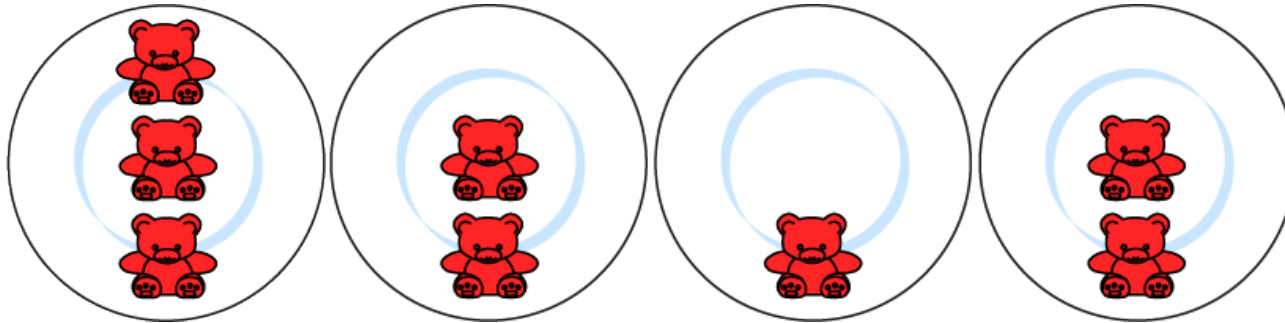


DGAT Maths Lead Meet February 2020

- How well are doing? How can we do better?
- Maths in EYFS
- Year 4 MTC

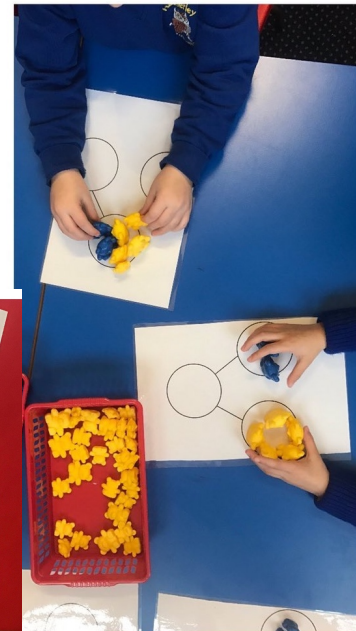
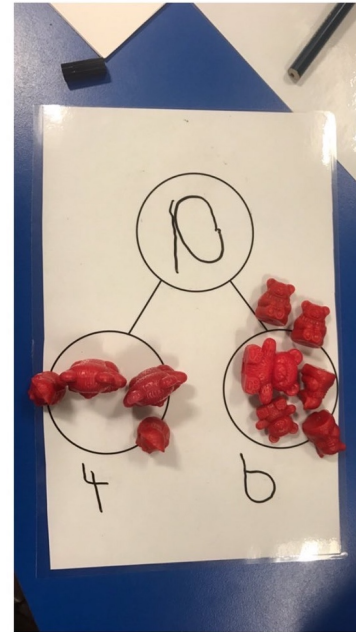




$$4 \times 2$$

DGAT Maths Lead Meet February 2020

- How well are doing?
How can we do better?
- Maths in EYFS
- Year 4 MTC



To develop the knowledge and practice of Reception year practitioners to ensure that all children develop a secure foundation in mathematics and are well prepared for teaching for mastery in Key Stage 1

Bethany Hounsell
Clearwater Academy
GLOW Maths Early Years
Work Group Lead

Personal Learning Space

SteveLomax
(Balcarras School)



My Details



My Communities



My Files & Folders



My Favourites & Notes



My Self-evaluation



My Online CPD



My Learning Journal



My Career Portfolio



Sharing & Contacts

Early Years

Created on 02 January 2018 by [ncetm_administrator](#)
Updated on 07 January 2019 by [ncetm_administrator](#)

Early Years

Children are born ready, able and eager to learn. They actively reach out to interact with other people, and in the world around them. Development is not an automatic process, however. It depends on each unique child having opportunities to interact in positive relationships and enabling environments⁽¹⁾



