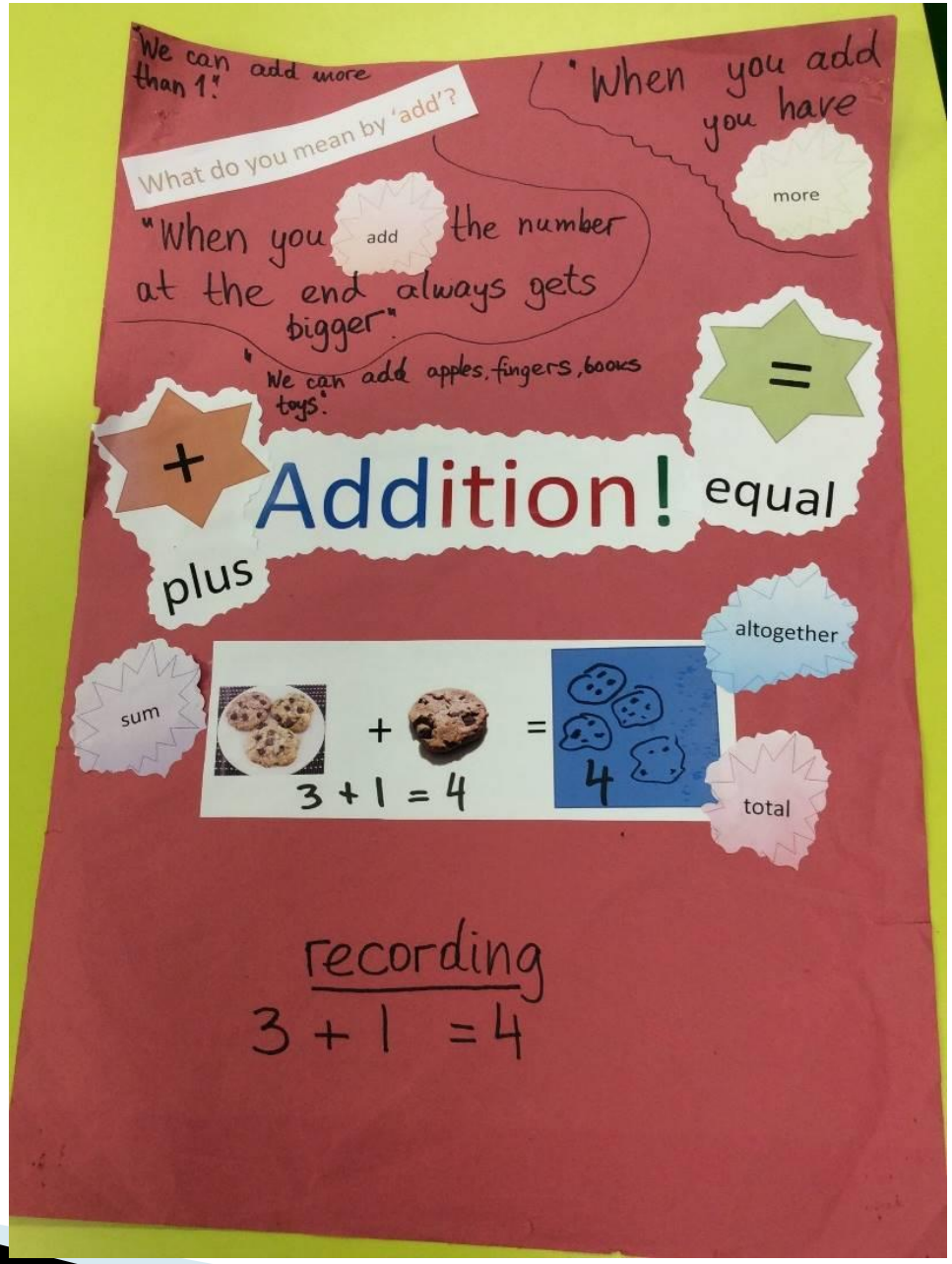
- Numbers are all around us and even if you don't feel yourself to be a mathematics genius, there is plenty that you can do. In fact, your child should enjoy most of the suggested activities so much that they won't even realise that it's educational!
- Start off with numbers in the environment – numbers on houses – go for a walk and point out house numbers
- Numbers on buses
- Number lines
- Cooking activities at home

