



**Castle Rainbows
Assessment:
Maths**





Castle Assessment Levels:

Rainbows

To support the tracking of progress in Maths and English, we have developed our own Castle Assessment Levels.

We have called these Rainbow and Gemstone levels. This booklet will give you an overview of each Rainbow level, share the strategies we use to support learning in school and make some suggestions about how you can support your child with their learning at home.

There are additional booklets for English and Maths Gemstone levels.

Evidence for Learning helps us to gather evidence and links it to each of the criteria, so we can visually see progress. You can also share with us any evidence you have gathered at home via this platform.

Levels are also included in the Education Health and Care Plan paperwork.

If you would like more detailed information, please look at www.castleschool.info/assessingpupilprogress

Maths at Castle School

MULTISENSORY APPROACH FOR MATHS IN CASTLE SCHOOL

At Castle School, Primary Maths skills are taught through the context of familiar stories, where abstract maths ideas are introduced in a fun and 'imagined' way so that children are encouraged to think freely and learn creatively. Interventions have a maths mastery approach through play. Interventions develop maths strategies in three stages. Firstly, 'Concrete' using tactile (physical) objects that build on a child's existing understanding of maths and makes unfamiliar or abstract concepts such as fractions to life by allowing children to interact, solve problems by experiencing and handling concrete objects. For example, using real fruit for the story 'Handa's Surprise'. Secondly, the 'Pictorial' stage is using visual representations of concrete objects to model problems. Children are encouraged to make connections between the concrete objects and abstract concepts of math e.g., fractions and by 'seeing' the pictorial image, helps children to visualise the abstract problem and makes it more accessible and understandable. The final stage is 'Symbolic' or 'Abstract' stage. This is where children use abstract symbols such as $+ - = x$ to solve problems. This stage requires adult modelling of mathematical symbols and concepts using numbers, names and notations. It is the final stage of maths mastery where fluency and reasoning of maths skills are related from stories and applied to different contexts and everyday life. Teaching and learning maths in stories combine all three of these stages. The following ideas craft a powerful mental connection children make between concrete, pictorial and the abstract stages, whilst being attuned to the child's own learning style.



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Number:

- I can show response to number rhymes and songs e.g. anticipation.
- I can show response to changing rhythms such as starting and stopping.
- I can look, feel, grasp, squeeze, reach for, release and cast a range of objects.
- I can show awareness of the difference between one or lots from a range of sensory stimuli.
- I can react to changes of amount when those amounts are significant (more than double).

Spatial awareness, space, pattern and measure:

- I can explore space when I am free to move, roll and stretch.
- I can develop an awareness of my own body, that my body has different parts and where these are in relation to each other.
- I can explore through play differently sized and shaped objects.
- I can begin to put objects inside others.
- I can show interest in patterned songs and rhymes, perhaps with repeated actions.

Red

Activities to support Maths skills

Number:

- Sing number songs and rhymes, e.g. 1,2,3,4,5 once I caught a fish alive, 2 little dicky birds, 5 currant buns, 5 little speckled frogs, 5 little men in a flying saucer, 5 little monkeys, 5 little ducks, 1 little elephant went out to play, Ten in a bed, Ten green bottles, Zoom zoom zoom, we're going to the moon.
- Clapping games – can you copy the pattern or make up your own? Start and stop on a signal.
- Provide a range of objects to explore in different ways. Provide some in groups and some on their own.

Spatial awareness, space, pattern and measure:

- Explore body parts through songs and games, e.g. Head, shoulders, knees and toes.
- Explore space by moving in different ways – rolling, sliding, stretching, up, over, along, through, etc.
- Explore different sized, shaped and textured toys.
- Stack cubes, put objects in boxes.
- Order toys by size, shape, texture and colour.



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- I can experience patterned objects and images.
- I can begin to predict what happens next in predictable situations.
- I can respond to size, reacting to very big or very small items that I see or try to pick up.

