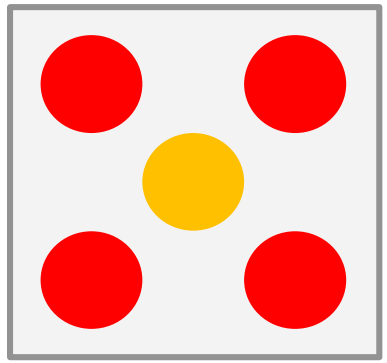
Mastering Number at Home

Reception, Year 1 & Year 2



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Aims of the session

- Share some of the things your child is learning in school
- Improve your confidence in helping your child with maths
- Create some games and activities for use at home
- Share with you some home learning activities

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Why engage you in your child's learning?

Research evidence suggests that when parents are engaged in their children's learning, outcomes for children can be improved.

The research also highlights the fact that parents feel they need more support to understand the current curriculum content and how they can support their child with their learning at home.

Desforges, C. and Abouchaar, A. (2003); Goodall, J. and Vorhaus, J. (2011); The Education Endowment Foundation (2019); Sarjeant, S. (2021)

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BBC News Report 2006

69% of parents do not help children with their homework because…

> *Everything has changed since they were at school and they are not confident in the new methods.*

BBC News Report 2010

82% of parents feel unable to help pupils with their homework.

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The ‘problem’ with maths

“My dad thinks that the way **he** does maths is easier and better than **my** way but he doesn’t understand my way and his way confuses me.”

Pupil – Catford High School

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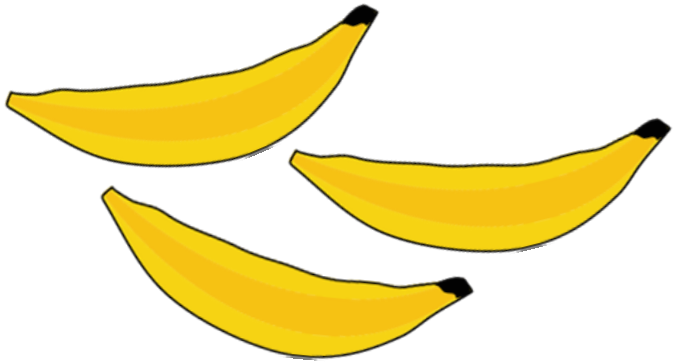
How does Mastering Number help us to teach maths in school?

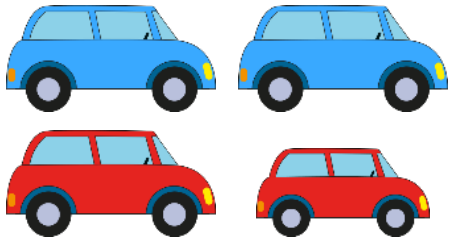
The Mastering Number Programme in School helps your child to develop good *number sense*.

Some of the things they are learning include:

Counting



Recognising small numbers of objects and making their own collections - subitising



Know different ways to ‘make’ (compose) a number

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Recognising small ‘numbers’

For all of the activities you will be doing at home, we want children to use a special skill called ‘subitising’.

Get your fast eyes ready!
Show on your fingers and tell your grown-up how many trees you can see!

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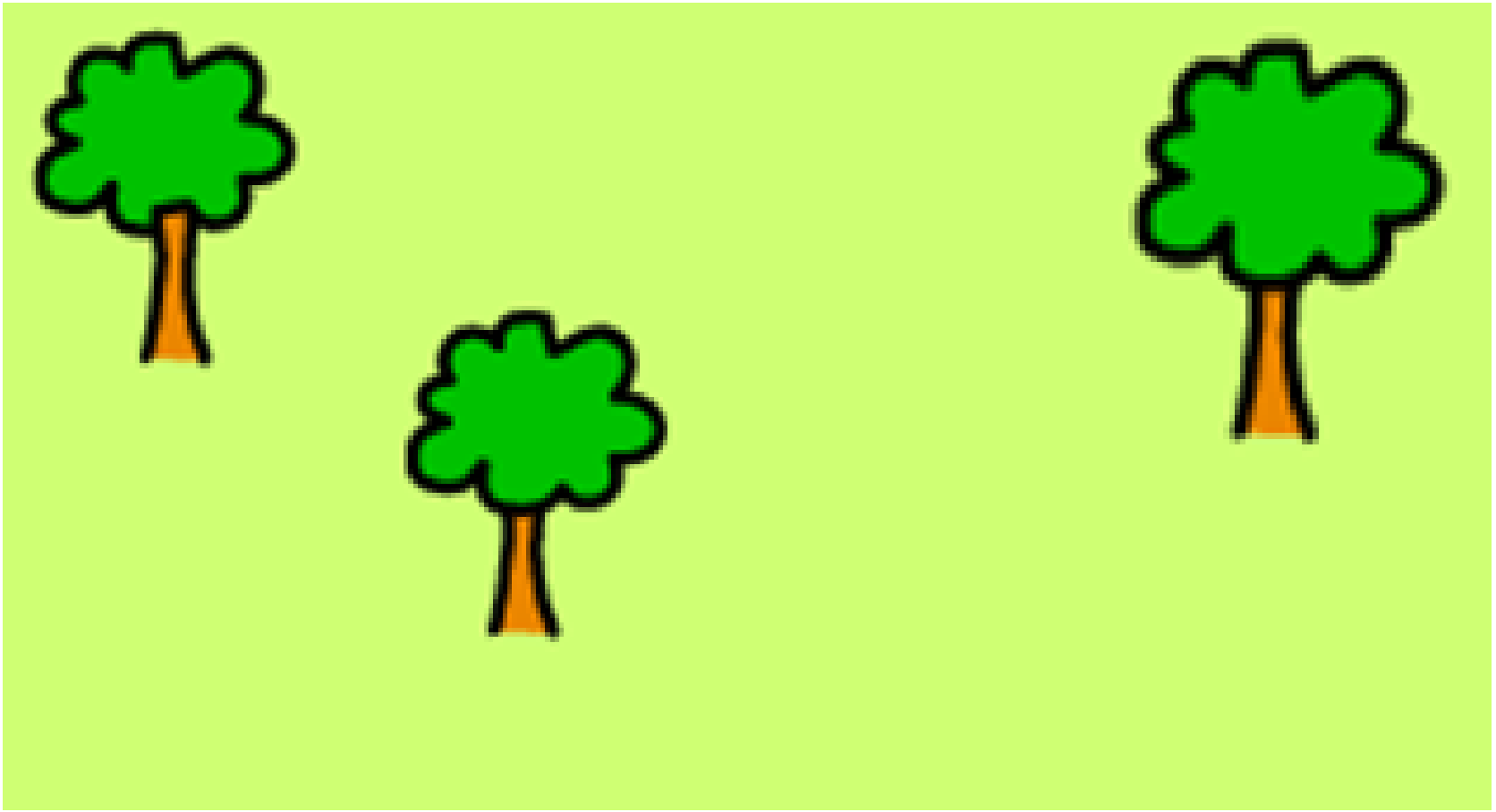

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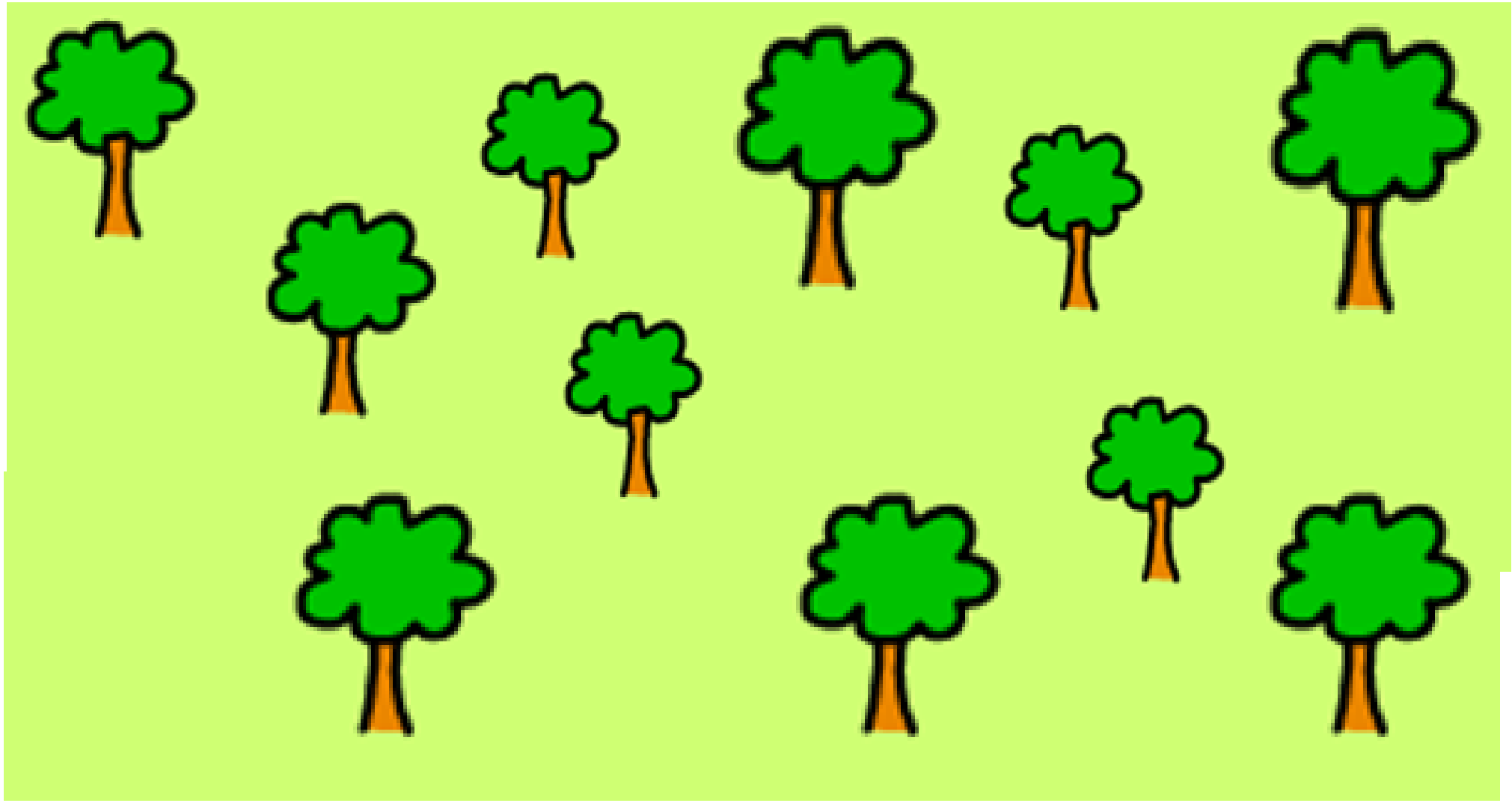

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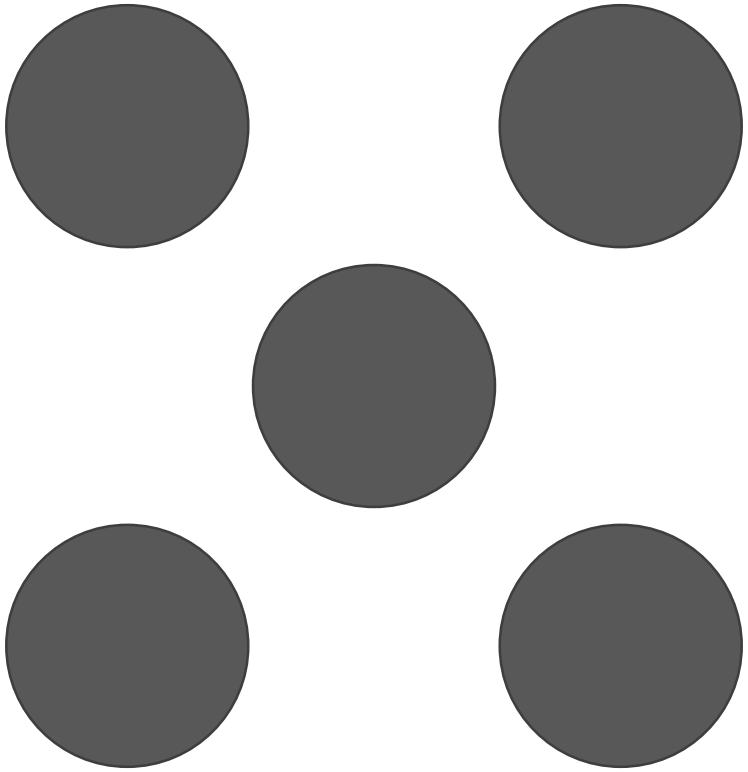