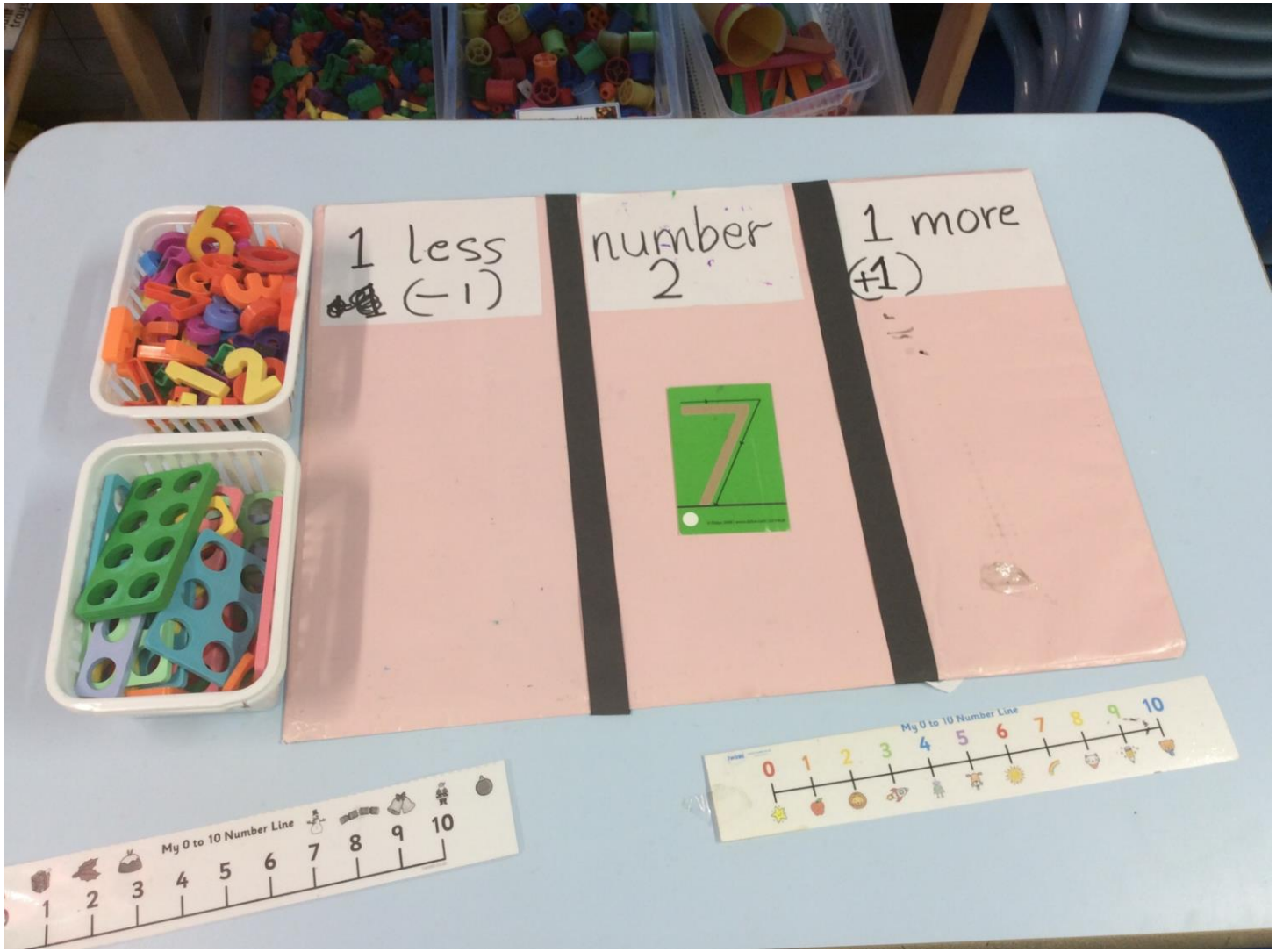
Numerical patterns

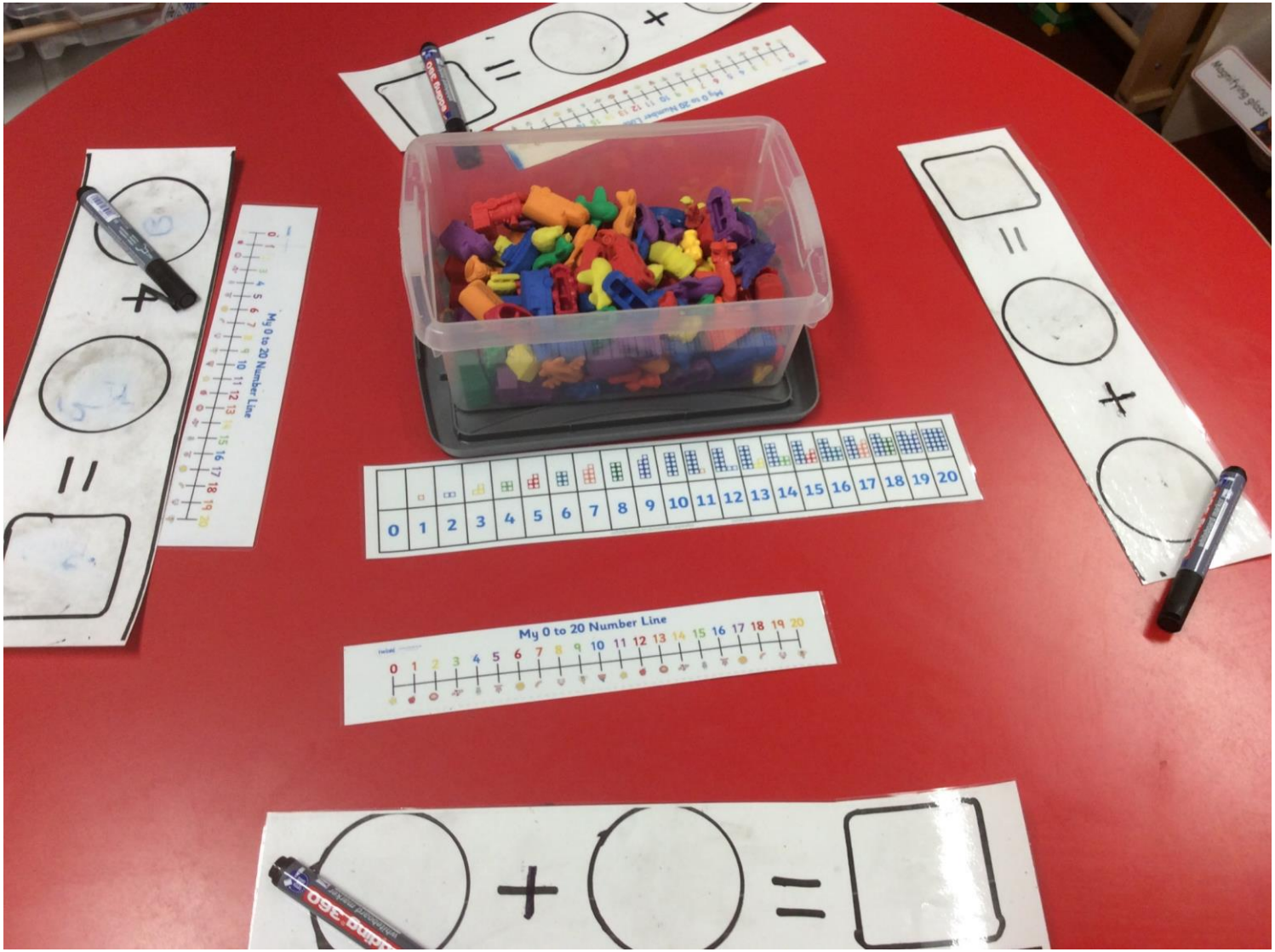
- In this area of learning, children begin to compare groups of objects saying when they have the same number.
- Compare quantities of up to 10.
- Separate objects into different groups, e.g. animals, shapes, colours etc.
- Say numbers that is one more than a given number.
- Share objects into equal groups, counting how many in each group.
- Explore patterns with numbers to 10 such as odd and even numbers, double facts.


more
fewer


2
+
=
1+1=2
2+1=3
3
+
=
1+1=2
2+1=3
2+2=4
3+1=4
4
+
=
4
+
=
5


"We can add more than 1"
What do you mean by 'add'?
"When you add you have
more
"When you add the number at the end always gets bigger"
"We can add apples, fingers, books toys."
=
+
Addition!
equal
plus
altogether
sum
3 + 1 = 4
total
recording
3 + 1 = 4


1 less
(−1)
number
2
1 more
(+1)
My 0 to 10 Number Line
My 0 to 10 Number Line

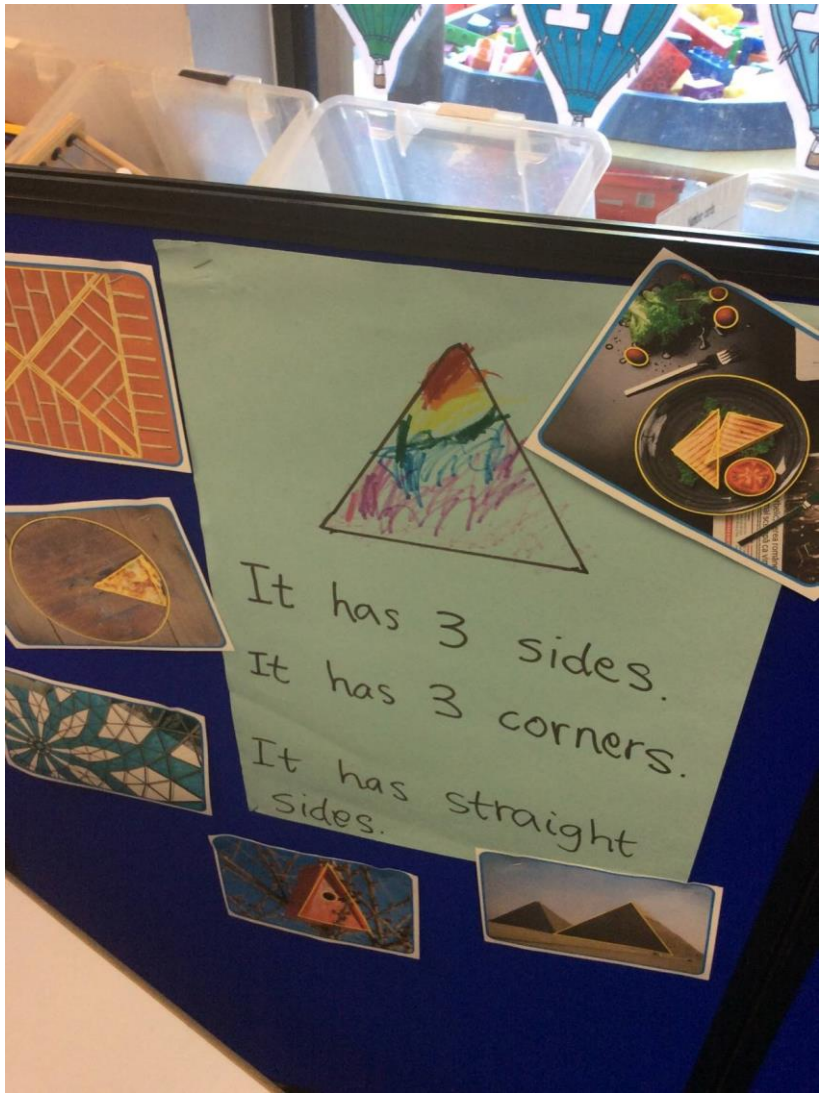

My 0 to 20 Number Line
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
My 0 to 20 Number Line
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

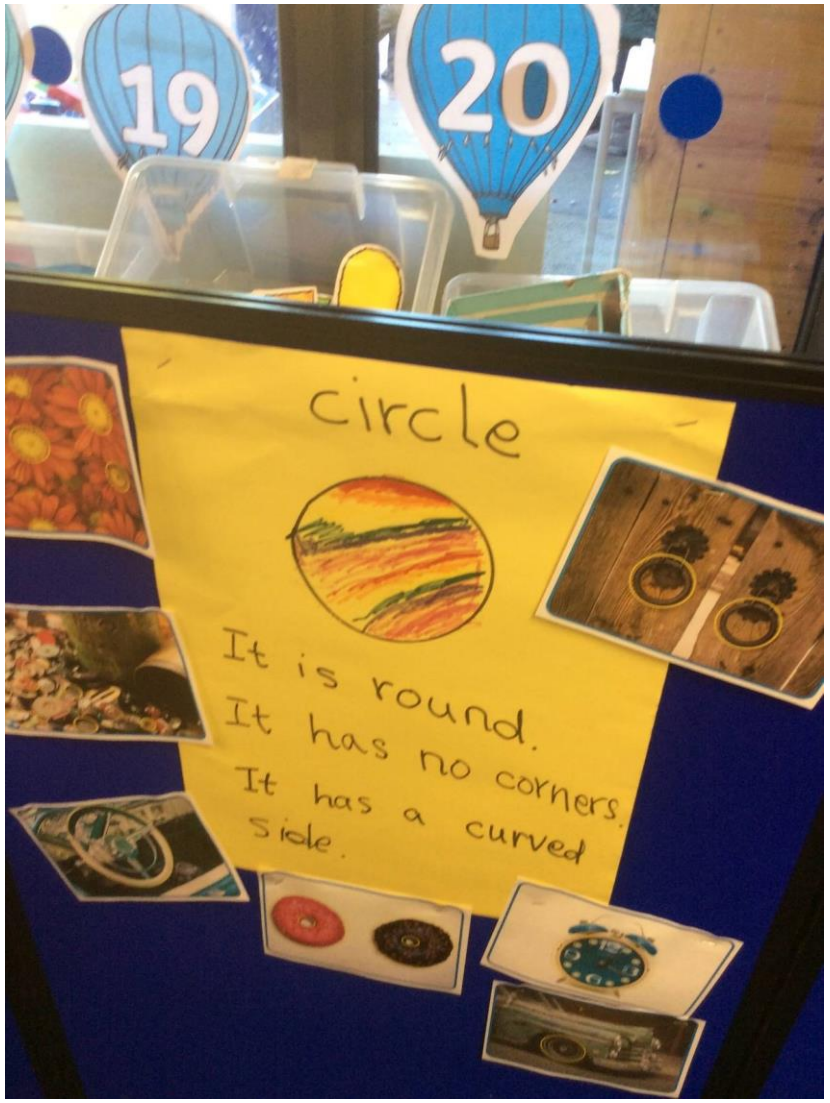

Are they holding a pair?
pairs of socks
How many pairs?
How many pairs of shoes?
07:47