Number:

- I can explore collections of objects.
- I can find/match (by eye pointing, gesture...) objects that are 'the same' from a selection of 2.
- I can be aware of number names through my enjoyment of action rhymes and songs that relate to numbers.
- I can look for things which have moved out of sight.

Spatial awareness, Space, Pattern and Measure:

- I can reach to touch and begin to explore big and small objects.
- I can explore space around me and engage with position and direction, such as pointing to where I would like to go.
- I can stack objects using flat surfaces.

Activities to support Maths skills

- Provide objects and toys that have different colours, textures, sizes and shapes to explore.
- Look at and explore patterns on items such as clothing and wrapping paper.

Number:

- Explore collections of objects.
- Matching games with objects – find 'the same'
- Sing action rhymes and songs that relate to numbers , e.g. 1,2,3,4,5 once I caught a fish alive, 2 little dicky birds, 5 currant buns, 5 little speckled frogs, 5 little men in a flying saucer, 5 little monkeys, 5 little ducks, 1 little elephant went out to play, Ten in a bed, Ten green bottles, Zoom Zoom Zoom, we're going to the moon.
- Play hiding games and look for things which have moved out of sight.
- Stack objects such as bricks and blocks.

Orange



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- I can respond to changes of shape.
- I can begin to put objects of similar shapes inside others and take them out again.
- I can anticipate meaningful events in response to object / song of reference.
- I can join in with repeated actions in songs and stories of my interest.
- I can continue repeated actions using preferred mode of communication.
- I can show an interest in objects of contrasting sizes in meaningful contexts.
- I can enjoy daily routine.
- I can show an interest in emptying containers.

Number:

- I can create a collection of objects in play showing awareness of contrasting quantities.
- I can find/match (by eye pointing, gesture...) photos of objects that are 'the same' from a selection of 2.

Activities to support Maths skills

- Explore collections of objects that have different sizes, shapes, colours and textures.
- Play games which involve sorting and stacking objects and putting objects inside each other.
- Use shape sorting jigsaws or shape sorting toys in play.
- Use containers to fill and empty with objects or water.
- Join in with repeated actions in songs and stories.
- Copy and continue actions from songs and rhymes.
- Use a visual timetable to map out daily routines.

Number:

- Create collections of objects to play with. Find out how many.
- Cut out photos and pictures from magazines of the same and different objects and use these to

Orange

Yellow



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- I can respond to words like lots or more.
- I can say some counting words using preferred mode of communication.
- I can engage in counting-like behaviour, making sounds and pointing or saying some numbers in sequence.
- I can use number words, like one or two and sometimes respond accurately when asked to give one or two things.

Spatial awareness, Shape, Pattern and Measure:

- I can explore the form of objects.
- I can move blocks/objects with purpose.
- I can enjoy filling and emptying containers.
- I can investigate fitting myself inside and moving through spaces.
- I can sort objects which are the same.
- I can use my eye / hand points to direct the actions of another to put shapes into matching space.
- I can push objects through different shaped holes and attempts to fit shapes into spaces on inset boards or puzzles.
- I can attempt, sometimes successfully, to match shapes with spaces on inset puzzles.

Yellow

Activities to support Maths skills

- Use mathematical vocabulary when cooking and eating – lots, more.
- Count objects and sounds by pointing or counting on fingers, using number words and gestures.

Spatial awareness, Shape, Pattern and Measure:

- Collect and explore groups of objects that have different sizes, shapes, colours and textures.
- Play games which involve sorting and stacking objects and putting objects inside each other.
- Use containers to fill and empty with objects or water.
- At the park or at home, explore going in and out of obstacles, using words such as inside, outside, on, in, out, above, along, through, etc.
- Use puzzles and 3D shapes to explore fitting objects together and into gaps.