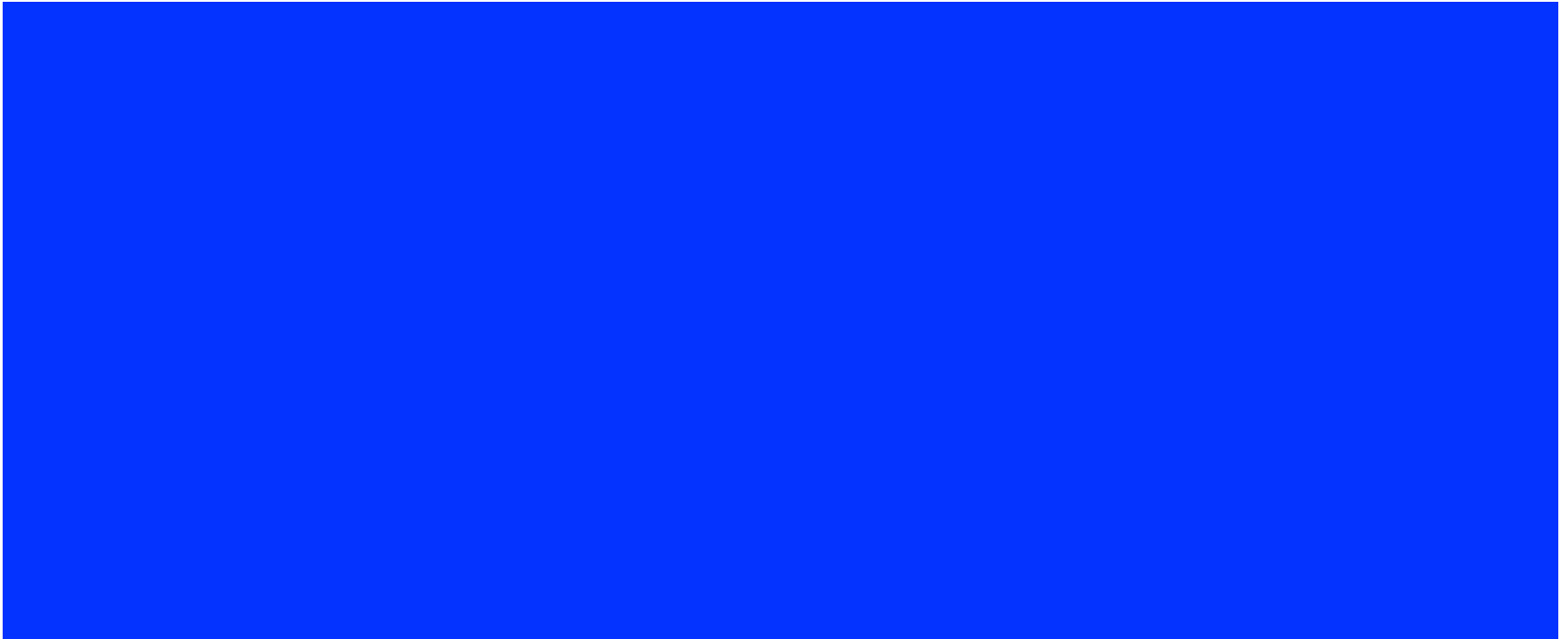
The first few years of a child's life are especially important for mathematics development

Quicklinks

- ▶ [Early Years](#)
- ▼ [The Main Areas of Early Years Maths](#)

There are six main areas that collectively underpin children's early mathematical learning, and which provide the firm foundations for the maths that children will encounter as they go up the years in primary school.

They are:



Cardinality and Counting

What to look for

Can a child:

- ▶ consistently recite the correct sequence of numbers and cross decade boundaries?
- ▶ collect nine from a large pile, e.g. nine pencils from a pot?
- ▶ subitise (instantly recognise) a group that contains up to four, then five, in a range of ways, e.g. fingers, dice, random arrangement?
- ▶ select a numeral to represent a quantity in a range of fonts, e.g. 4, 4, 4?
- ▶ correct a puppet who thinks the amount has changed when their collection has been rearranged?

Common errors in this area may include

- ▶ missing out an object or counting an object twice
- ▶ when asked how many cars are in a group of four, simply recounting '1, 2, 3, 4,' without concluding that 'there are four cars in the group'
- ▶ when asked to 'get five oranges' from a trayful, a child just grabs some, or carries on counting past five
- ▶ when objects in a group are rearranged, the child (unnecessarily) recounts them to find how many there are
- ▶ difficulties in counting back
- ▶ confusion over the 'teen' numbers – they are hard to learn
- ▶ missing a number like 15 (13 or 15 are commonly missed out) or confusing 'thirteen' and 'thirty'.