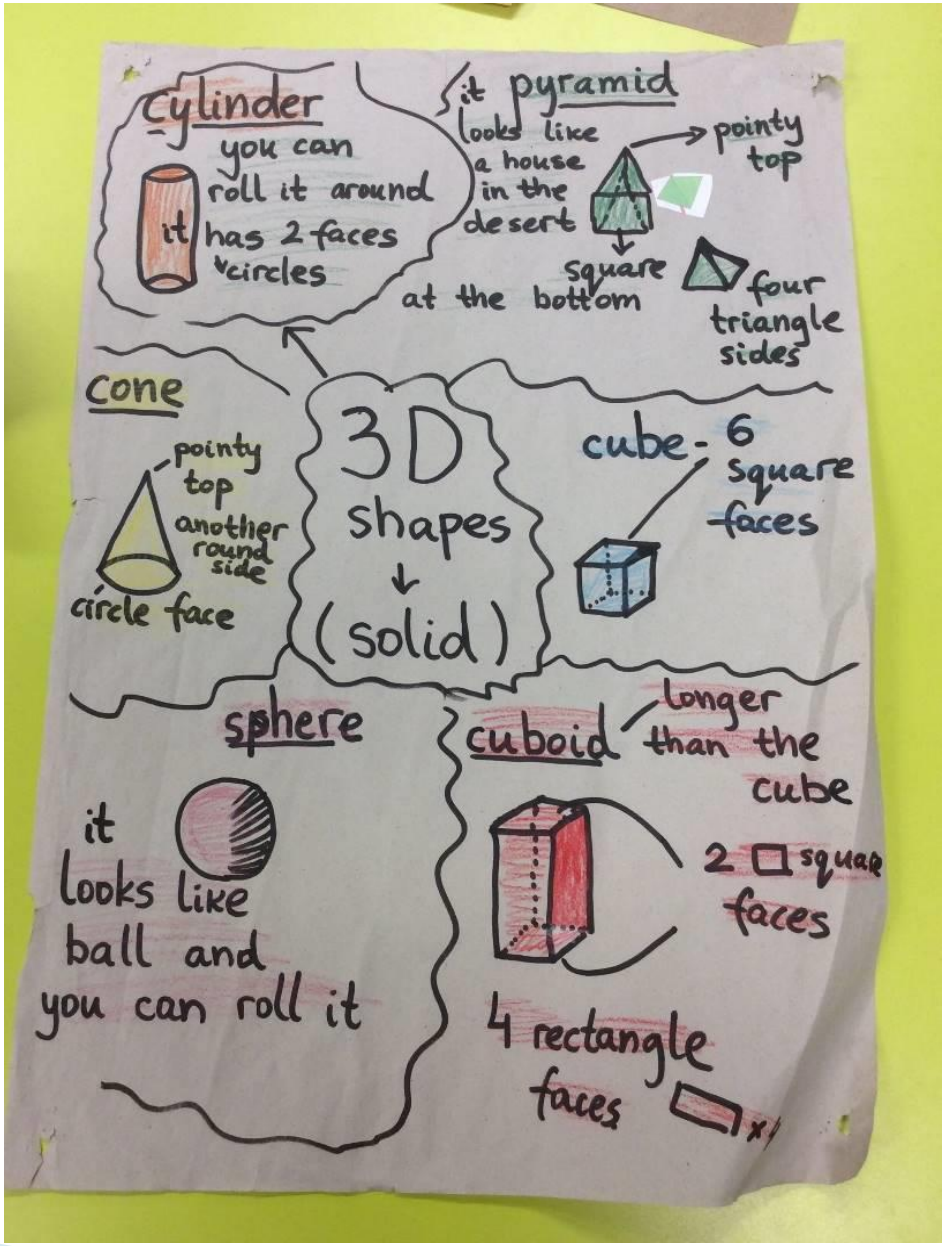

Socks

Shape, Space and Measure

- This area of learning includes showing an interest in shape and space and making arrangements with objects.
- Recognising shapes in everyday objects. Looking at 2D and 3D shapes and learning about the properties of shapes.
- Learning about size, big, medium, small.
- Ordering objects by height and weight.
- Sorting objects
- Begin to recognise and recreate simple patterns.
- Show an awareness of symmetry.
- Find items by positional or directional clues.

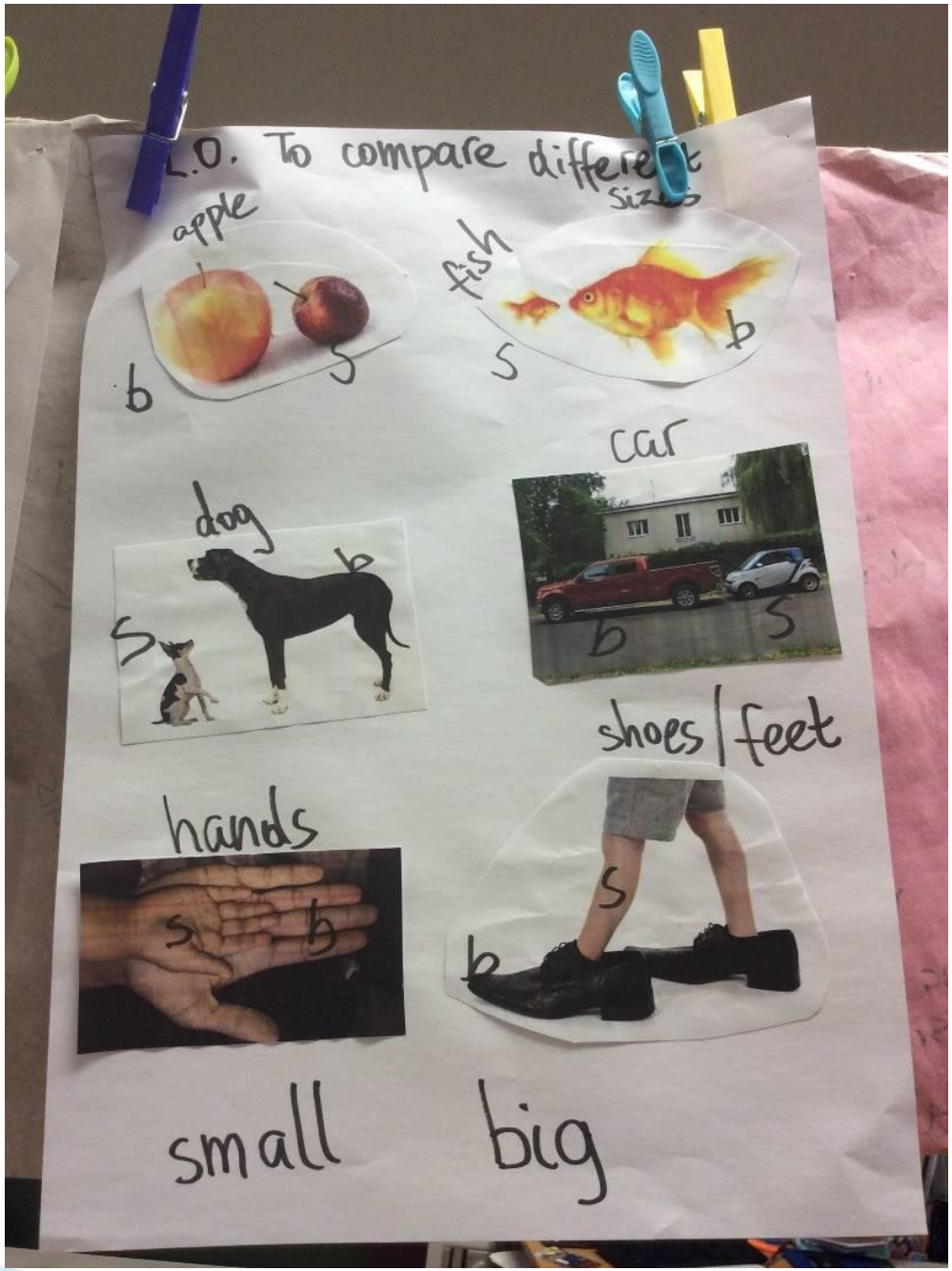

It has 3 sides.
It has 3 corners.
It has straight sides.