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Activities to support Maths skills

- I can begin to select a shape for a specific space.
- I can enjoy using blocks to create my own simple structures and arrangements.
- I can correctly identify object / song of reference for part of school day.
- I can show negative / positive response to unplanned events.
- I can copy a simple repeated pattern of objects or sounds.
- I can get to know and enjoy daily routine.
- I can initiate and continue repeated actions.
- I can begin to arrange items in my own patterns, e.g. lining up toys.
- I can explore objects of different sizes, weights and lengths.
- I can show an interest in size and weight.
- I can explore capacity by selecting, filling and emptying containers, e.g. fitting toys in a pram.
- I can begin to understand that things might happen now or at another time, in routines.

Yellow

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- Use Lego, shapes and building blocks to make models and patterns.
- Follow simple instructions to make or continue a pattern or model.
- Use toys to group, sort, order and line up in different ways.
- Make up and copy a simple repeated pattern of objects or sounds.
- When cooking and playing, look at and compare the size and weight of objects.
- Use jugs and containers at bathtime and in everyday play to fill and empty with water or objects.
- Make a daily routine / 'now, next' chart using pictures or photos.



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Activities to support Maths skills

Number:

- I can find / match (by eye pointing, gesture....) picture symbol / photo 'the same' from a selection of 2.
- I can begin to compare and recognise changes in numbers of things, using words like more or lots.
- I can begin to say or indicate numbers in order, some of which are in the right order (ordinality).
- I can join in rote counting to 5.
- I can, in everyday situations, take or give two or three objects from a group.
- I can begin to notice numerals (number symbols).
- I can begin to count on my fingers.

Spatial awareness, Shape, Pattern and Measure:

- I can move my body and toys around objects and explore fitting into spaces.
- I can begin to remember my way around familiar environments.
- I can begin to respond to some spatial and positional language (e.g. up, down, near, far, top, middle and bottom).
- I can explore how things look from different viewpoints including things that are near or far away.
- I can choose puzzle pieces and try to fit them in.

Green

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Number

- Play snap or matching games from objects, pictures or photos. Say 'same' or 'different'.
- At mealtimes, use the words 'more' and 'lots' to compare amounts.
- Look for numbers in the environment – on signs, doors, car number plates, buses, etc.
- Use fingers to point and count everyday items.
- Use dice or dominoes to count and match the dots.
- Collect groups of objects and ask your child to give you 2 or 3 from the group. Count them as they give them to you.

Spatial awareness, Shape, Pattern and Measure:

- Make an obstacle course at home or at the park, to move toys or your body.
- When playing and building, use positional language such as up, down, near, far, top, middle and bottom.
- Play with puzzles and toys that involve turning, rotating and fitting pieces into gaps.
- Look at objects from different angles – draw or take photos to compare. Find pictures or photos of similar objects in magazines to compare.



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- I can recognise that two objects have the same shape, indicated by preferred mode of communication.
- I can make simple constructions.
- I can respond to cues for now and next.
- I can show a negative / positive response to finishing.
- I can join in with and predict what comes next in a story or rhyme.
- I can join in with and anticipate repeated sound and action patterns.
- I can show interest in what happens next using the pattern of everyday routines.
- I can use preferred mode of communication to indicate big or small.
- I can explore differences in size, length, weight and capacity.
- I can begin to anticipate times of the day such as mealtimes or home time.

Green

Activities to support Maths skills

- Go on a shape hunt – find shapes that are the same and different. What makes them the same or different?
- Collect objects to compare and group according to shape, size, length or weight.
- Make models and patterns from 2D and 3D shapes.
- Use measuring tools such as rulers and scales to measure and compare items at home and in the garden.
- Sing songs and rhymes. Encourage your child to join in with and anticipate repeated sound and action patterns.
- Make a daily routine / ‘now, next’ chart using pictures or words. Remove pictures when events have happened.
- Use songs or object cues (e.g putting bag by the door) to show what is happening next.



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Number:

- I can find / match (by eye pointing, gesture...) photos of objects showing 'the same' from a selection of 2 with communicated support.
- I can compare two small groups of up to five objects, saying / communicating when there are the same number of objects in each group, e.g. You've got two, I've got two. Same!
- I can enjoy counting verbally / by other means as far as I can go.
- I can point or touch (tags) each item, saying / communicating one number for each item, using the stable order of 1, 2, 3.
- I can use some number names and number language within play, and may show fascination with large numbers.
- I can begin to recognise numerals 0 to 3.
- I can subitise one, two and three objects (without counting).
- I can count up to five items, recognising that the last number said represents the total counted so far (cardinal principle).