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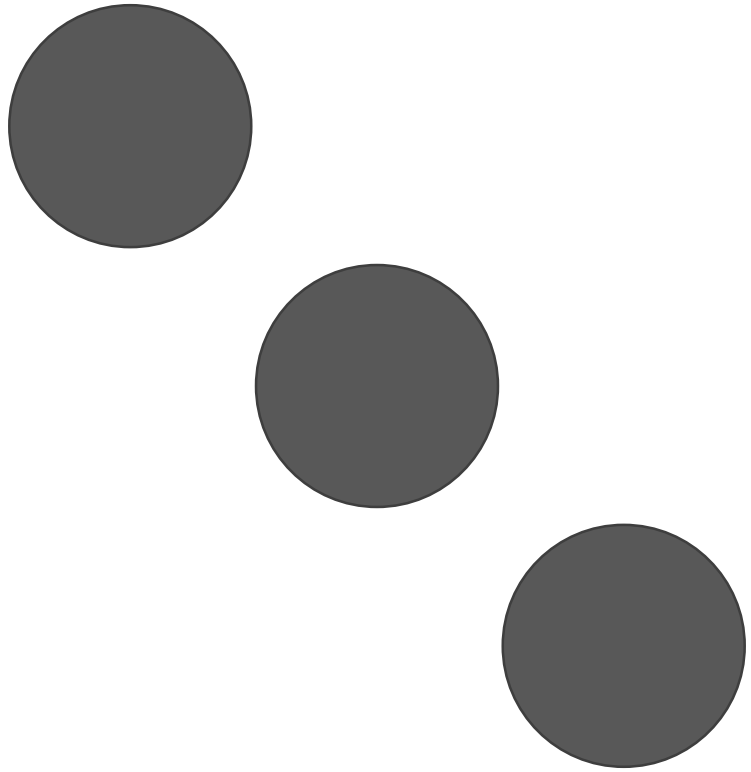

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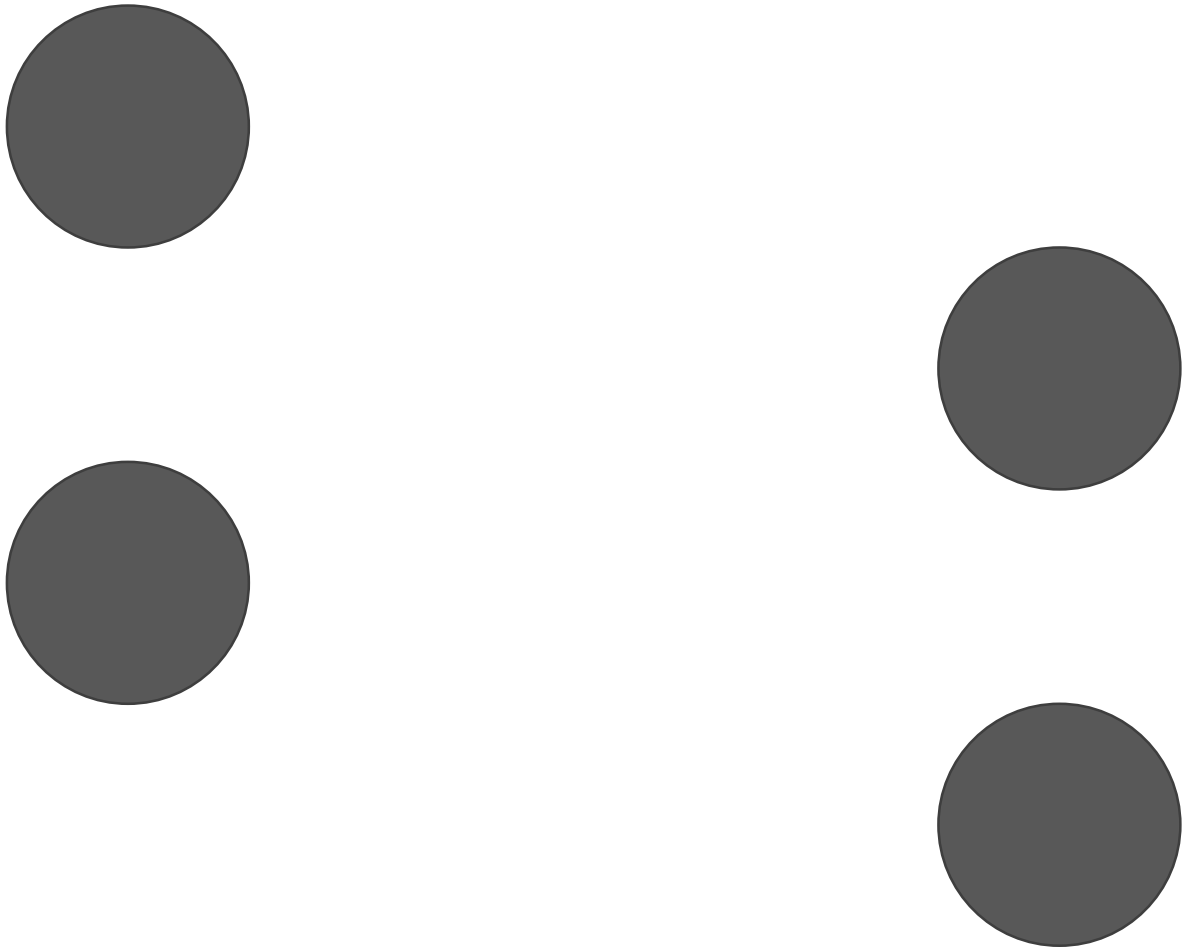

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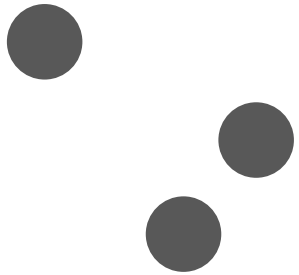
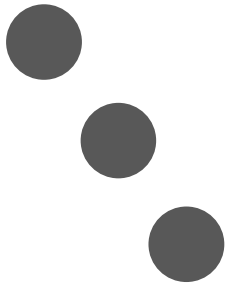
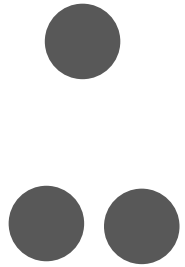
Subitising

Subitising is the ability to recognise a *small quantity* of objects *without the need to count*.

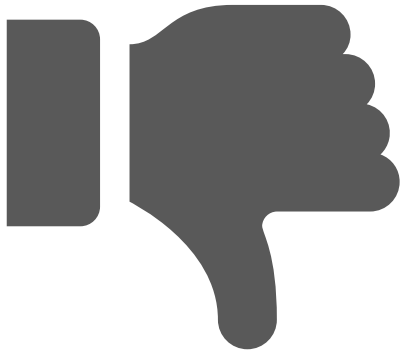
Sometimes when we subitise we can see two groups at once; if we know that 3 can be ‘made’ of 2 and 1, then we know how many there are altogether without counting.







Play ‘3 or NOT 3?’



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How will knowing how numbers are ‘made’ help?

If children know that **4 can be made of 3 and 1,** they can apply this knowledge later on to see that:

30 and 10 is 40
300 and 100 is 400
and that;
400 take away 100 is 300

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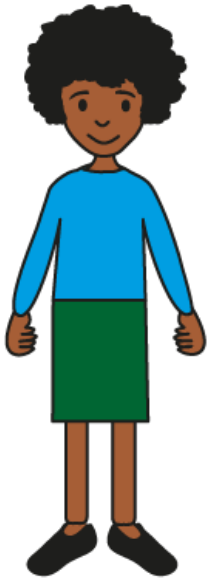
How does knowing how numbers are ‘made’ help children?

I know that 8 is made of 5 and 3 so I will also know...

$5 + 3 = 8$



$50 + 30 = 80$

$500 + 300 = 800$

$8 - 3 = 5$

$80 - 30 = 50$

$0.5 + 0.3 = 0.8$

$0.8 - 0.3 = 0.5$

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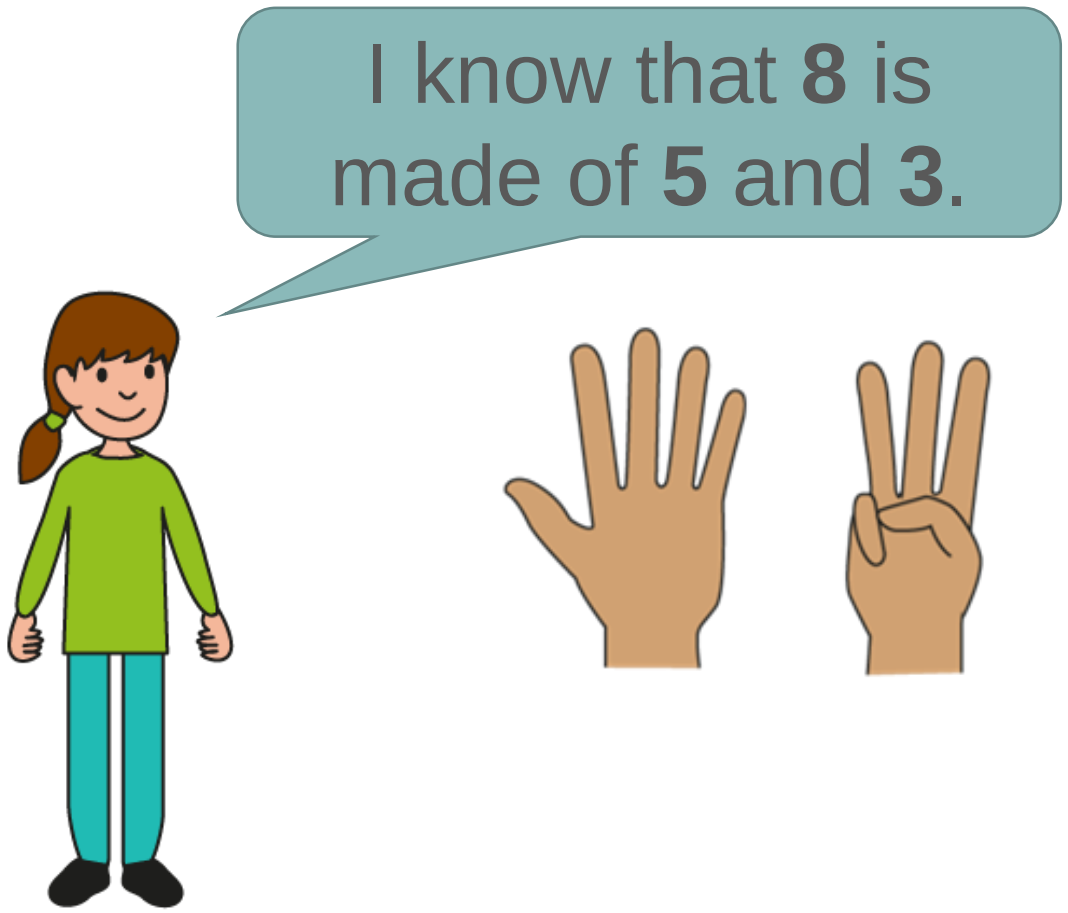
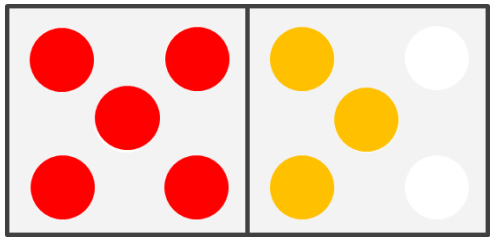
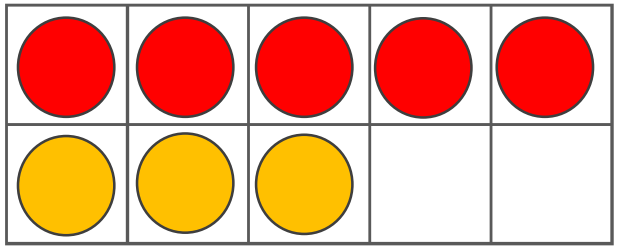
Looking at the numbers 6, 7, 8 and 9

Children will learn that these numbers all have 5 ‘inside them’, as well as seeing all the ways they can be made.