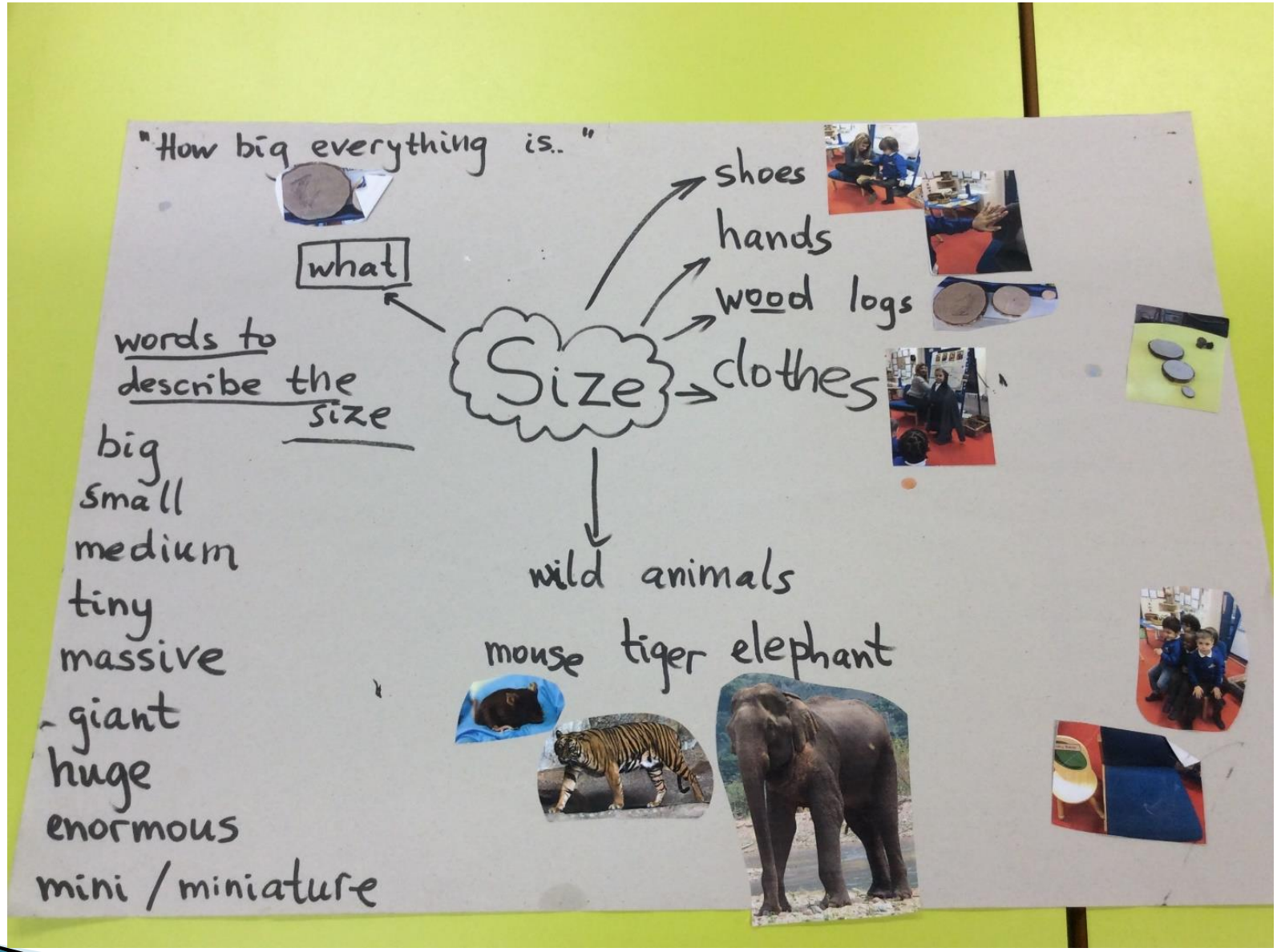

19
20
circle
It is round.
It has no corners.
It has a curved side.

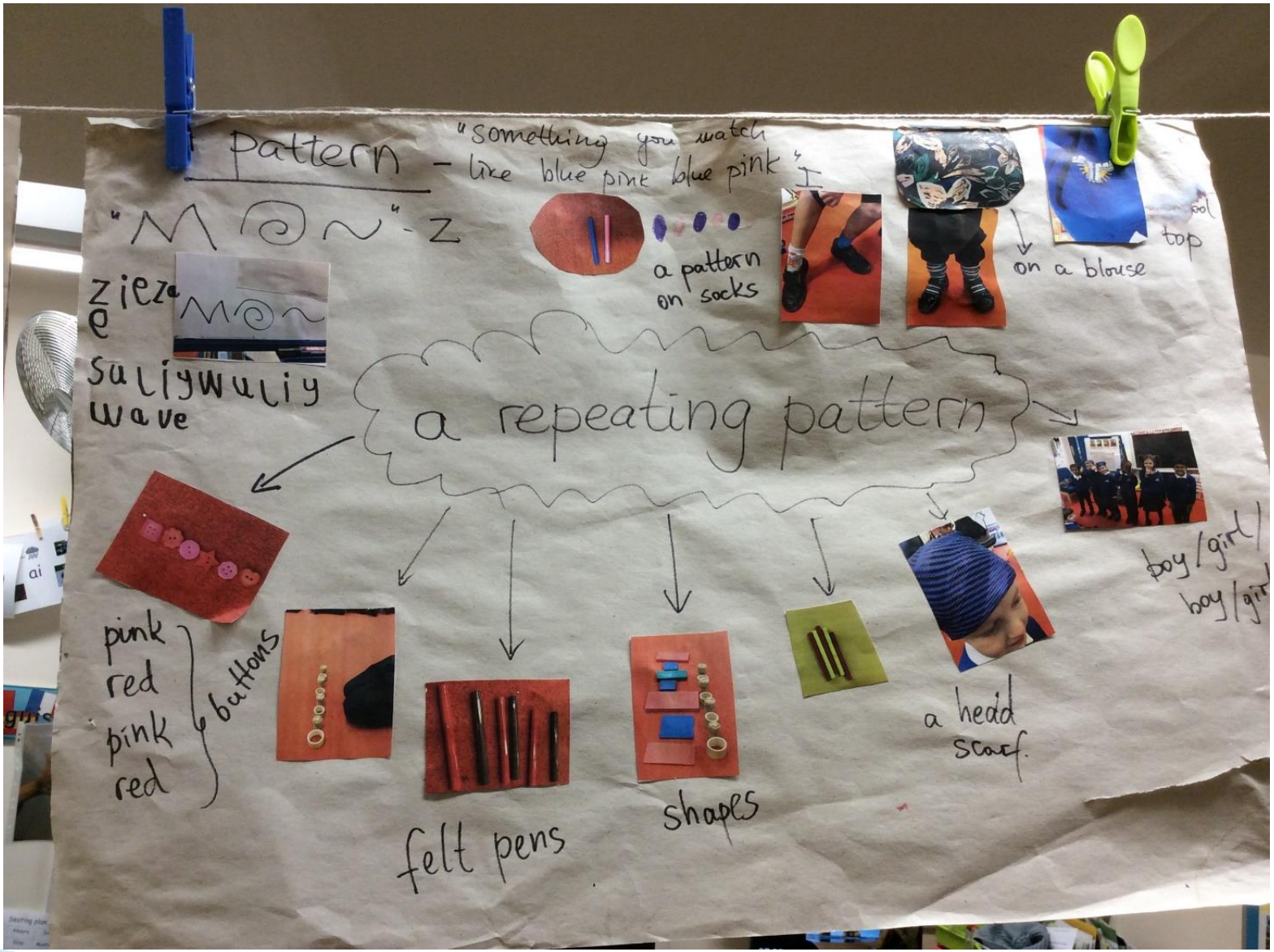

Cylinder
you can roll it around
it has 2 faces circles
it pyramid
looks like a house in the desert
pointy top
square at the bottom
four triangle sides
cone
pointy top
another round side
circle face
3D shapes
(solid)
cube - 6 square faces
sphere
it looks like ball and you can roll it
cuboid
longer than the cube
2 square faces
4 rectangle faces