Blue

Activities to support Maths skills

Number:

- Play matching games. Find and match (by eye pointing, gesture...) pictures or photos of objects.
- Play snap games with numbers or objects, e.g. 'You've got two, I've got two. Same!'
- Count verbally or by other means such as on fingers as far as you can go.
- Count by pointing or touching each item, saying / communicating one number for each item, using the stable order of 1, 2, 3.
- How many? Use number names and number language within play.
- Play subitising games, how many (without counting).
- Use card, dice and domino games to identify and match amounts shown.
- Show a mix of concrete objects



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Activities to support Maths skills

Number:

- I can link numerals with amounts up to 3 and maybe beyond.
- I can explore using a range of their own marks and signs to which I ascribe mathematical meanings.
- I can, through play and exploration, begin to learn that numbers are made up (composed) of smaller numbers.
- I can begin to use understanding of number to solve practical problems in play and meaningful activities.
- I can begin to recognise that each counting number is one more than the one before.
- I can separate a group of 2 or 3 objects in different ways.



Blue

Number:

- Use chalk, playdough, pencils, etc. to make marks and signs and talk about the mathematical meanings.
- Use small objects to count and split up into groups to see that numbers are made up (composed) of smaller numbers.
- Solve practical problems in play and activities such as cooking. How many do we need?
- What comes next? Say a sequence of numbers and see if your child can say the next number.
- Collect groups of 2 or 3 objects (conkers, leaves, twigs, etc.) and group them in different ways.



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Activities to support Maths skills

Spatial awareness, Shape, Pattern and Measure:

- I can begin to use simple language of position and direction, using preferred mode of communication.
- I can predict, move and rotate objects to fit the space or create the shape I would like.
- I can rearrange items when category is changed e.g. rearrange items from colour to type of transport.
- I can choose items based on their shape which are appropriate for the child's purpose.
- I can recognise some common 2D and 3D shapes.
- I can respond to informal language related to shapes.
- I can show awareness of shape similarities and differences between objects.
- I can enjoy combining shapes to make new shapes with 2D and 3D shapes.
- I can attempt to create arches and enclosures when building, using trial and improvement to select blocks.
- I can extend or create a simple repeated pattern.
- I can create my own spatial patterns showing some organisation or regularity.
- I can answer direct questions about what happens next using the pattern of everyday routines.

Blue

Spatial awareness, Shape, Pattern and Measure:

- Use language of position and direction: up, down, left, right, forwards, backwards when going on a journey, playing at the park or with toys.
- Use Lego or 3D shapes to predict, move and rotate objects to fit into a space or create shapes.
- Group toys, e.g. cars in different ways, e.g. by colour or type of transport.
- Look for some common 2D and 3D shapes when out and about. Talk about what is the same / different.
- Use 2D and 3D shapes to make patterns and combine shapes to make new shapes.
- Use building blocks to create bridges, arches and enclosures, using trial and improvement to select blocks.
- Use beads, paints and stampers to extend or create a simple repeated pattern.
- Make a pattern and talk about what is the same / different. Predict what might come next.



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- I can explore and add to simple linear patterns.
- I can recall a sequence of events in everyday life and stories using preferred mode of communication.
- I can show some familiarity with the names of the days of the week.
- I can explore simple measures of time e.g. sand timers.
- I can, in meaningful contexts, find the longer or shorter, heavier or lighter and more or less full of two items.
- I can indicate full and empty using preferred mode of communication.
- I can begin to talk / communicate about the properties of an object e.g. heavy, long.
- I can begin to understand some talk about immediate past and future.