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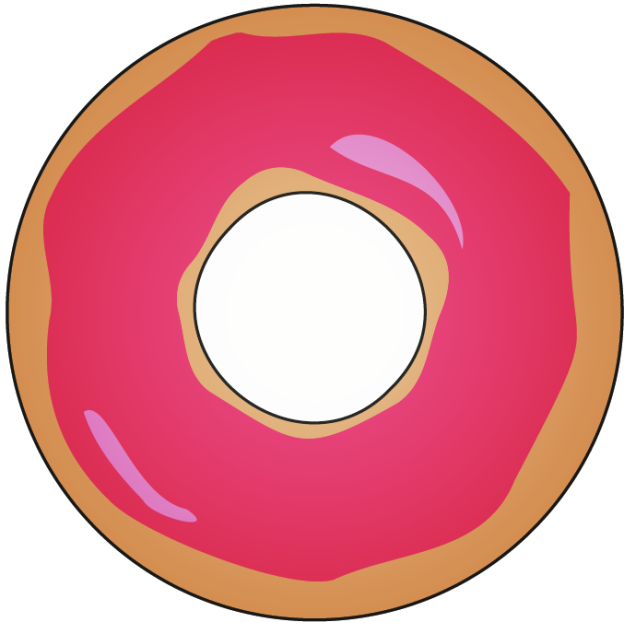
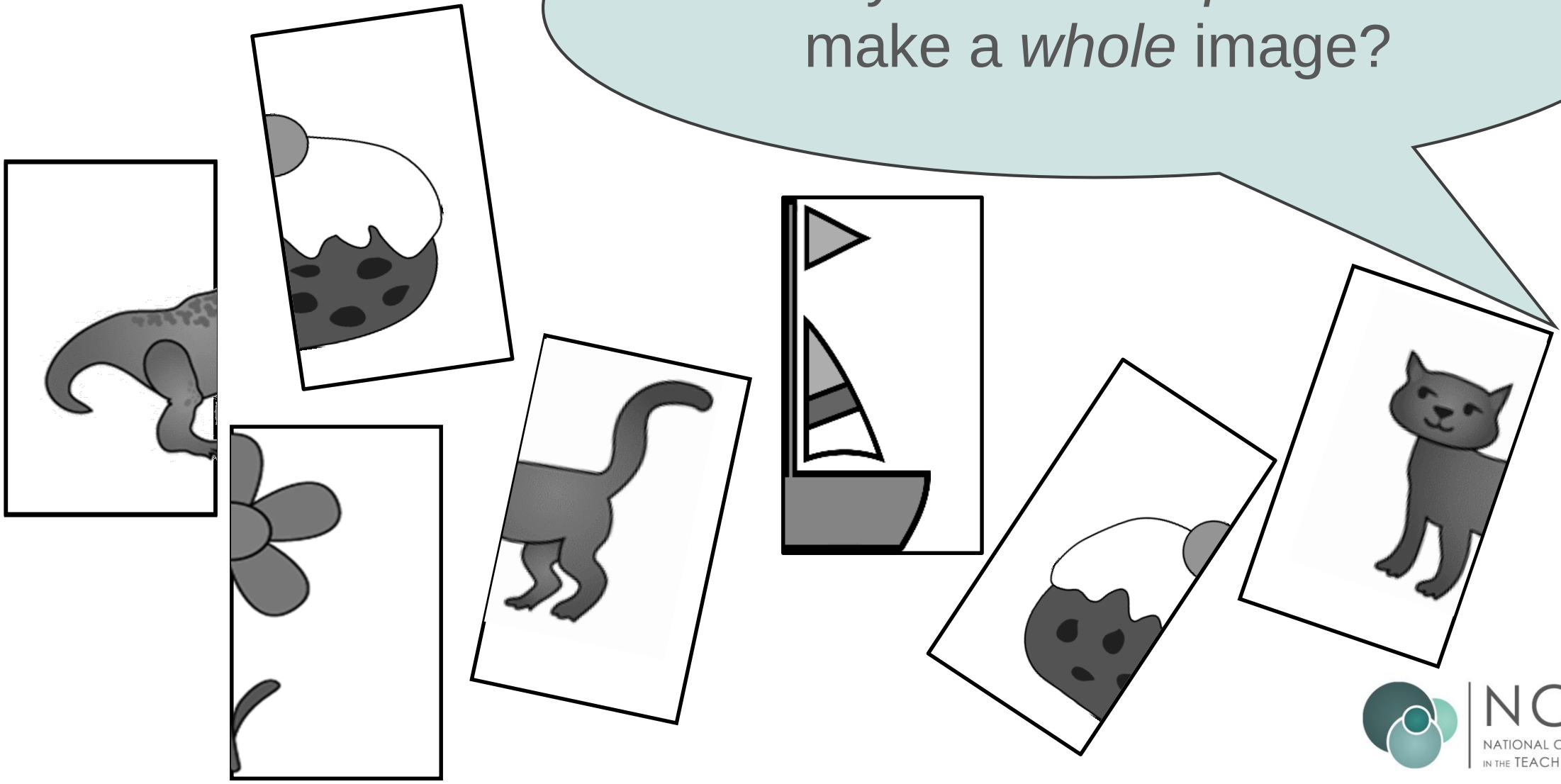
Play ‘Part-part-whole’

The ‘hole’ in the donut?



A ‘whole’ donut?

Can you see two *parts* that make a *whole* image?



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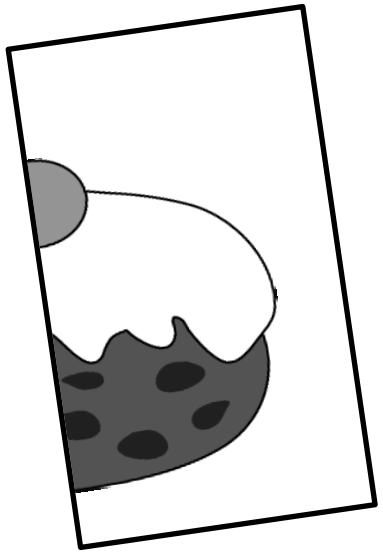
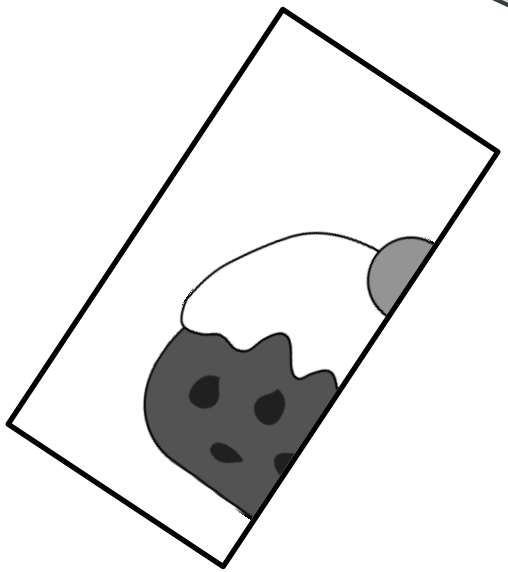
Pick up each piece and say:
‘part… part…’





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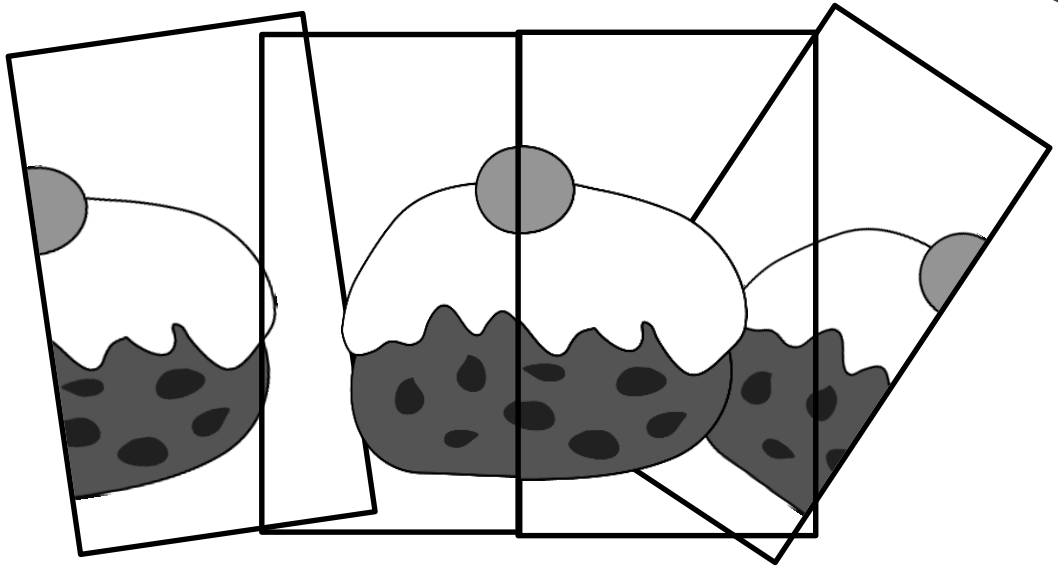
Now put them together and say: ‘whole!’

Can you find all the ‘wholes’ by doing the same?



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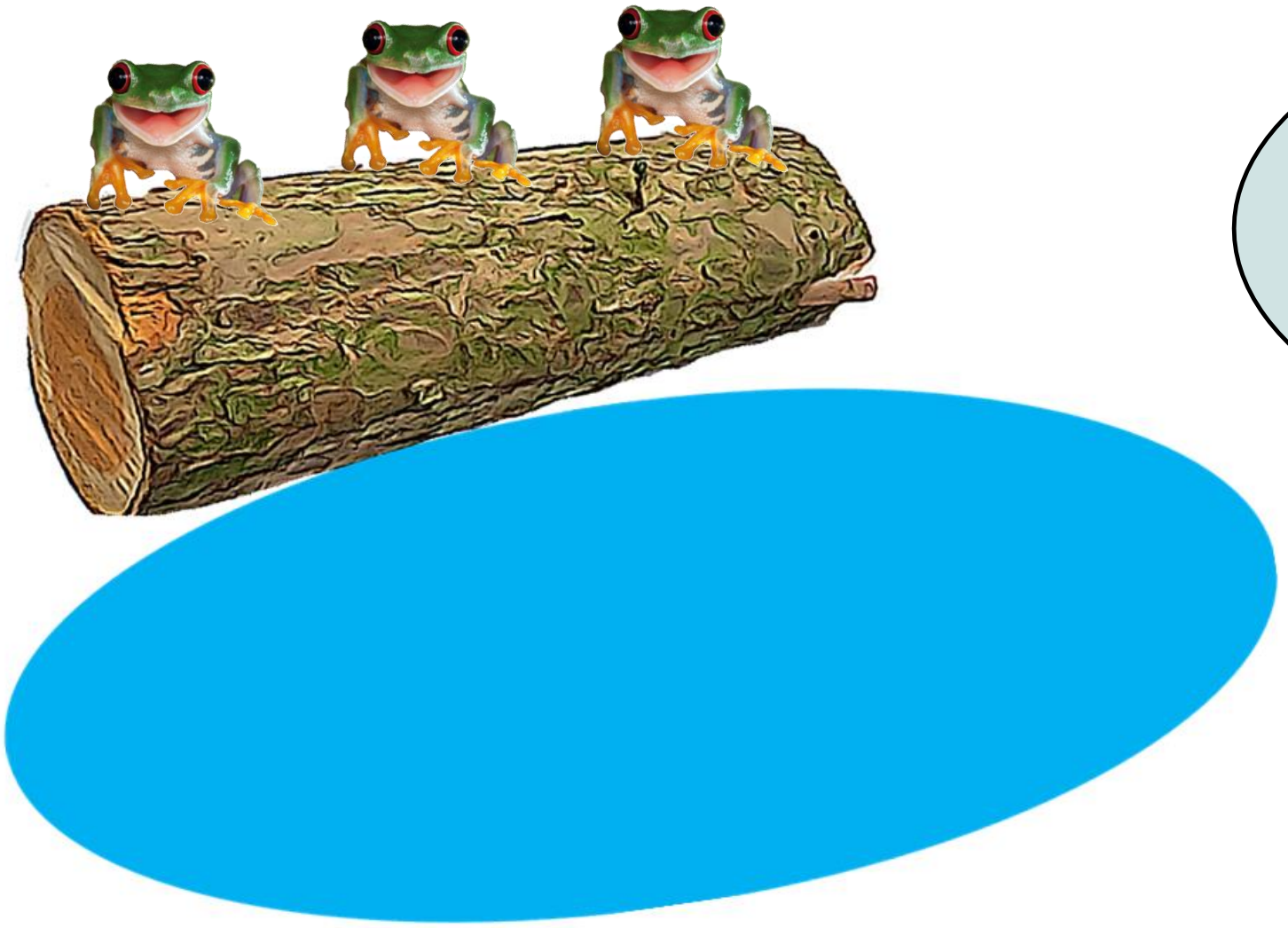
Put 3 frogs on the log



Ask your child

Show with your fingers:
How many are on the log?
How many in the pool?
How many altogether?