toys
12 13
15 16 17

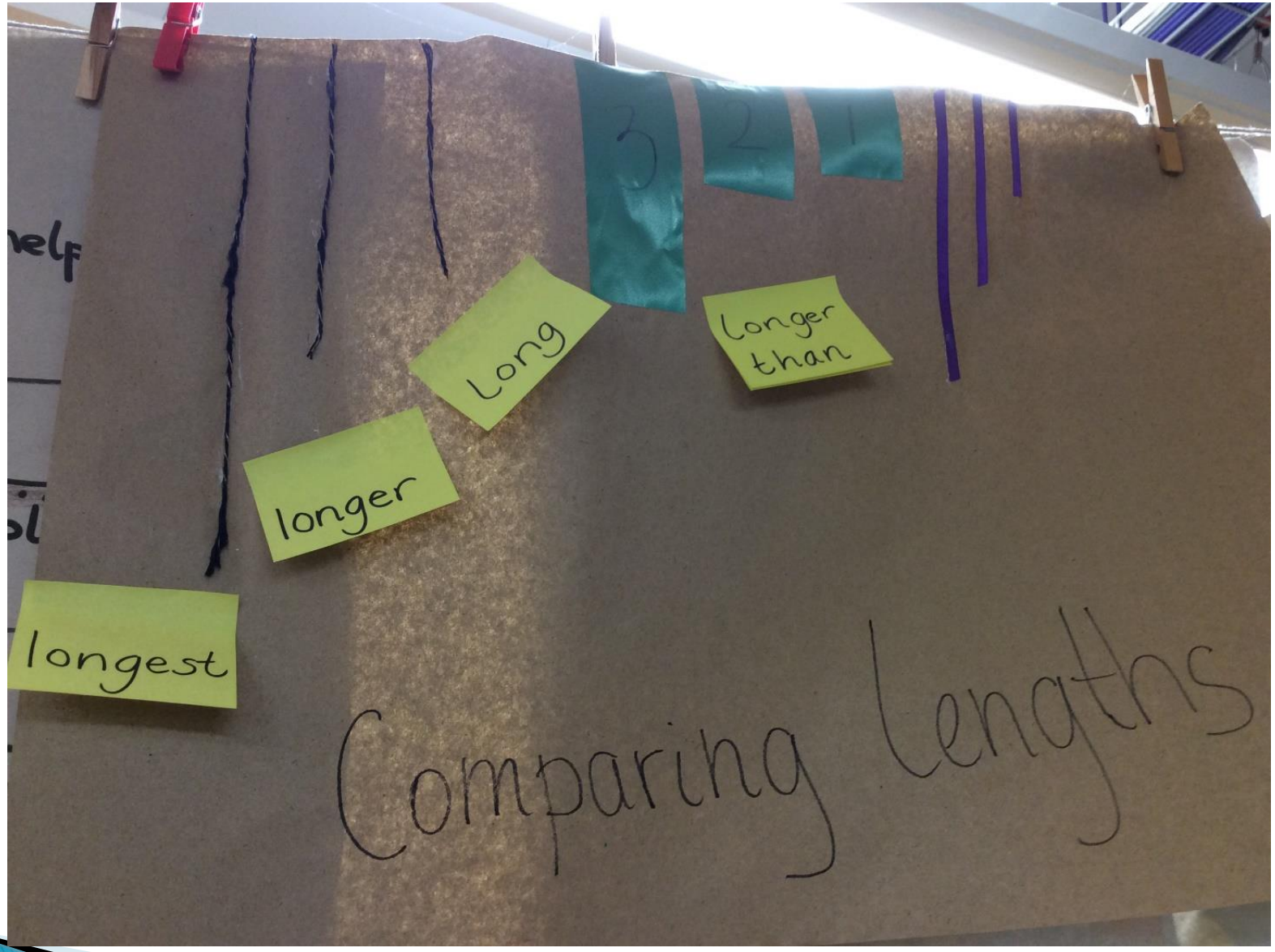

height
How tall are you?
PUSH
compare
shorter than
taller than
measure
chart
robins
Let's investigate who is the tallest in our class?
fox
Let's investigate who is the shortest in our class?
owl
raccoon
reindeer
190
180
170
160
150
140
130
120
110
100
90
80
70
60
6
5
4
3
2


L.O. To compare different sizes
apple
b
s
fish
s
b
car
b
s
dog
s
b
shoes / feet
s
b
hands
s
b
small
big


"How big everything is.."
what
Size
shoes
hands
wood logs
clothes
wild animals
mouse
tiger
elephant
words to describe the size
big
small
medium
tiny
massive
giant
huge
enormous
mini / miniature

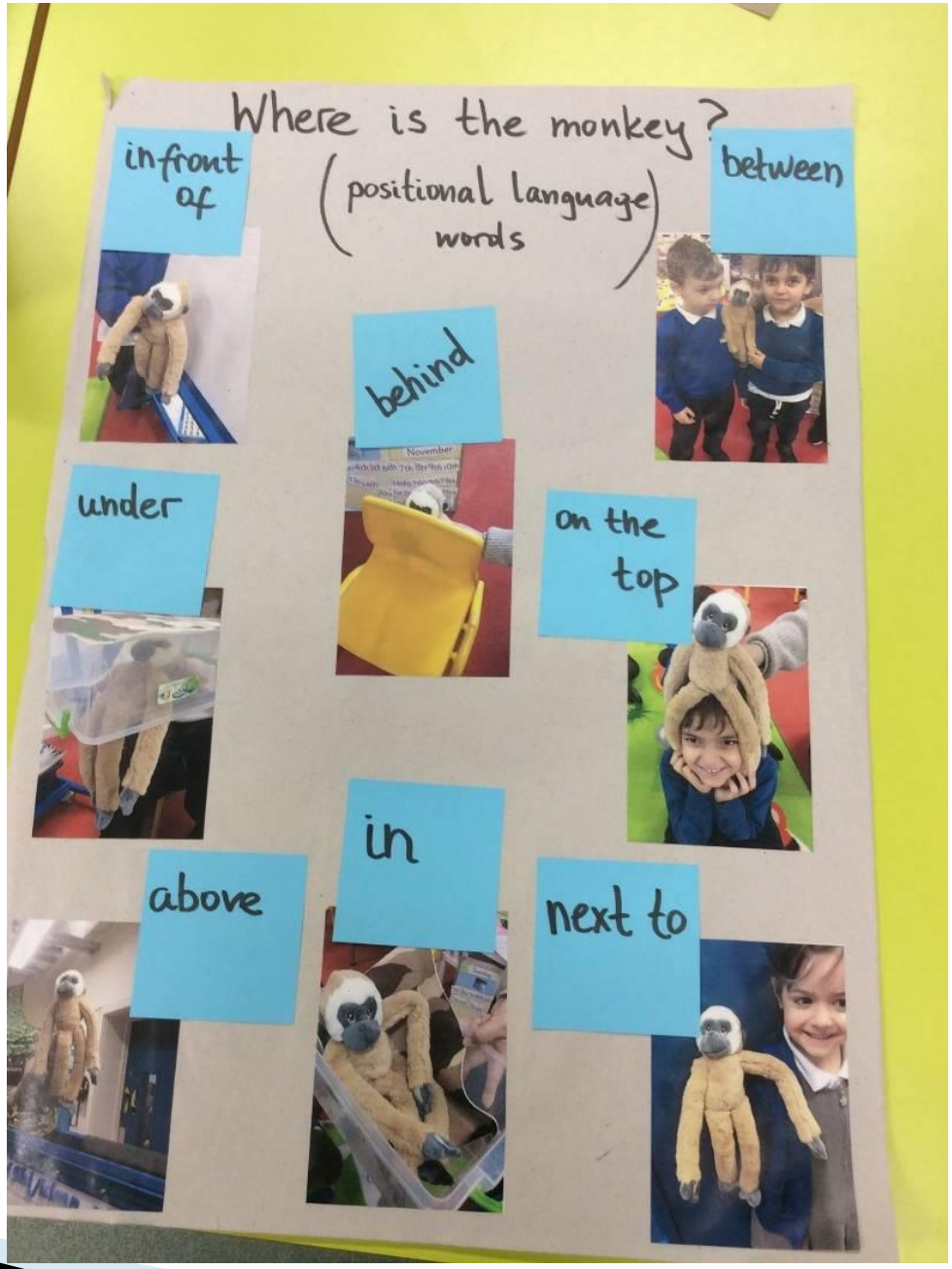

pattern - "something you watch like blue pink blue pink"
"M@~"-Z
zieze
suliywuliy
wave
a pattern on socks
on a blouse
top
a repeating pattern
pink
red
pink
red
buttons
felt pens
shapes
a head scarf.
boy/girl/
boy/girl