What to look for

—

Can a child:

- ▶ state which group of objects has more? Can they do this with a large or small visual difference?
- ▶ compare two numbers and say which is the larger?
- ▶ predict how many there will be if you add or take away one?

Common errors in this area may include

—

- ▶ children not comparing the numerosity of the group and considering more in terms of size
- ▶ children giving a response that does not match the context when estimating a number; e.g. when adding, giving as an answer a number that is smaller than the numbers given. Example: 'There are 7 cars in a garage and then 2 more go in.' The child guesses there are 4 cars in total inside.

What to look for

Can a child:

- ▶ subitise small groups within a larger number?
- ▶ make a reasonable guess at a hidden number?
- ▶ in context, state two groups that make a larger amount? For example, how might the (six) bean bags land? You could have three with stripes up and three with spots up.

Common errors in this area may include

- ▶ children suggesting that a larger number than the total are hidden.

What to look for

Can a child:

- ▶ continue, copy and create an AB pattern?
- ▶ identify the pattern rule (unit of repeat) in an AB pattern?
- ▶ continue, copy and create ABB, ABBC (etc.) patterns?
- ▶ identify the pattern rule (unit of repeat) in an ABB, ABBC (etc.) patterns?
- ▶ spot an error and 'correct' a pattern?
- ▶ explain whether a circular pattern is continuous or not?

Common errors in this area may include

- ▶ not recognising a pattern such as ABBA (e.g. stating that patterns cannot have two of the same colour together)
- ▶ when copying or extending a pattern, changing it before making three repeats
- ▶ spotting that there is an error but not being able to describe it
- ▶ identifying an error but not being able to correct it
- ▶ correcting an error by making a 'local correction', which just moves the problem along (e.g. by adding an extra item when colours have been swapped)
- ▶ describing the whole pattern instead of identifying the part which repeats, or the unit of repeat.

Shape and Space

What to look for

Can a child:

- ▶ select and rotate shapes to fit into a given space?
- ▶ use positional vocabulary, including relative terms, to describe where things are in small-world play?
- ▶ show intentionality in selecting shapes for a purpose, such as cylinders to roll?
- ▶ make a range of constructions, including enclosures, and talk about the decisions they have made?
- ▶ see shapes in different orientations and recognise that they are still that shape?
- ▶ recognise a range of triangles and say how they know what they are?

Common errors in this area may include

Children think that:

- ▶ children thinking that only regular triangles are triangles, only brick-like rectangles are rectangles (i.e. shapes are defined by their image, not by their properties)
- ▶ children thinking that squares are only squares when the bottom is horizontal (i.e. shapes are defined by their orientation).

What to look for

Can a child:

- ▶ find something that is longer, shorter, heavier, lighter (etc.) than a reference item?
- ▶ find an appropriate container for a specific item?
- ▶ describe the location of something using positional language?
- ▶ accurately use the relative terms 'yesterday' and 'tomorrow'?
- ▶ order a short sequence of events?

Common errors in this area may include

- ▶ keeping track of events, e.g. 'Have I had my lunch yet?'
- ▶ positional language associated with time; muddling the relative terms 'yesterday' and 'tomorrow'
- ▶ using 'long' to describe the shape of something (e.g. a block that is much longer than it is wide) rather than to compare lengths
- ▶ not taking into account both ends as the starting and stopping point
- ▶ not being able to say 'than' in the phrase, 'this is longer than that'
- ▶ not understanding that units must cover a complete length, with no gaps or overlaps, demonstrated by thinking that measuring is about counting units placed along something, or putting a ruler alongside and saying a number
- ▶ not understanding that units must be equal.

- Teaching should not be taken to imply a 'top down' or formal way of working. It is a broad term that covers the many different ways in which adults help young children learn. It includes: their interactions with children during planned and child-initiated play and activities, communicating and modelling language, showing, explaining, demonstrating, exploring ideas, encouraging, questioning, recalling, providing a narrative for what they are doing, facilitating and setting challenges. It takes account of the equipment that adults provide and the attention given to the physical environment, as well as the structure and routines of the day that establish expectations. Integral to teaching is how practitioners assess what children know, understand and can do, as well as taking account of their interests and dispositions to learn (characteristics of effective learning), and how practitioners use this information to plan children's next steps in learning and to monitor their progress.