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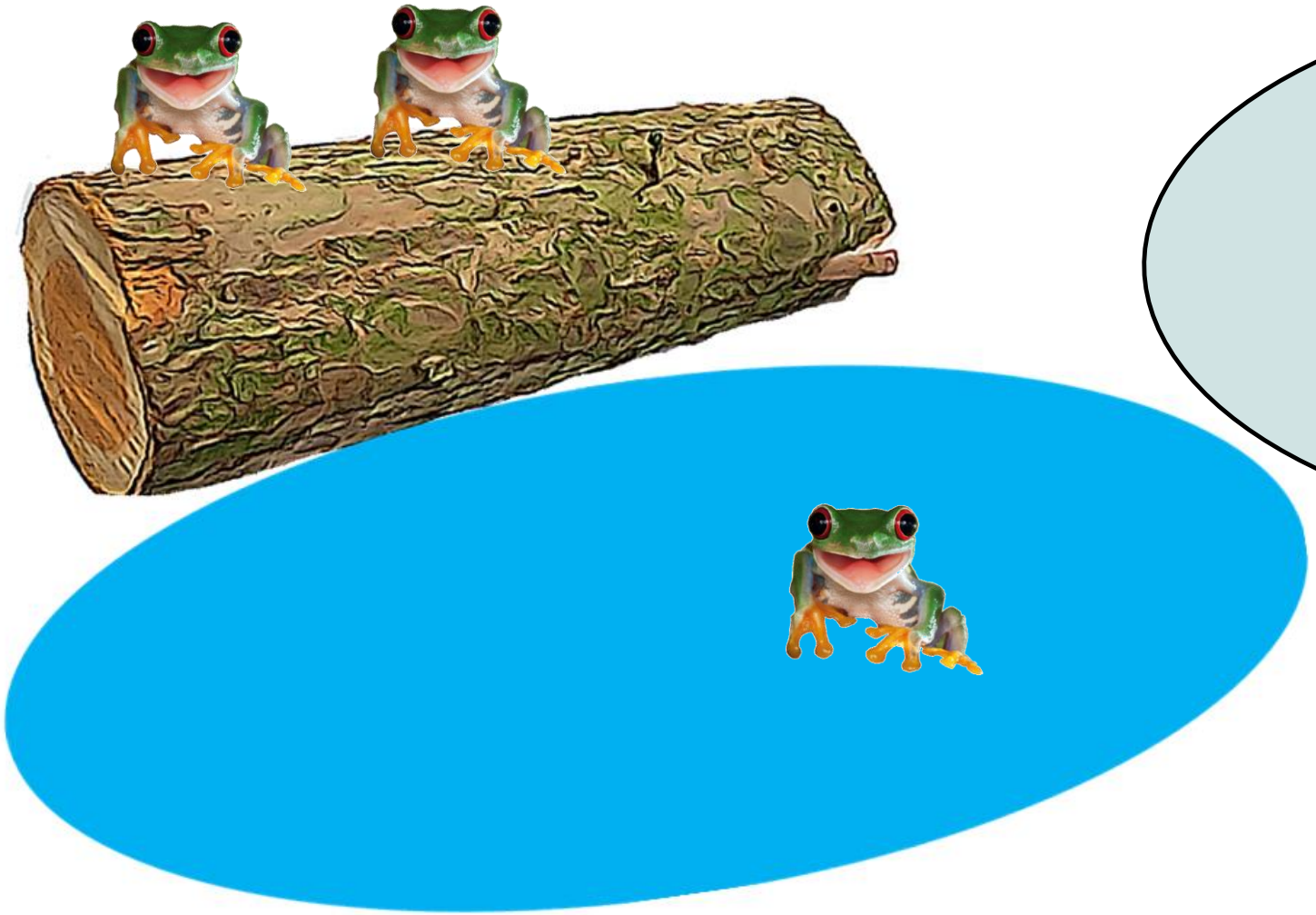
Put another frog in the pool.



Ask your child

Is it still three?

Show with your fingers:

How many are on the log?

How many in the pool?

How many altogether?

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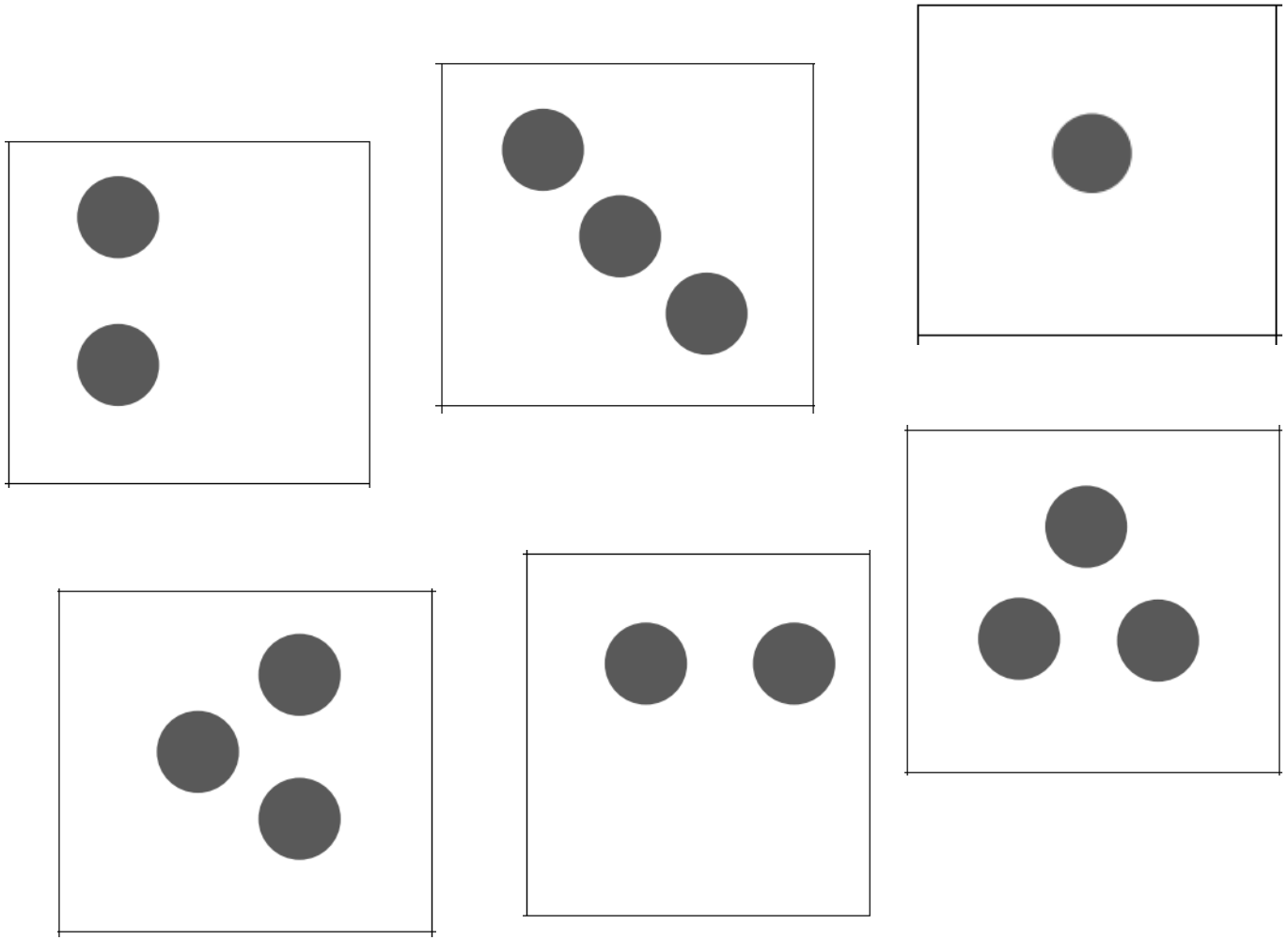
Part-part-whole with dots



You can play ‘part-part-whole’ with dominoes.

One person will pick up a card, and the other person must pick up the card that will ‘make 4’.

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You can always use your fingers to show part whole

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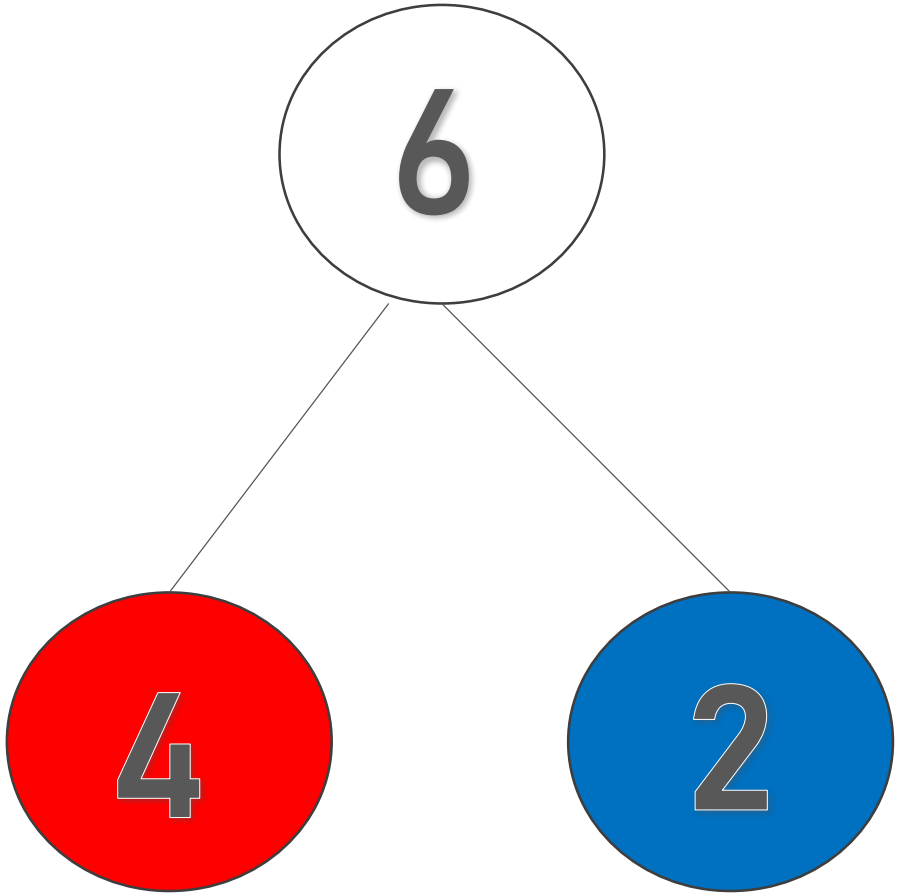
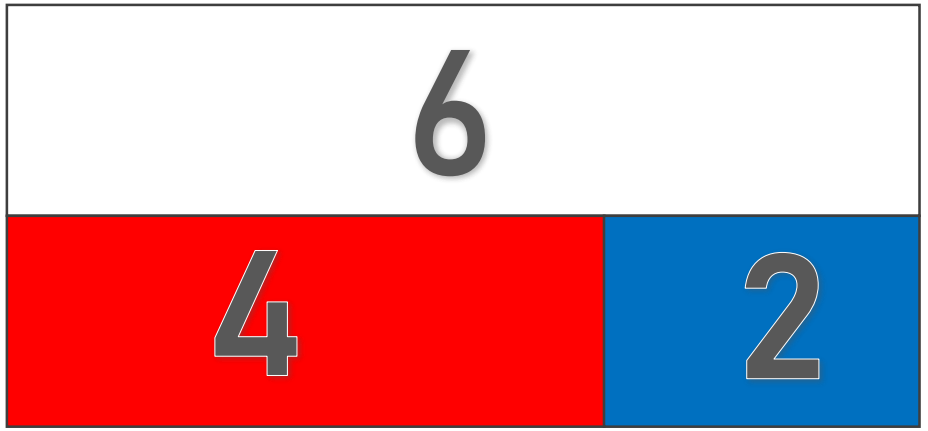
Part Whole Diagrams…