Blue

Activities to support Maths skills

- Draw patterns or make patterns from beads. Explore and add to simple patterns.
- Draw or write about things you do at home.
- Recall a sequence of events in everyday life and stories. Talk about what has happened in the past and what might happen in the future.
- Keep a diary or calendar at home. Talk about the names of the days of the week.
- Explore simple measures of time e.g. sand timers, stop watches, clocks.
- When doing activities such as cooking, use language such as full, empty, heavy, long.
- Find the longer or shorter, heavier or lighter and more or less full of two items.



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Activities to support Maths skills

Number:

- I can use concrete resources to show that amounts are different or the same.
- I can start to show an understanding of relative size and solve simple problems (e.g. "Do you have more red blocks or blue blocks?")
- I can enjoy reciting numbers from 0 to 5 (and beyond) and back from 5 to 0.
- I can be increasingly confident at putting numerals in order 0 to 5 (ordinality).
- I can engage in subitising numbers to four and maybe five.
- I can count out up to 5 objects from a larger group with some accuracy.
- I can match the numeral with a group of items to show how many there are (up to 5).
- I can, through play and exploration, show awareness that numbers are made up (composed) of smaller numbers.
- I can separate a group of 4 or 5 objects in different ways, beginning to recognise that the total is still the same.
- I can, in practical activities, use concrete resources to add and subtract one.
- I can begin to explore simple mathematical problems, using strategies of my own choice, including (when appropriate) standard numerals, tallies and other concrete / pictorial



Indigo

Number:

- Use objects to compare amounts that are different or the same.
- Play games with Lego or blocks and talk about the amounts e.g. "Do you have more red blocks or blue blocks?"
- Count numbers from 0 to 5 (and beyond) and back from 5 to 0. Cut out number cards and put the numbers in order.
- Use a variety of objects to subitise numbers (see the number without counting) to four or five.
- Make collections of objects and ask your child to count out and give you up to 5 objects from the group.
- Cut out number cards and match the numeral with a group of items to show how many there are.
- Separate a group of 4 or 5 objects into groups in different ways, notice that the total is still the same.
- Use real objects to add and subtract one.
- Use counting songs and rhyme to add and subtract one, e.g. 10 little ducks, 10 green bottles, 5 little speckled frogs, 10 fat sausages.
- Use dice or dominoes to compare and match the same numbers.



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Spatial awareness, Shape, Pattern and Measure:

- I can investigate turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning).
- I can use spatial language, including following and giving directions using relative terms and describing what I see from different viewpoints in preferred mode of communication.
- I can enjoy making simple maps of familiar and imaginative environments, with landmarks.
- I can use informal language and analogies, (e.g. heart shaped and hand shaped leaves) to describe shapes in preferred mode of communication.
- I can enjoy composing and decomposing shapes, learning which shapes combine to make other shapes.
- I can, with guidance, build models, selecting on my own the blocks needed.
- I can start to recall a sequence of events in everyday life and stories.
- I can join in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next.

Indigo

Activities to support Maths skills

Spatial awareness, Shape, Pattern and Measure:

- Use jigsaw puzzles and 3D building blocks to predict which shapes will fit together and fill gaps.
- Cut out shapes from wrapping paper and newspapers. Use the 2D shapes to make pictures and patterns.
- On journeys, talk about the directions you take. Make maps of journeys you take. Add landmarks that you see on the way.
- Take photos of objects from different angles.
- Use pictures and photos of objects from different angles to predict what an object is.
- Sing songs and rhymes with repeating patterns, make music using everyday objects.
- Invent a dance that follows a sequence - can they continue the sequence?



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Spatial awareness, Shape, Pattern and Measure:

- I can spot patterns in the environment.
- I can choose the correct objects to recreate a repeating AB pattern.
- I can enjoy tackling simple problems involving comparisons of length, weight or capacity.
- I know there are different coins and notes.
- I can, through play, show interest about familiar measuring tools.
- I am increasingly able to order and sequence events using everyday language related to my own timetable.
- I can begin to experience measuring time with timers.