1

Develop practitioners' understanding of how children learn mathematics



- Professional development should be used to raise the quality of practitioner knowledge of mathematics, of children's mathematical development and of effective mathematical pedagogy.
- Developmental progressions show us how children typically learn mathematical concepts and can inform teaching.
- Practitioners should be aware that developing a secure grasp of early mathematical ideas takes time, and specific skills may emerge in different orders.
- The development of self-regulation and metacognitive skills are linked to successful learning in early mathematics.

2

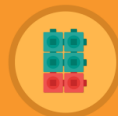
Dedicate time for children to learn mathematics and integrate mathematics throughout the day



- Dedicate time to focus on mathematics each day.
- Explore mathematics through different contexts, including storybooks, puzzles, songs, rhymes, puppet play, and games.
- Make the most of moments throughout the day to highlight and use mathematics, for example, in daily routines, play activities, and other curriculum areas.
- Seize chances to reinforce mathematical vocabulary.
- Create opportunities for extended discussion of mathematical ideas with children.

3

Use manipulatives and representations to develop understanding



- Manipulatives and representations can be powerful tools for supporting young children to engage with mathematical ideas.
- Ensure that children understand the links between the manipulatives and the mathematical ideas they represent.
- Ensure that there is a clear rationale for using a particular manipulative or representation to teach a specific mathematical concept.
- Encourage children to represent problems in their own way, for example with drawings and marks.
- Use manipulatives and representations to encourage discussion about mathematics.
- Encourage children to use their fingers— an important manipulative for children.

4

Ensure that teaching builds on what children already know



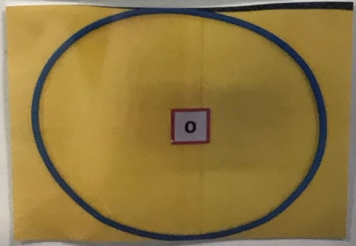
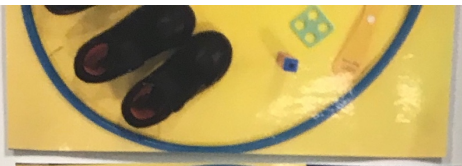
- It is important to assess what children do, and do not, know in order to extend learning for all children.
- A variety of methods should be used to assess children's mathematical understanding, and practitioners should check what children know in a variety of contexts
- Carefully listen to children's responses and consider the right questions to ask to reveal understanding.
- Information collected should be used to inform next steps for teaching. Developmental progressions can be useful in informing decisions around what a child should learn next.