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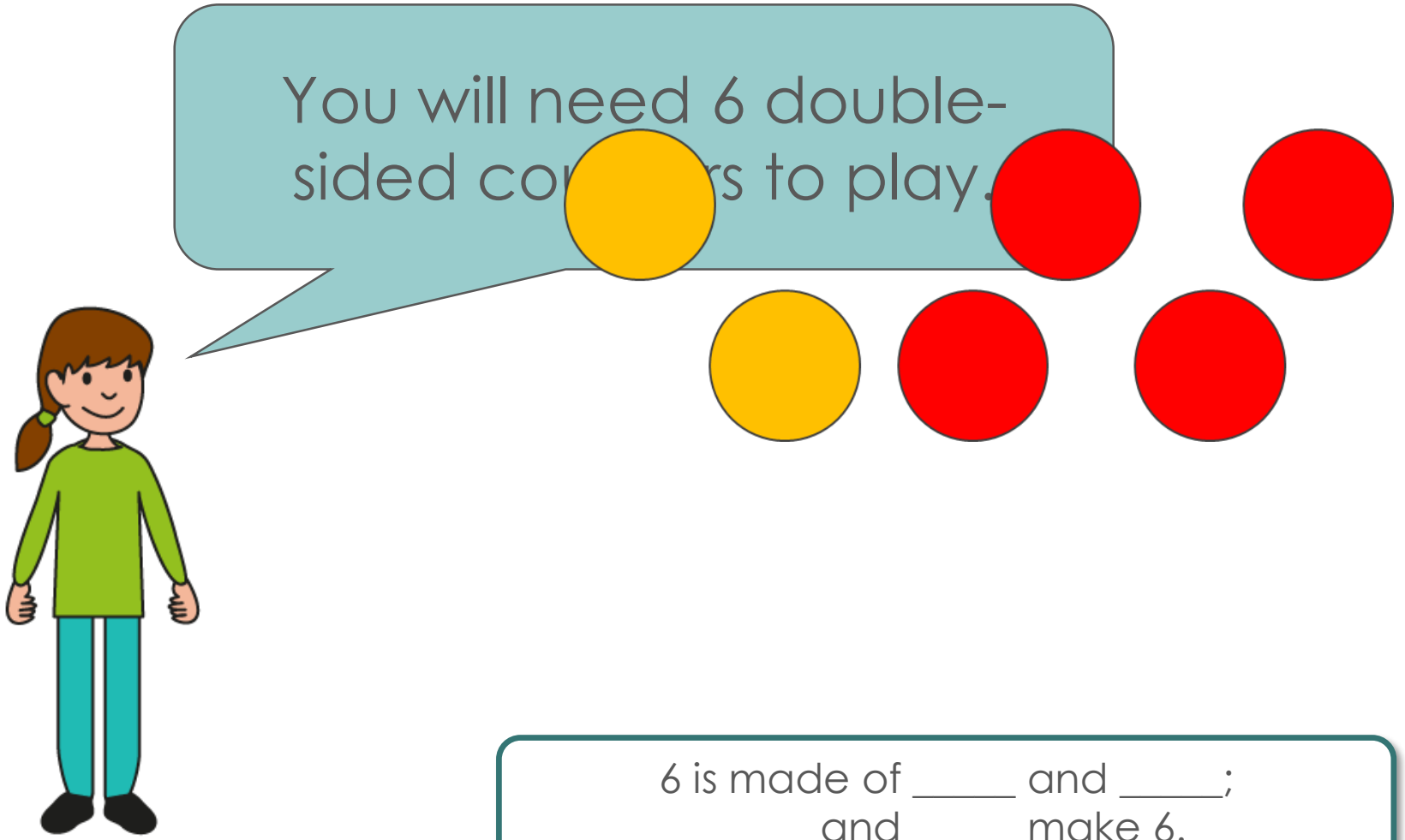
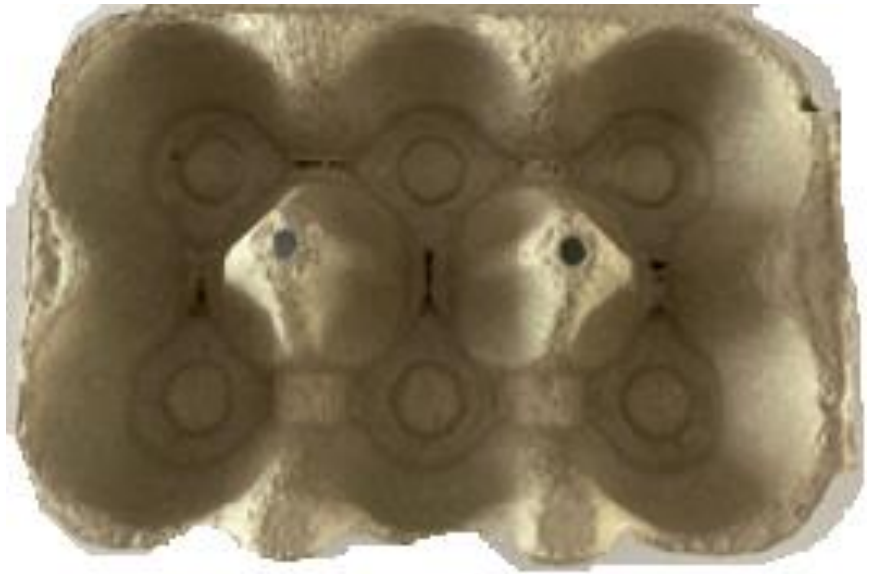
Play ‘Drop the counters’



6 is made of _____ and _____;
_____ and _____ make 6.

Play ‘Egg Box 6’ with objects

Gather 6 objects that can fit in the spaces in the egg box.



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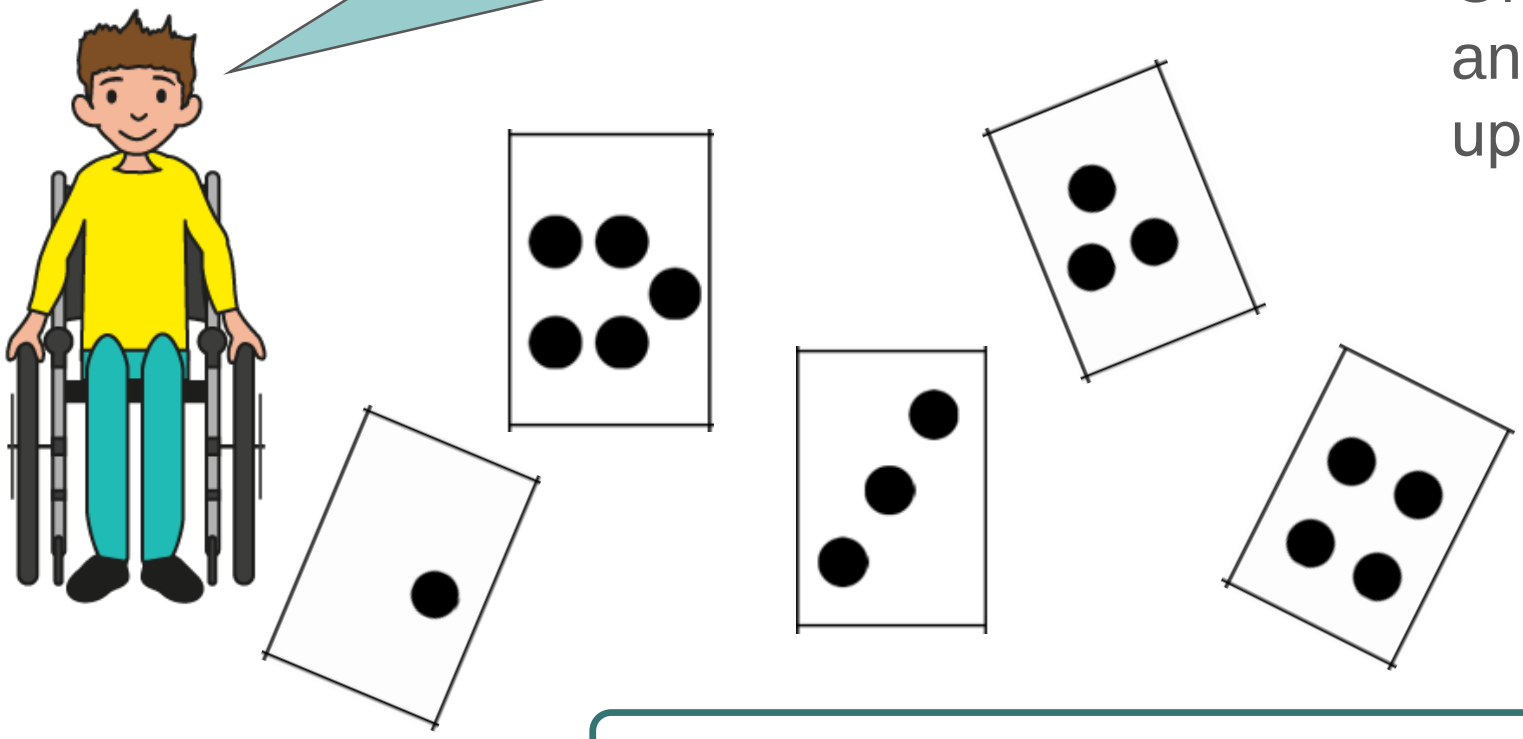
Find pairs that make 6.



One person will pick up a card, and the other person must pick up the card that will ‘make 6’.

Use the stem sentence to support.

_____ needs _____ to make 6.

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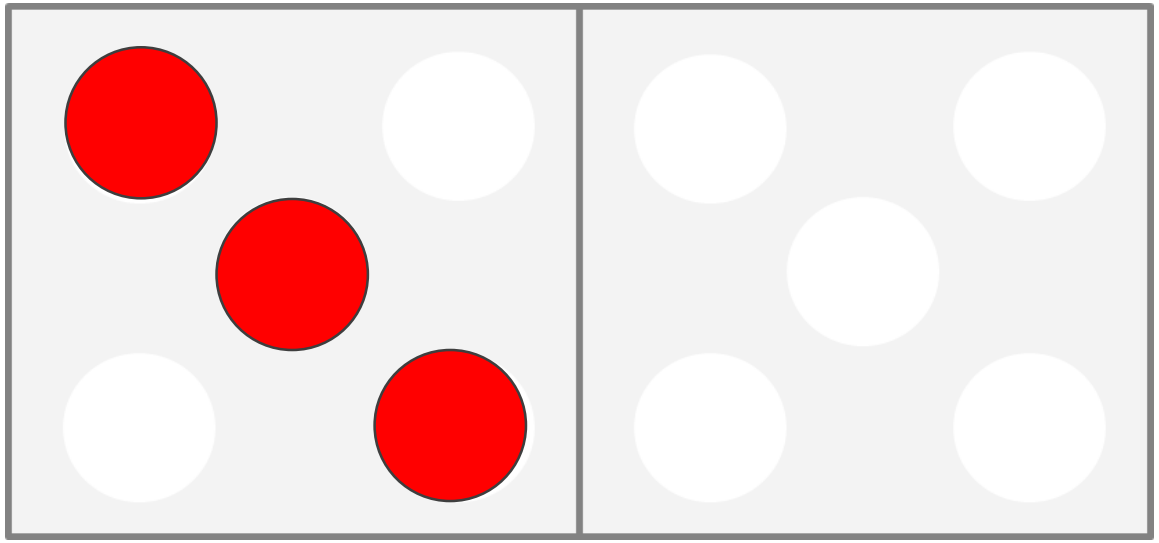
Play ‘Make it 7’



You will need 10 counters altogether.