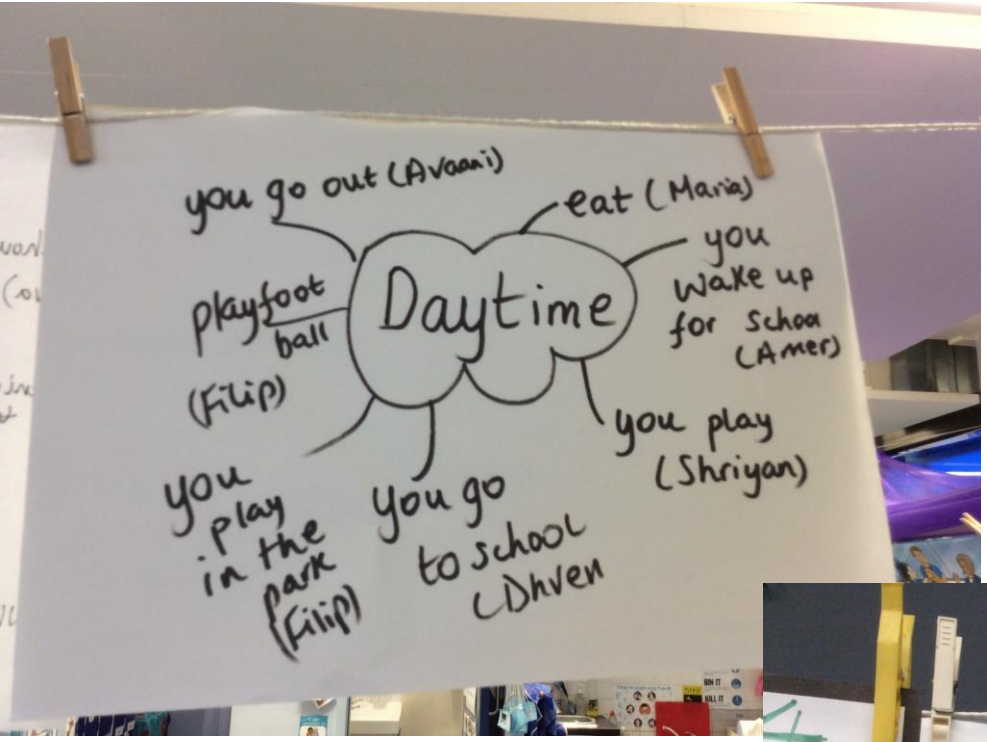

Comparing heights
shortest
shorter
short
tallest
taller
tall

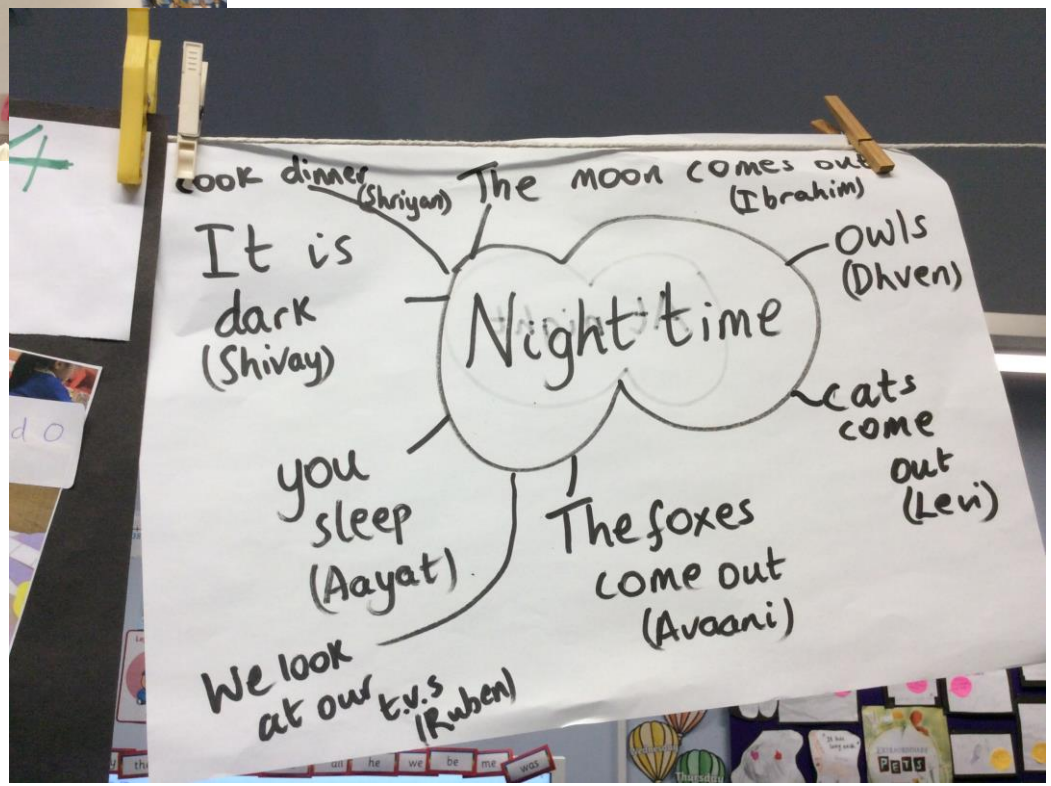

longest
longer
Long
longer than
Comparing lengths




next to


Where is the monkey?
(positional language words)
infront of
between
behind
under
on the top
in
above
next to


you go out (Avaani)
eat (Maria)
you wake up for school (Amer)
playfoot ball (Filip)
Daytime
you play (Shriyan)
you play in the park (Filip)
You go to school (Dhven


cook dinner (Shriyan)
The moon comes out (Ibrahim)
It is dark (Shivay)
Night time
owls (Dhven)
cats come out (Levi)
you sleep (Aayat)
The foxes come out (Avaani)
We look at our t.v.s (Ruben)


1994 - Kapil Dev equalled Sir Richard Hadlee's then world record of 431 Test wickets.
MONDAY
30
JANUARY
In his lifetime, a man spends almost six months shaving.
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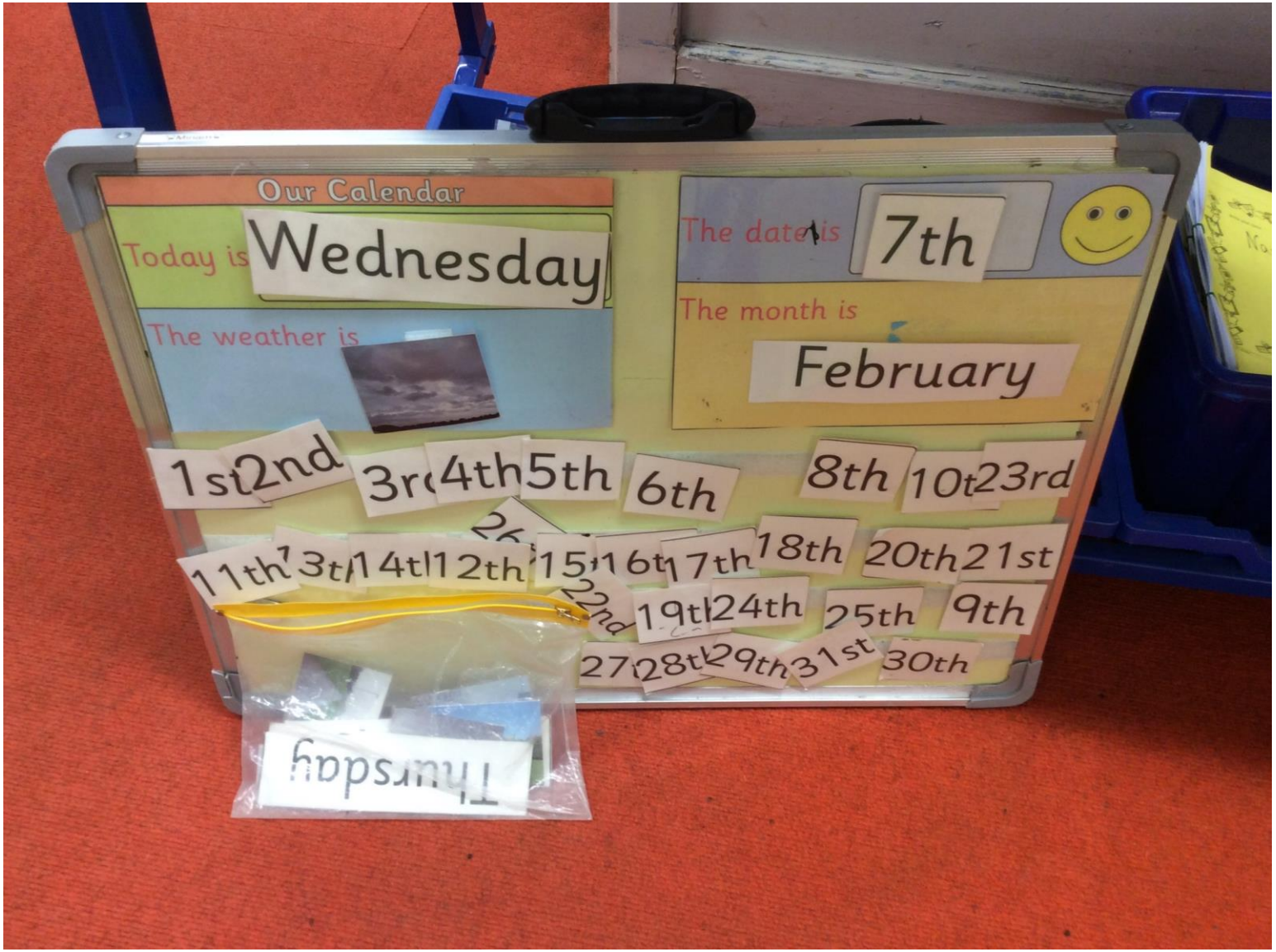

Our Calendar
Today is Wednesday
The weather is
The date is 7th
The month is February
1st 2nd 3rd 4th 5th 6th 8th 10th 23rd
11th 13th 14th 12th 15th 16th 17th 18th 20th 21st
22nd 19th 24th 25th 9th
27th 28th 29th 31st 30th
Thursday

Supporting your child with maths at home.

Probably the sort of activities you already do around the house, just involve your child in them. Here are a few ideas to get you started:

In the kitchen:

- When stacking pots and pans after they have been washed, or putting plates into the dishwasher, ask questions
- Which is the smallest?
- Which should go at the bottom?
- How can I fit them all in?
- Let's count the number of cups etc
- Estimate how many spoons of cereal will fill a cup, a bowl. Does it make a difference if we take a smaller spoon, bigger spoon?