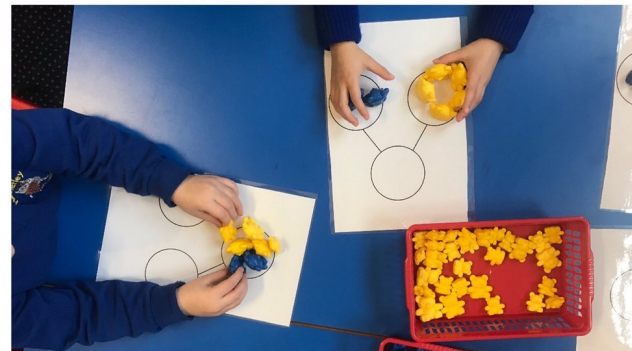
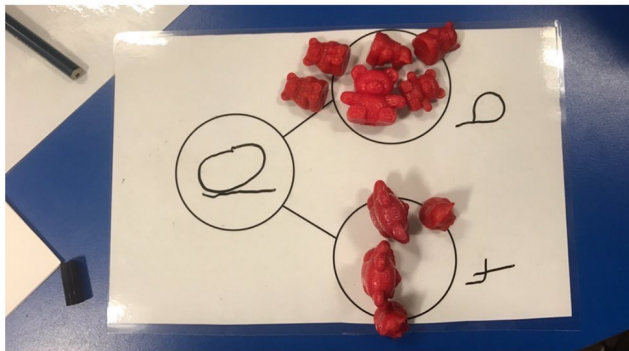
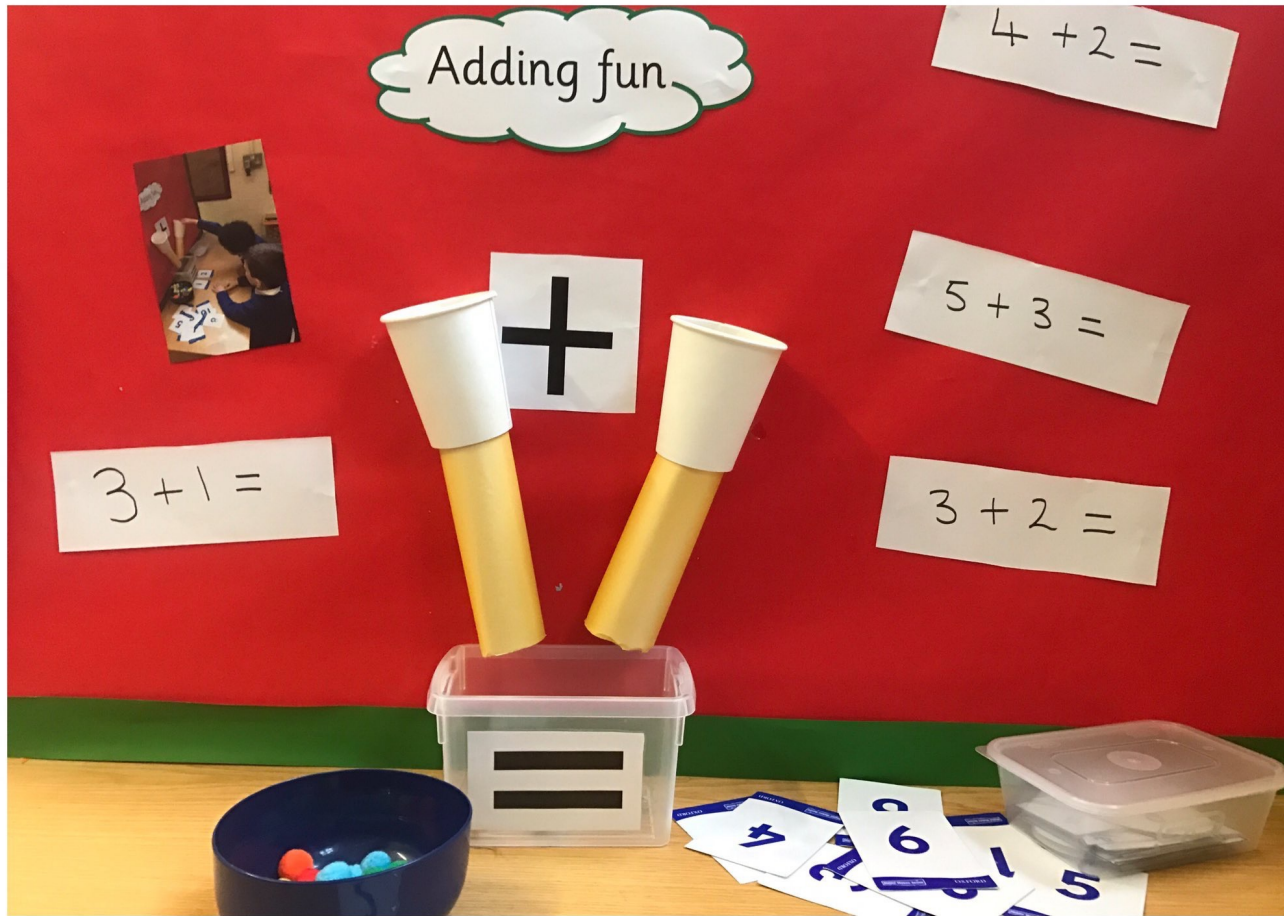
5

Use high quality targeted support to help all children learn mathematics



- High quality targeted support can provide effective extra support for children.
- Small-group support is more likely to be effective when:
 - children with the greatest needs are supported by the most experienced staff;
 - training, support and resources are provided for staff using targeted activities;
 - sessions are brief and regular; and
 - explicit connections are made between targeted support and everyday activities or teaching.
- Using an approach or programme that is evidence-based and has been independently evaluated is a good starting point.