Grown-ups – Place some counters (up to 5) on one side of the frame.

Children – place counters on the other side to make 7.

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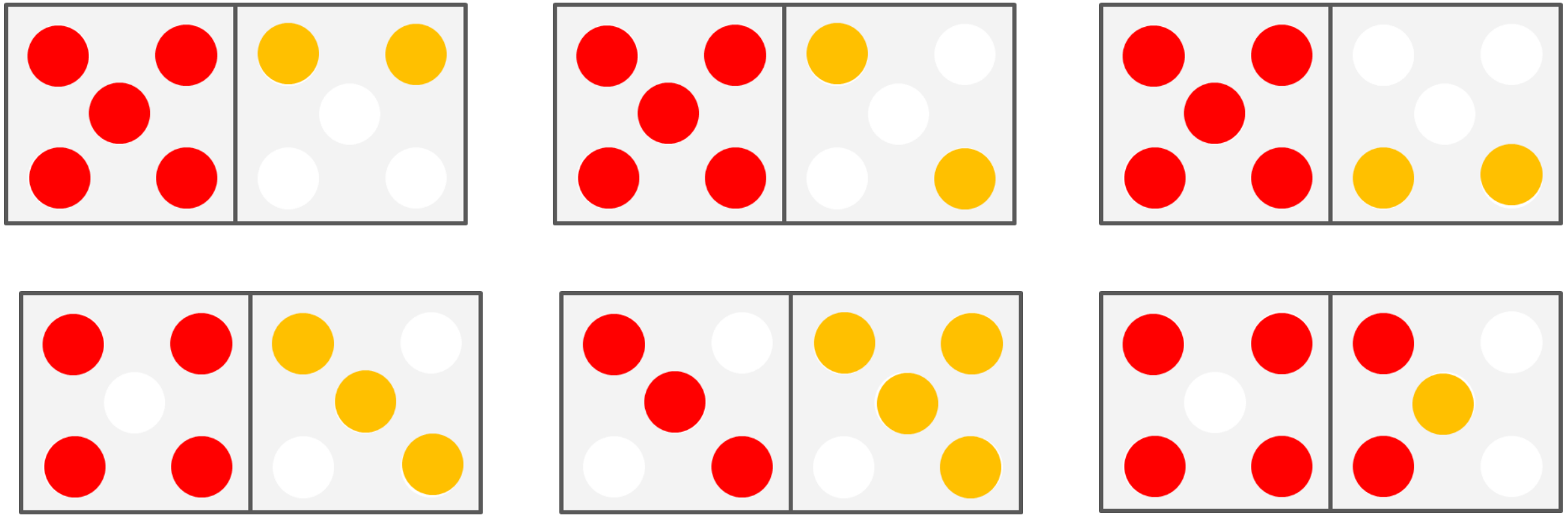
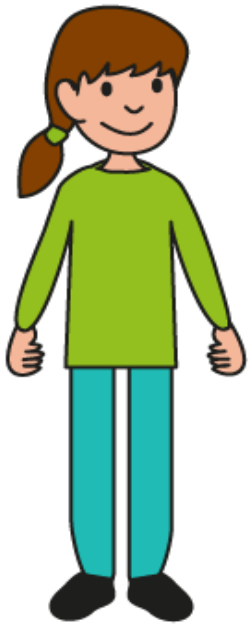
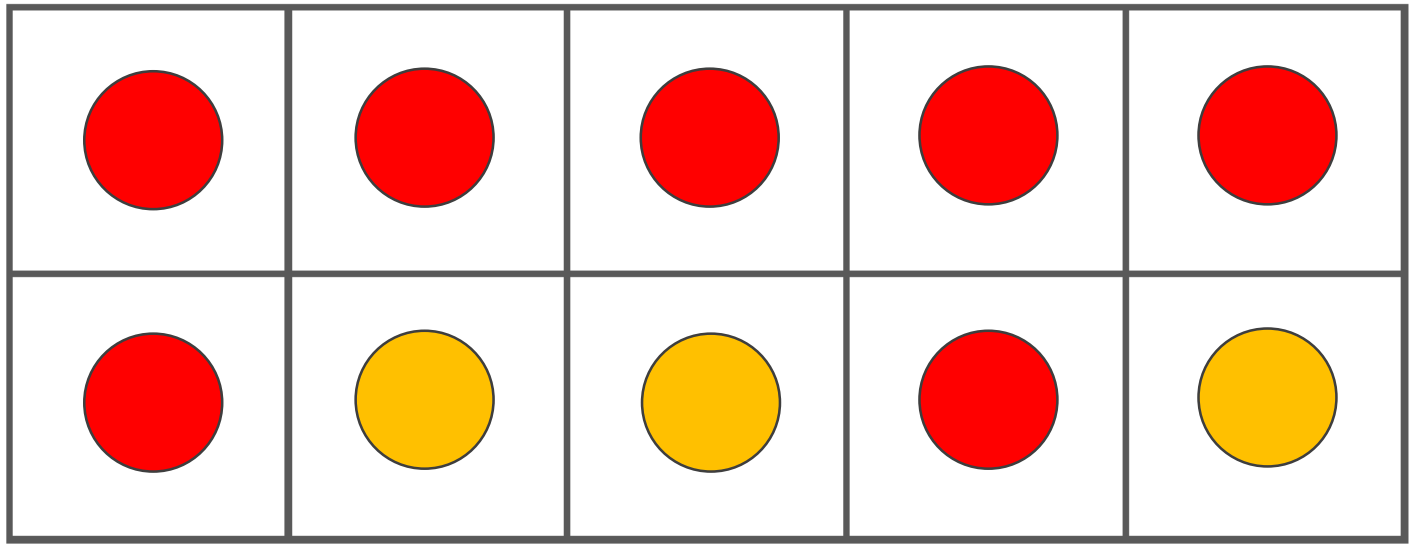
Now try some of these arrangements.



You could play the same game using the 10-frame – this might be more tricky!





10 is made of _____ and _____.
_____ and _____ make 10.

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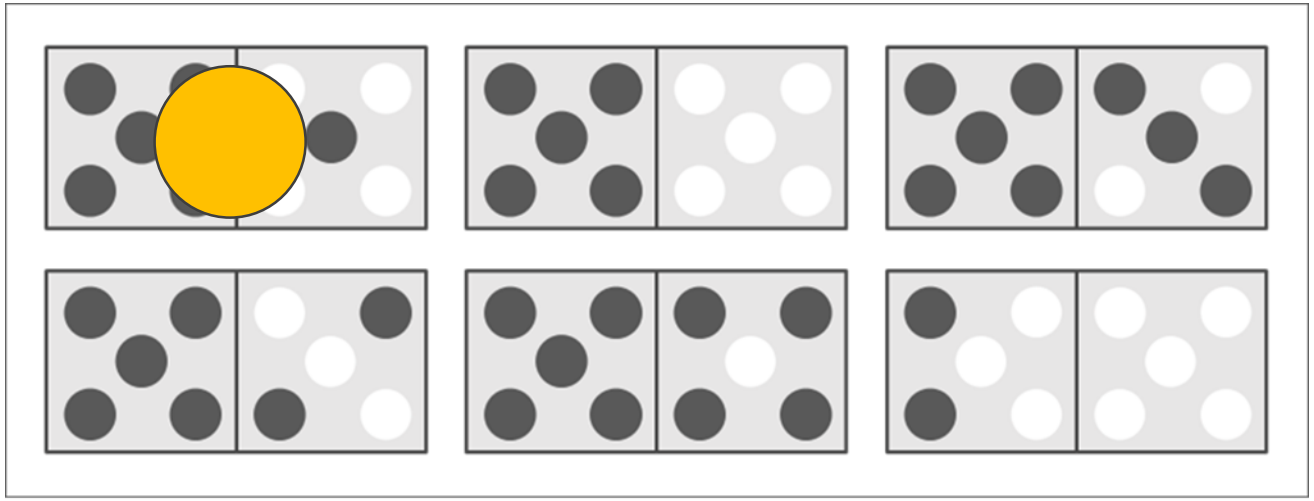
Introducing ‘Make it 10 Bingo’

Player 1: pick a caller card and read it out
Player 2: find the number that makes 10 and cover it with a counter.

What does 4 need to make 10?



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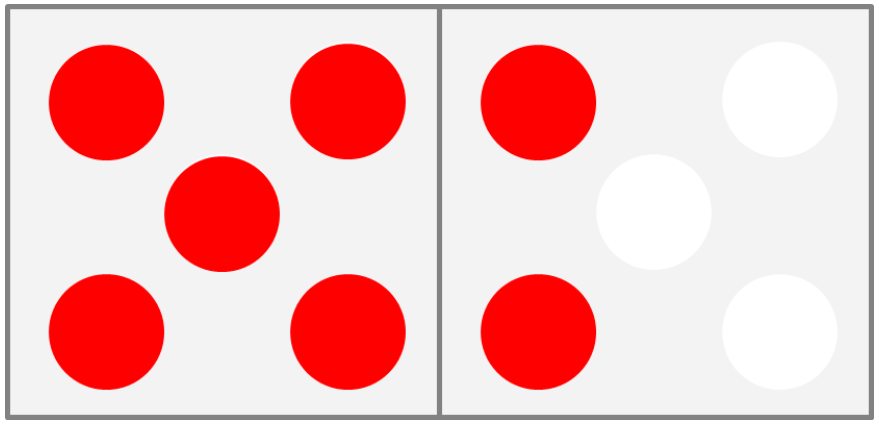
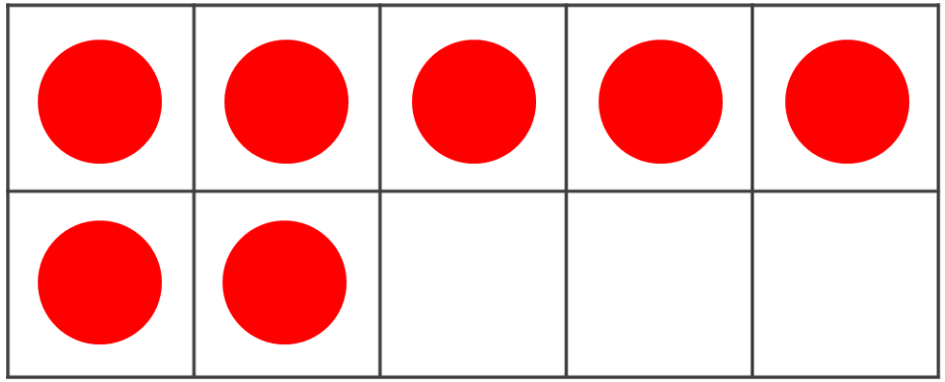
Play ‘Copy my number’

Grown-ups: place 7 counters on the dice frame as shown.
Children: can you make the same number on the 10 frame showing it as ‘5 and a bit’?