Cooking involves all sots of measurements:

- Which is the biggest spoon?
- How many spoonfuls of sugar have I put on the cereal?
- Can you put two teaspoons of coffee in the jug?
- Laying the table:
- How many forks do we need?
- Have we got enough spoons?

In the bathroom:

- When getting dressed ask questions
- What shall we put on first?
- Which is your left arm?
- How many toes on this foot?
- Let's count the number of buttons together etc

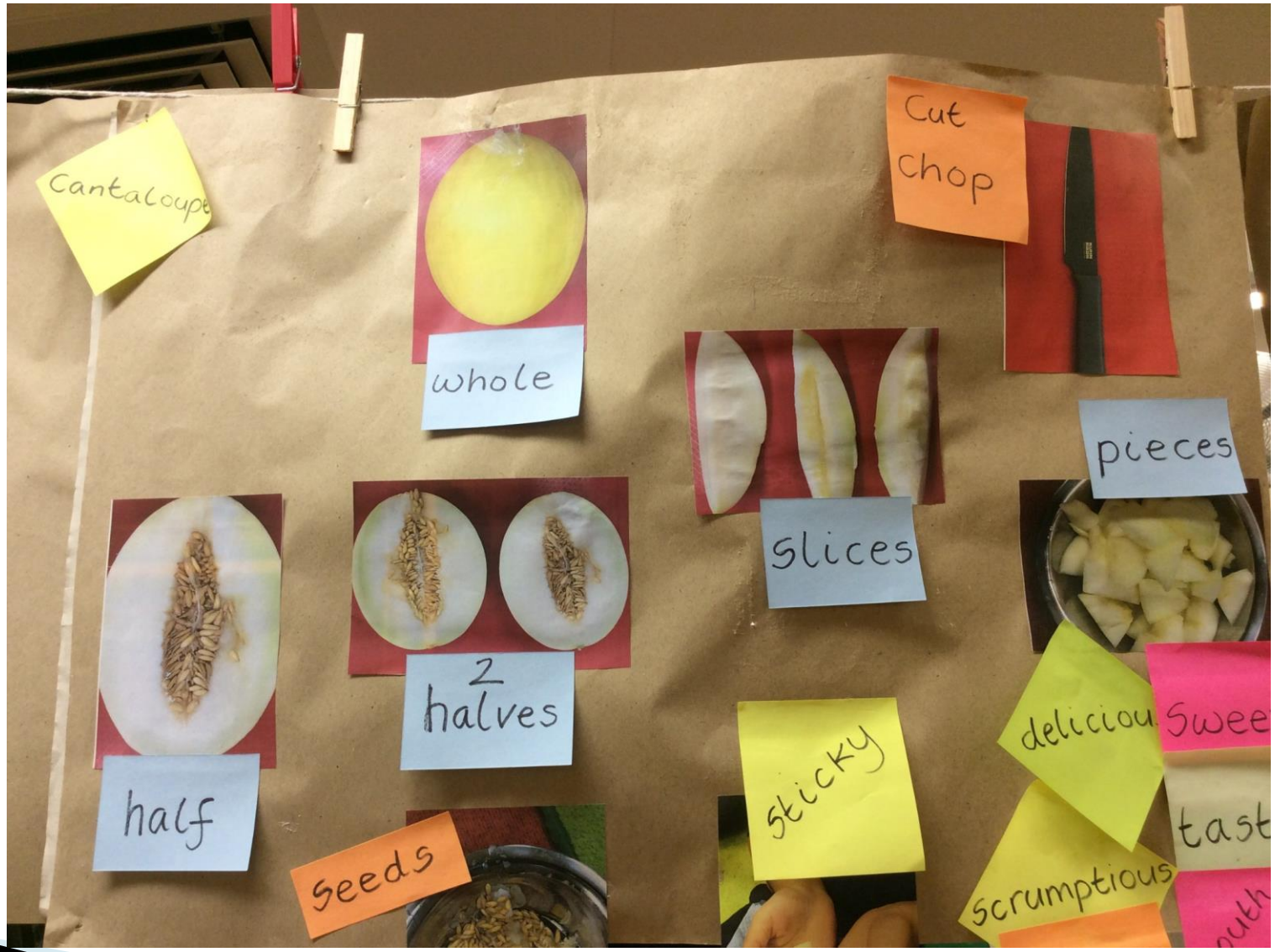
When in the bath ask questions:

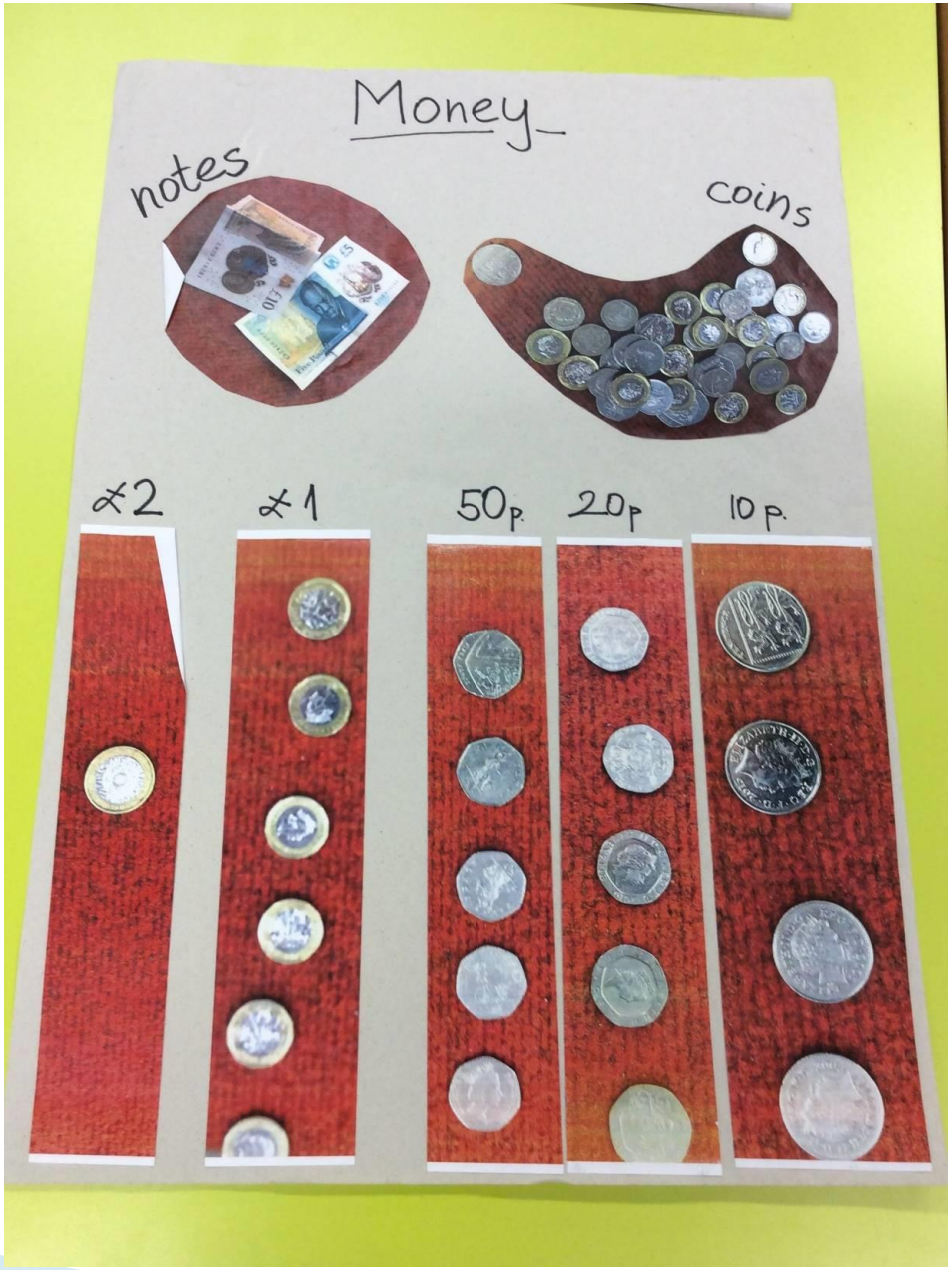
- Will this sink?
- How full is this jug?
- How many toes are sticking out of the water?
- Is this a large enough towel?