$$10 - 5 =$$



The Consortium

7



2



9

13



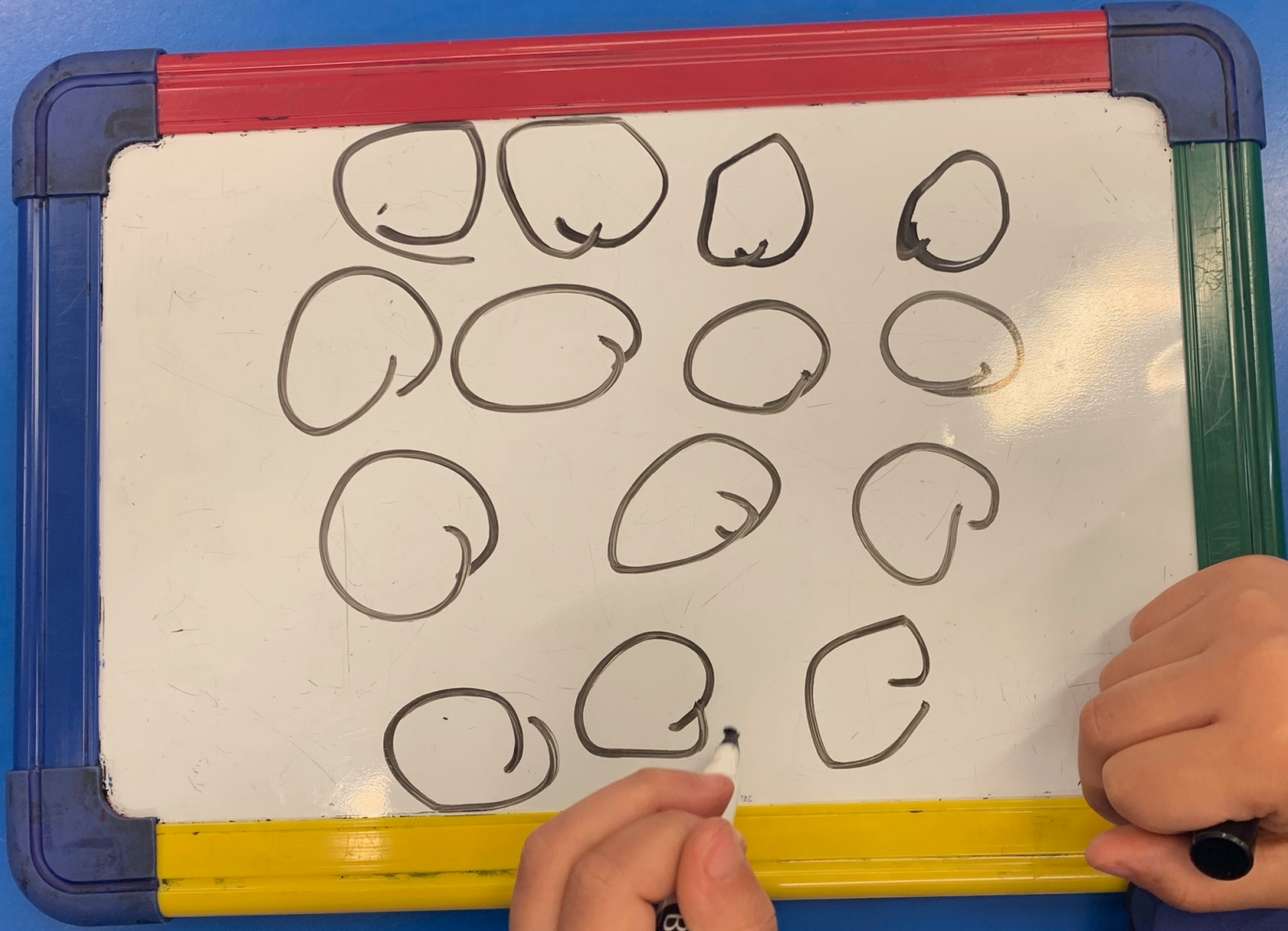
4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----

3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----



A white sheet of paper with two large blue circles. The left circle contains four red dots and a cartoon girl with blonde hair in a pink dress. The right circle contains five red dots and a cartoon boy with brown hair in a red shirt and blue pants. This is a visual representation of the equation 4 + 5 = 9.





①	②	③	④
⑤	⑥	⑦	⑧
⑨	⑩	⑪	⑫
⑬	⑭	⑮	⑯

Retrol[®] DryWipe
 Low Odor
 Wipeable
 1 liter

the
 CHISORT: UN
 h
 Erase