Indigo

Activities to support Maths skills

Spatial awareness, Shape, Pattern and Measure:

- Look for patterns around the house and outside.
- Make patterns using beads, Lego or natural objects, repeat and continue the pattern.
- When playing or cooking, make comparisons of length, weight and capacity. Use measuring scales and jugs to check.
- Set up a workshop with toy tools. Use scales, rulers and tape measures to fix or make things.
- Play shops. Use real or plastic coins to pay for items. Work out the change needed.
- Talk about your day and sequence the events that took place.
- Use sand timers or digital timers when carrying out a task.



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Number:

- I can verbally count to and beyond 10, recognising the pattern of the counting system.
- I can compare quantities up to 10 in different practical contexts (recognise 'more' and 'less').
- I can subitise (recognise quantities without counting) up to 5.
- I can read and write numbers to 10 in numerals.
- I can identify and represent numbers to 10 using objects and pictorial representations including the number line.
- I can explore and represent patterns within numbers up to 10.
- I can, given a number to 5, identify one more and one less.
- I can start to recall (with reference to rhymes, counting or other aids) number bonds up to 3.
- I can use ordinal numbers - 1st, 2nd, 3rd, to describe position.
- I can solve simple problems involving repeated addition, such as $2 + 2 + 2$.
- I can group objects into equal sets.
- I can understand and demonstrate practically that division is the process of splitting into equal groups.



Violet

Activities to support Maths skills

Number:

- Count objects to and beyond 10.
- Use the words 'more' and 'less' to compare quantities.
- Subitise (recognise quantities without counting) objects up to 5.
- Read and write numbers to 10 in numerals, with pictures and on a number line.
- Look for patterns within numbers up to 10. For example, which numbers can be split in half? Which numbers are odd?
- Say a number to 5 and identify one more and one less. Sing songs and rhymes that count up or down.
- Play games or have a race and use ordinal numbers - 1st, 2nd, 3rd, to describe position.
- I can solve simple problems involving repeated addition, such as $2 + 2 + 2$.
- Collect objects and group them into equal sets.
- Have a tea party and share items of food into equal groups.



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Activities to support Maths skills

Shape, Space and Measure:

Geometry:

- I can show interest in common 2D shapes and their mathematical names.
- I can use my own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what I will build.

Measures:

- I can use nonstandard units to measure length.
- I can compare weight – Heavy / Light
- I can compare length - Big / Small
- I can compare capacity – Full / Empty

Money:

- I can understand that money is used in exchange of goods (e.g. class cafe).
- I can recognise and know the value of different denominations of coins and notes.

Time:

- I can start to recognise and use language relating to dates, and my own timetable.
- I can compare time – Fast/ Slow.

Violet

Shape, Space and Measure:

- Use 2D and 3D shapes to make pictures and models.
- Use rulers and tape measures to measure objects around the house. Which are bigger / longer / shorter, etc.
- Use weighing scales and measuring jugs when cooking or comparing the weight or capacity of objects.
- Play shops – collect items to sell and use coins to buy them and work out the change. Use real or toy money to pretend to be a customer or shopkeeper.
- Find coins to make coin rubbings.
- Use a calendar or diary to find out the day and date.
- Use timers to see how long things take to do.



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Pattern:

- I can choose familiar objects to create repeating patterns – AB.
- I can continue simple patterns using pictorial representations and sometimes numbers - (AB).

Statistics:

- I can count the total number of objects that fit a single criterion. (Up to 10).
- I can record using marks / pictures / numbers and start to talk about what they mean.
- I can talk about which stack of cubes has the most / least when using them as a voting system.
- I can sort objects by one criterion, such as all red objects or all round objects.

Violet

Activities to support Maths skills

Pattern:

- Make and continue simple patterns using beads, paints or stampers.
- Choose familiar objects to create and continue repeating patterns.

Statistics:

- Count items and record the total using tally marks / pictures / cubes / numbers - talk about what they mean.
- Make stacks of cubes and talk about which stack of cubes has the most / least when using them as a voting system.
- Sort objects or toys into groups such as all red objects or all round objects.