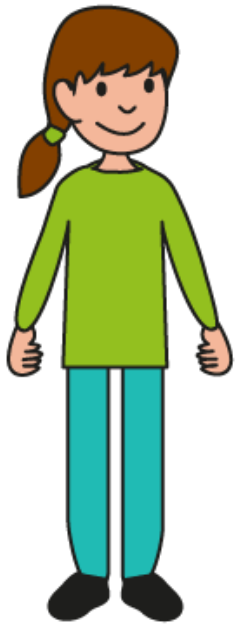


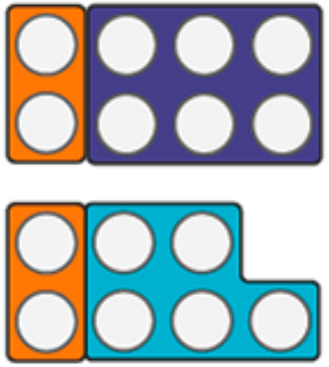


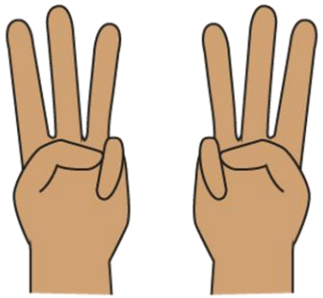
_____ is made of 5 and _____.
5 and ____ make _____.

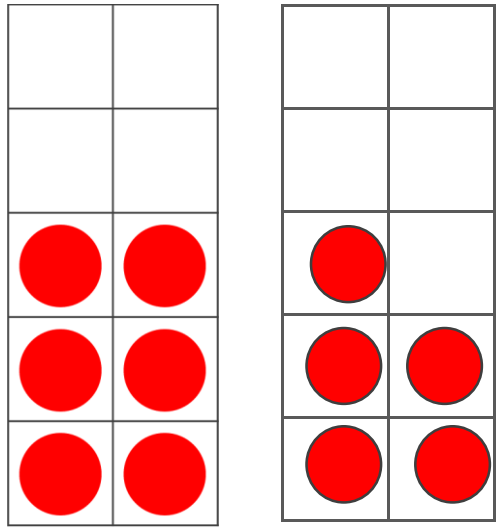
Odd and even numbers ‘inside’ other numbers

Let’s think about the odd and even *parts* of numbers.









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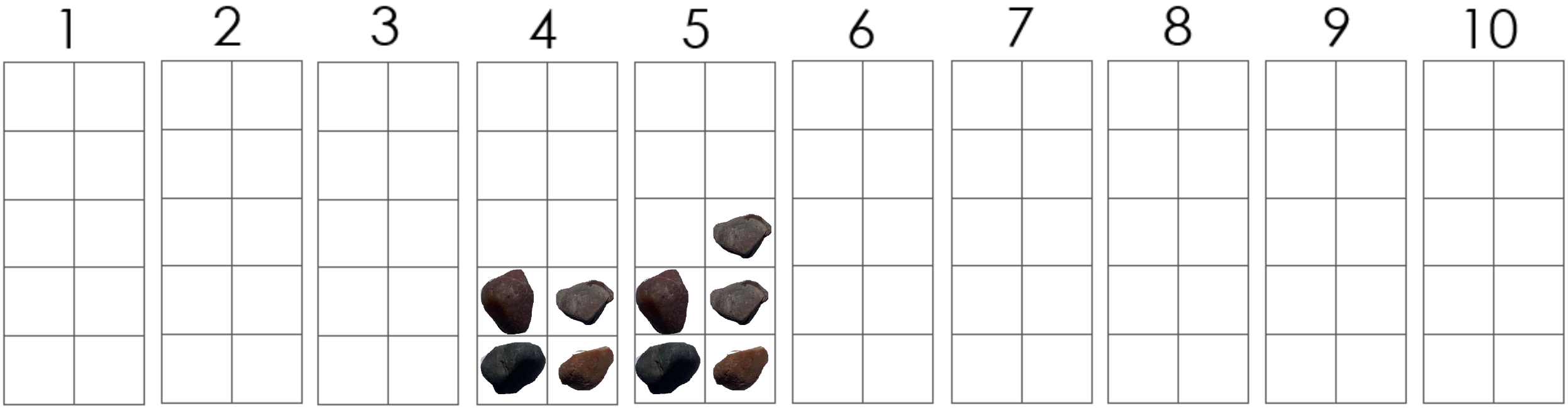
Use your objects to show the numbers on the 10-frames.
Place them in the order shown.

What do you notice about the pattern that is being made by 4 or 5 objects?



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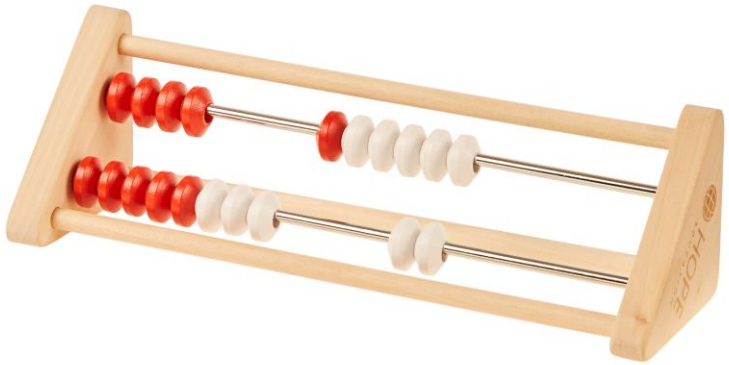

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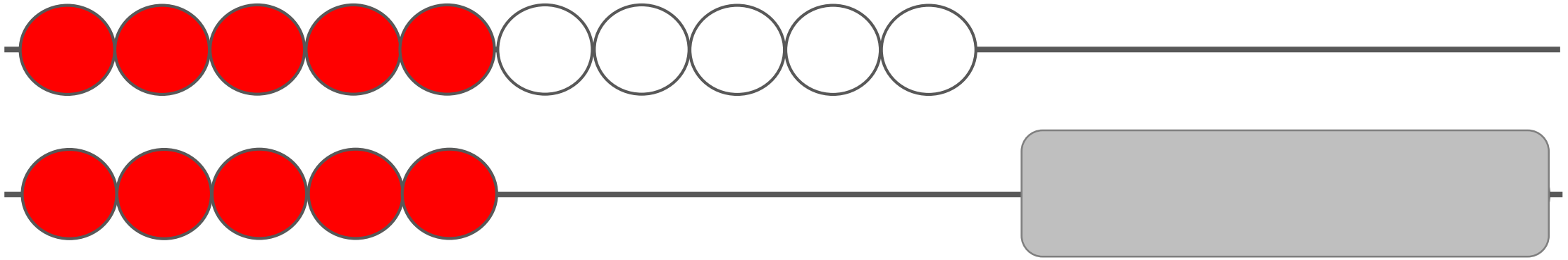
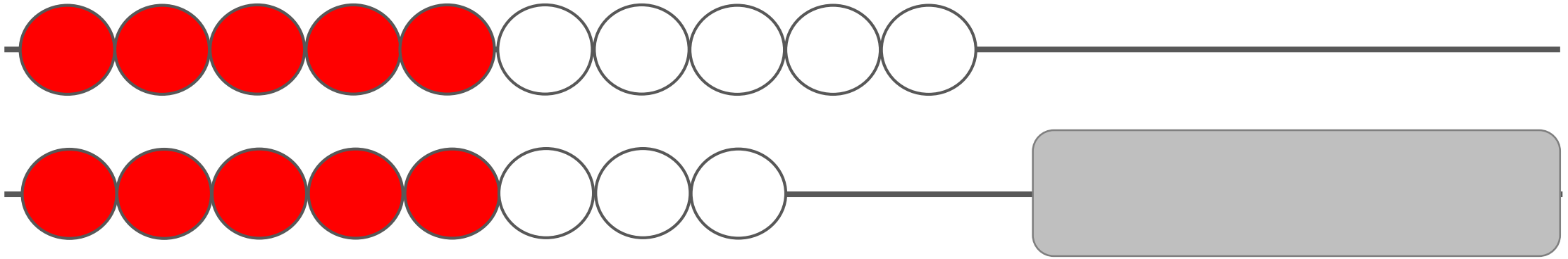
How many beads are hidden? How do you know?



_____ needs _____ to make 10;
so, _____ needs _____ to make 20.

How many beads are hidden? How do you know?



_____ needs _____ to make 10;
so, _____ needs _____ to make 20.

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Home Learning for the Holidays….

You are going to take home some games to try at home to develop number sense.

There are 5 home learning weeks (one for each week of the holidays) and are set out on a sheet with instructions.

We anticipate each day that you will spend about ten minutes on the activity.

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Mastering Number at Home

Reception – Week 1

Play 'Subitising to 3 Snap'

(Monday, Wednesday and Friday)

How to play

- Cut out the subitising cards on the worksheet **'Subitising to 3 Snap'**.
- Place the cards face-down on a flat surface.
- Take it in turns to turn over 2 cards at a time. Say the numbers you see on each card.
- If the numbers are the same, the player taking the turn wins the cards. If the numbers are different, the player must turn the cards face-down again.
- The winner is the player with the most cards at the end of the game.

Play the 'Part–part–whole game'

(Tuesday and Thursday)

How to play

- Cut out the image cards on the worksheet **'Part–part–whole game'**.
- Place the cards face-up on a flat surface.
- Take it in turns to pick 2 cards that make a whole.
- Say, *"part, part"*, as you pick up the cards, and *"whole"* as you put them together to make the complete image.

Other things to try at home

Hiding games

Hide up to 3 objects, such as acorns, blocks or small toys, under a tea towel, or under your hand. Quickly reveal the objects, then hide them again, saying, *"How many?"* Can your child subitise the amount without counting?

Be '2-spotters'

Ask your child to spot things at home that there are 2 of. Some things are often found in 2s, such as shoes or socks, but we can have 2 of anything!

Mastering Number at Home

Year 1 – Week 1

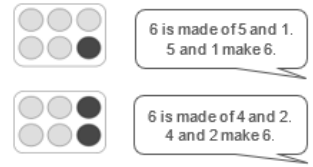
Drop the counters

(Monday, Wednesday and Friday)

How to play

- For this game, you will need 6 two-colour counters and the worksheet **'Drop the counters'**. Decide who will be player 1 and who will be player 2.
- Take it in turns to hold 6 counters in your hand and to drop them all at once onto the table.
- Check how many of each colour are showing. [Note that if all the counters land with the same colour showing, the player misses their turn.]
- Use the stem sentence to say aloud the way you have made 6. [See the example above and the worksheet **'Stem sentences'** for guidance.]
- On your recording sheet, cross out the way you have made 6 with the counters.
- Keep playing until either player has crossed out all the ways to make 6 on their sheet.

Egg box 6



(Tuesday and Thursday)

How to play

- For this game you will need an egg box and 6 two-colour counters.
- Place all 6 counters in the empty spaces in the egg box, with the same colour facing up.
- Turn over 1 counter and use the stem sentence to say the way to make 6 that is shown – *"6 is made of 5 and 1…"* [See the example above and the worksheet **'Stem sentences'** for guidance.]
- Keep turning over 1 counter at a time and saying the new way to make 6 until you have found *all* of the ways to make 6.

Other things to try at home

Noticing packs of 6

In your home, can you make a list of things you have bought in packs of 6?

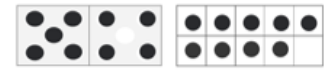
Things to try outdoors

Make sets of 6 things you can find in nature, e.g. 6 leaves, 6 acorns, 6 conkers, 6 twigs, and so on. If you see a collection of fewer than 6 things, ask, *"How many more will make 6?"*

Mastering Number at Home

Year 2 – Week 1

Copy my number

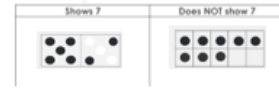


(Monday, Wednesday and Friday)

How to play

- For this game you will need the worksheet **'Double dice frame and 10-frame'** and 20 counters.
- Place some counters on the double dice frame to make a number larger than 5 (note that you should fill the left-hand side of the frame before adding counters to the right-hand side).
- Ask your child to make the same number on the 10-frame, ensuring they start with 5 counters on the top row each time.
- Repeat this activity several times. [If your child finds this easy, you may wish to cover the double dice frame with a cloth and reveal the number of counters only briefly.]

7 or NOT 7?