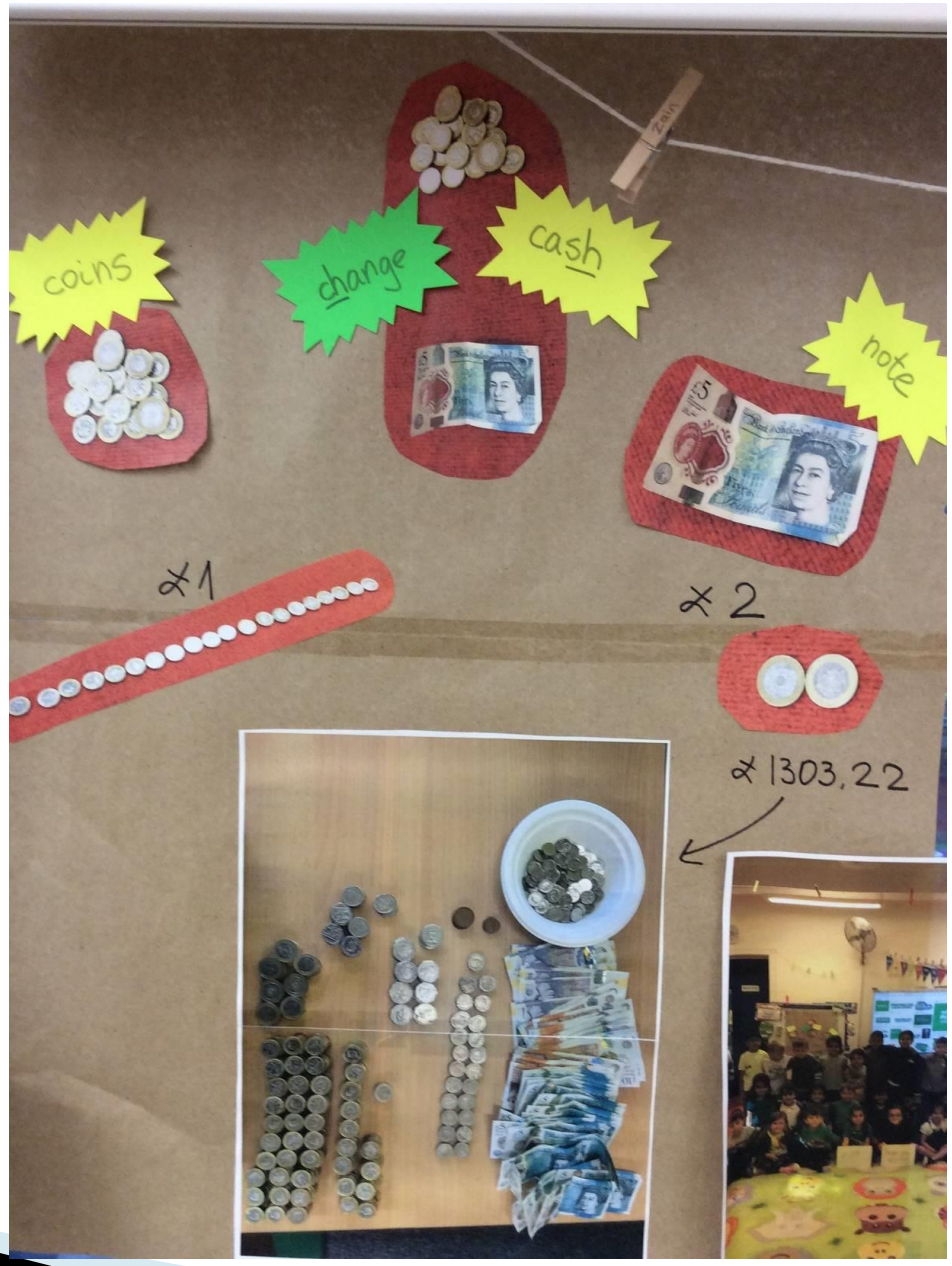
At the supermarket:

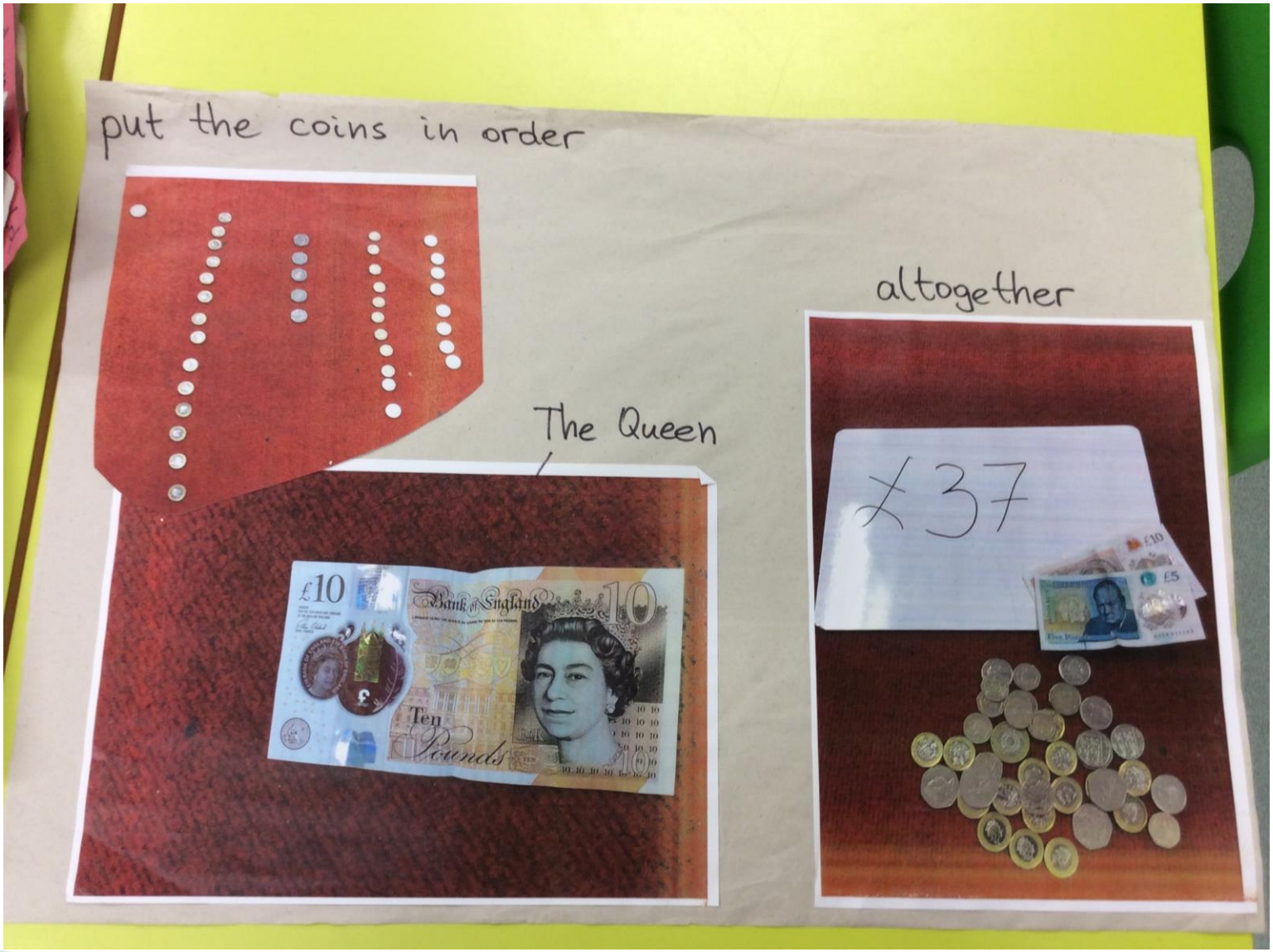
Going to the supermarket can also be a great place to talk and learn about mathematics.

- Shall we use a small trolley or a large one?
- Can you put four carrots in a bag?
- Do you want a large bottle of coke or a small one? Etc


Cantaloupe
whole
Cut
Chop
pieces
slices
2
halves
half
Seeds
sticky
delicious
Swee
tast
scrumptious


Money
notes
coins
£2
£1
50p
20p
10p


coins
change
cash
note
Izah
x1
x2
£1303.22


put the coins in order
The Queen
£10
Bank of England
Ten
Pounds
altogether
£37
£10
£5


5 Little Speckled Frogs
One, Two, Three Four, Five
5 Little Pumpkin
5 Chocolate Cakes
Old Macdonald
10 Little Ducks

- Play games such as snakes & ladders, skittles, darts, dominoes and other games that depend on numbers, counting, calculation and scoring. Games such as football and netball are great for children to keep scores.

- Talk about pocket money with your child. Help them to add it up week by week, and work out whether they can afford a particular toy or treat.

- Be creative! Ask your child to look out for patterns and shapes on floors, wallpaper, plants, animals, buildings – anything from the arrangement of tiles in the kitchen to the markings on the cat.

- Make 'butterfly' pictures by painting on one half of the paper and folding it over so that the image is mirrored. Make mobiles by suspending objects from coat hangers and ensuring they balance.

- Use a measuring tape to measure how tall people are in the family
- Find numbers on a calculator

- Think about calendars and dates too. Make a timeline that includes the birthdays of each member of the family and work out how far apart each one is. Mark an event that is coming up and cross off the days in the calendar so the children can see it getting nearer.

- Cooking is great for helping your child to know simple weights and measures. An old-fashioned set of balance scales is ideal. Count out spoonfuls of ingredients. Let your child help you set the timer and count down to teatime!

- Sing rhymes and number songs with your child. Listen to them on CD

- Lay the table. Do we have enough spoons? Do we need more forks? How many do we need for all the family?

Any questions?