(Tuesday and Thursday)

How to play

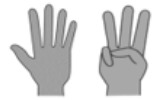
- For this game you will need the worksheets **'5-and-a-bit cards'** and **'Sorting table'**.
- Place the cards face-down on a flat surface.
- Take it in turns to pick up 1 card.
- If the arrangement on the card shows 7, place it in the 'Shows 7' column of the sorting table. If it does not, place it in the 'Does NOT show 7' column.
- Ask your child to tell you how they know if the card is in the correct column. For example, *"7 is made of 5 and 2 and this is 5 and 3"*.

Other things to try at home

Match my fingers

For this game you will need the cards you cut from the worksheet **'5-and-a-bit cards'**. Spread out the cards face-up on a flat surface.

Use the fingers of both hands to show your child a number that is more than 5. Make sure you show 5 fingers on one hand and the remaining fingers on the other hand.



Ask your child to find ALL the cards that show the number represented by your fingers.

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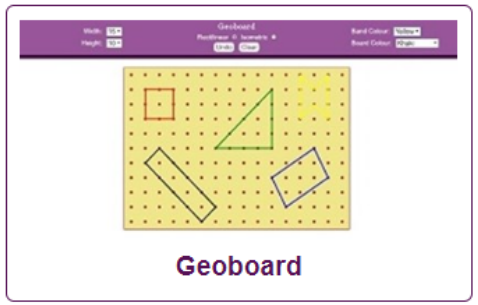
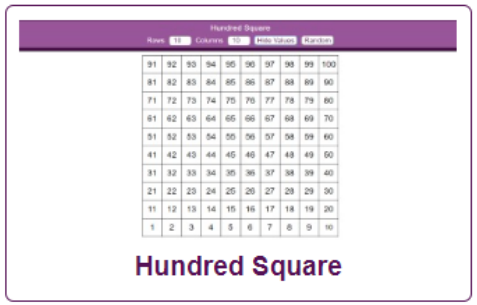
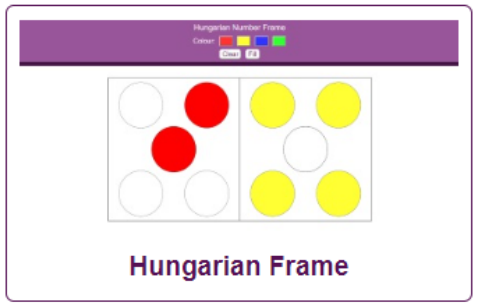
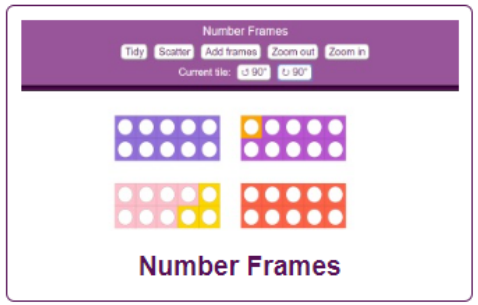
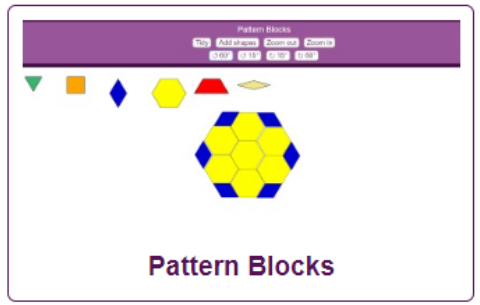
Maths Bot https://mathsbot.com/manipulativeMenu

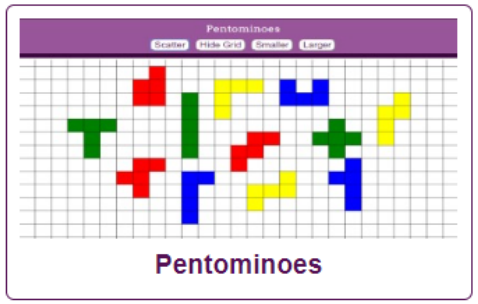

Geoboard

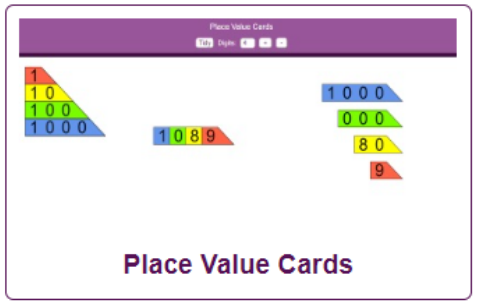

Hundred Square

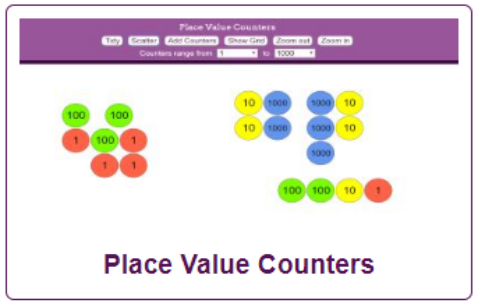

Hungarian Frame


Number Frames

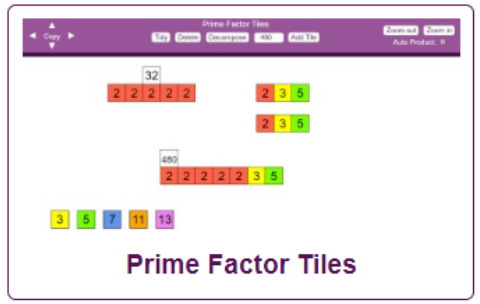

Pattern Blocks

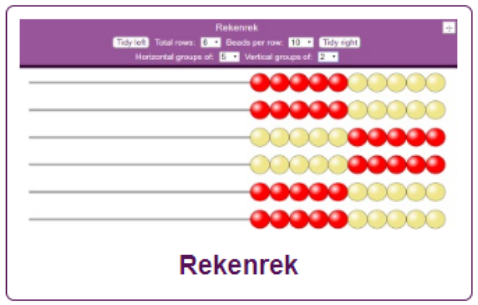

Pentominoes

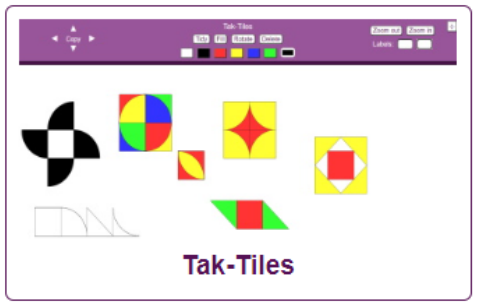

Place Value Cards

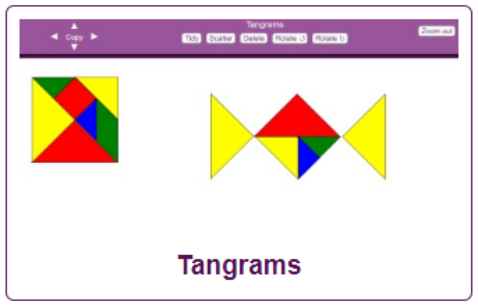

Place Value Counters

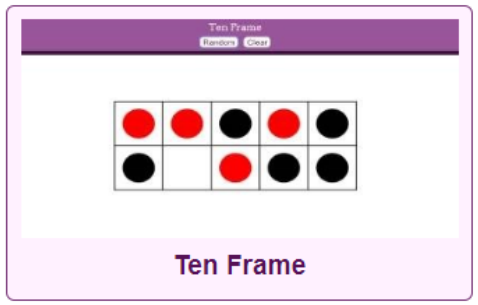

Place Value Dice

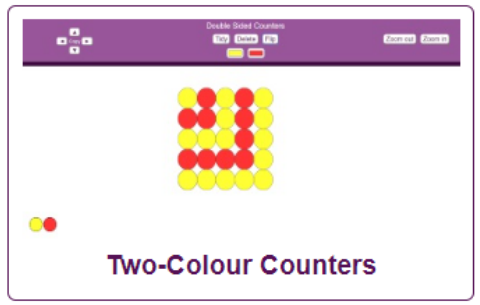

Prime Factor Tiles


Rekenrek


Tak-Tiles


Tangrams


Ten Frame


Two-Colour Counters

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Calculation Policy

https://st-nicolas-coe-va-primary-school.secure-primarysite.net/maths/

KEY STAGE 1		
Children develop the core ideas that underpin all calculation. They begin by connecting calculation with counting on and counting back, but they should learn that understanding wholes and parts will enable them to calculate efficiently and accurately, and with greater flexibility. They learn how to use an understanding of 10s and 1s to develop their calculation strategies, especially in addition and subtraction.		
Key language: whole, part, ones, ten, tens, number bond, add, addition, plus, total, altogether, subtract, subtraction, find the difference, take away, minus, less, more, group, share, equal, equals, is equal to, groups, equal groups, times, multiply, multiplied by, divide, share, shared equally, times-table		
Addition and subtraction: Children first learn to connect addition and subtraction with counting, but they soon develop two very important skills: an understanding of parts and wholes, and an understanding of unitising 10s, to develop efficient and effective calculation strategies based on known number bonds and an increasing awareness of place value. Addition and subtraction are taught in a way that is interlinked to highlight the link between the two operations. A key idea is that children will select methods and approaches based on their number sense. For example, in Year 1, when faced with 15 − 3 and 15 − 13, they will adapt their ways of approaching the calculation appropriately. The teaching should always emphasise the importance of mathematical thinking to ensure accuracy and flexibility of approach, and the importance of using known number facts to harness their recall of bonds within 20 to support both addition and subtraction methods. In Year 2, they will start to see calculations presented in a column format, although this is not expected to be formalised until KS2. We show the column method in Year 2 as an option; teachers may not wish to include it until Year 3.	**Multiplication and division:** Children develop an awareness of equal groups and link this with counting in equal steps, starting with 2s, 5s and 10s. In Year 2, they learn to connect the language of equal groups with the mathematical symbols for multiplication and division. They learn how multiplication and division can be related to repeated addition and repeated subtraction to find the answer to the calculation. In this key stage, it is vital that children explore and experience a variety of strong images and manipulative representations of equal groups, including concrete experiences as well as abstract calculations. Children begin to recall some key multiplication facts, including doubles, and an understanding of the 2, 5 and 10 times-tables and how they are related to counting.	**Fractions:** In Year 1, children encounter halves and quarters, and link this with their understanding of sharing. They experience key spatial representations of these fractions, and learn to recognise examples and non-examples, based on their awareness of equal parts of a whole. In Year 2, they develop an awareness of unit fractions and experience non-unit fractions, and they learn to write them and read them in the common format of numerator and denominator.

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School Website Videos

https://st-nicolas-coe-va-primary-school.secure-primarysite.net/curriculum-support-for-parents-1/

Addition & Subtraction

Home >> School Life >> Curriculum Support For Parents >> Addition & Subtraction

- Year 1: The Part Whole Model
- Year 1: Addition and Subtraction Within 10
- Year 2: Addition and Subtraction Within 100
- Year 2 :Addition and Subtraction
- Year 3: Developing Addition and Subtraction Skills
- Year 3: Formal Methods and Checking Strategies
- Year 4: Developing Strategies in Addition and Subtraction
- Year 5: Adding and Subtracting Numbers to 1,000,000
- Year 6: Problem Solving (Addition and Subtraction)

Multiplication & Division

Home >> School Life >> Curriculum Support For Parents >> Multiplication & Division

- Year 1: Introducing Multiplication
- Year 1: Introducing Division
- Year 2: Making Equal Groups and Using Arrays
- Year 3: Multiplication and Division
- Year 4: Building Multiplication and Division Understanding
- Year 4: Developing Strategies for Multiplication and Division
- Year 5: Developing Understanding of Multiples and Factors and Investigating Numbers
- Year 6: Developing Calculation Skills and The Order of Operations

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Numbots & TTRockstars

https://st-nicolas-coe-va-primary-school.secure-primarysite.net/home-learning/

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Things to do…

Complete the activities at home using the packs
Play cards or dominoes
Visit the school website to see the video
Use Numbots and TT Rockstars
Use Maths bot for resources
Watch Numberblocks
Complete the Feedback Questionnaire

Parent Maths Workshop Feedback

Any Questions?

Thank you!

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