Reception

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Reception

Since our Year 1 to Year 6 Schemes of Learning and overviews have been released we have had lots of requests for something similar as a starting point for Reception. This document provides activities for adults to use in whole class sessions, group work or in areas of provision. We really hope you find it useful and use it alongside your own planning.

We had a lot of people interested in working with us on this project and this document is a summary of their work so far. We would like to take this opportunity to thank everyone who has contributed their thoughts to this final document.

If you have any feedback on any of the work that we are doing, please do not hesitate to get in touch. It is with your help and ideas that the Maths Hubs can make a difference.

The White Rose Maths Hub Team

Guidance

The Reception overview has been split into number and shape, space and measure. Each section starts with the ELG. The development matters statements are used to break the ELGs down into smaller steps. This is to support our ethos of spending longer on some topics to ensure children have a deep understanding before moving on to the next topic. Each development matters statement has activity ideas that can be modelled in whole class sessions or placed in provision areas for children to access independently. Words in italics are suggestions for adults to say to encourage children to reason. This document fits in with the White Rose Maths Hub Year 1 – 6 Mastery documents.

If you have not seen these documents before you can register to access them for free by completing the form on this link http://www.trinitytsa.co.uk/maths-hub/free-learning-schemes-resources/

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Everyone Can Succeed

As a Maths Hub we believe that all students can succeed in mathematics. We don't believe that there are individuals who can do maths and those that can't. A positive teacher mindset and strong subject knowledge are key to student success in mathematics.

More Information

If you would like more information on 'Teaching for Mastery' you can contact the White Rose Maths Hub at mathshub@trinityacademyhalifax.org

We are offering courses on:

- Bar Modelling
- Teaching for Mastery
- Year group subject specialism intensive courses – become a maths expert.

Our monthly newsletter also contains the latest initiatives we are involved with. We are looking to improve maths across our area and on a wider scale by working with the other Maths Hubs across the country.

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Acknowledgements

The White Rose Maths Hub would like to thank the following people for their contributions, and time is the collation of this document:

Sally Smith
Simone Gonzalez-Hill
Tina Walker
Alex Leeman
Nicola Carter
Jennifer Briedis
Debra Greenwood
Sarah Barker
Gemma Heap
Ellen Cooper

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Reception Overview

Year	Reception

Numbers

Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

- Recognise some numerals of personal significance.
- Recognises numerals 1 to 5.
- Counts up to three or four objects by saying one number name for each item.
- Counts actions or objects which cannot be moved.
- Counts objects to 10, and beginning to count beyond 10.
- Counts out up to six objects from a larger group.
- Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.
- Counts an irregular arrangement of up to ten objects.
- Estimates how many objects they can see and checks by counting them.
- Uses the language of 'more' and 'fewer' to compare two sets of objects.
- Finds the total number of items in two groups by counting all of them.
- Says the number that is one more than a given number.
- Finds one more or one less from a group of up to five objects, then ten objects.
- In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.
- Records, using marks that they can interpret and explain.
- Begins to identify own mathematical problems based on own interests and fascinations.

Shape, space and measures

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore 12 characteristics of everyday objects and shapes and use mathematical language to describe them.

- Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2-D shapes, and mathematical terms to describe shapes.
- Selects a particular named shape.
- Can describe their relative position such as '*behind*' or '*next to*'.
- Orders two or three items by length or height.
- Orders two items by weight or capacity.
- Uses familiar objects and common shapes to create and recreate patterns and build models.
- Uses everyday language related to time.
- Beginning to use everyday language related to money.
- Orders and sequences familiar events.
- Measures short periods of time in simple ways.

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Term by Term Objectives

Reception

ELG	Objective	All students Example tasks
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Recognise some numerals of personal significance	• Look at a selection of birthday cards with large numbers on the front. *Can you find how old you are? Which one will you have next year? Which one did you have last year? What is happening to the numbers?* • Sort a range of birthday cards to find ages of family members. *How old is your brother? Can you pick out the card for his age? How is this number different to yours?* • Order birthday cards on a number line. *There is a card missing. Can you tell me which one it is? How do you know? Can you create a card to add in?* • Bake a cake for a class toy or a child and put numeral candles on top – leave a challenge in the playdough area for them to make a cake for someone of a specific age. *Kevin is four and has a younger brother. It's Kevin's brother's birthday today. Make different cakes to show what age he could be.* • Go on a walk to look at numbers in the environment and take photographs e.g. number plates, doors, clocks. Give the children a tally chart back in class to find a range of numbers in the classroom. *Which number was found the most? Which number was found the least?* • *I can see the number 4 in our classroom. Am I correct?* Once modelled by an adult, children could do this as a game together. • Children bring pictures of their house number in from home (taken on camera / drawn). Have images hidden all around the classroom – *can you find your own door number? What number house would live next door to you?*

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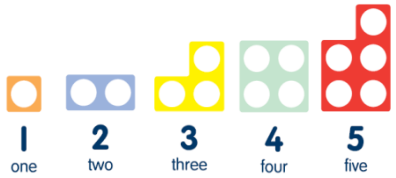
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Recognises numerals 1 to 5	• *Jenifer holds up this card (*hold up card with 5 on it*). She says it is three. Is she correct? Why not? Can you show Jenifer which is five?* • Give the children a numeral card (with Numicon image to support). Go on a treasure hunt to find that number of objects. *I have 2 pens but need this number* (show card with 4 on it). *Can anyone help me make this number?*  • Hide some numerals outside. Children run to find a numeral – *can you find a partner with the same numeral? Can you say which number you have found? Can you group yourselves with the same number? Does each group have the same amount of children?* • Write numerals with chalk in various hoops. Children run around and jump in the correct numeral when shouted. Hold up different amounts of objects to represent a number too. *Can you gather the correct amount of objects for this numeral and take this to your hoop?* • *I can see the number 3 in our classroom. Am I correct?* Once the teacher has modelled this, children could do this as a game in pairs. • Self-registration – children match name to self-chosen number. • Label bikes with numbers. Children park bike to correct numbered bay. Park one incorrectly. *Can you help me? Why is this wrong?*

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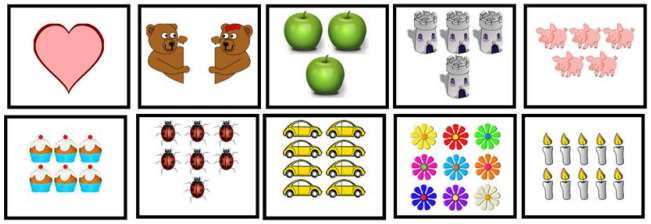
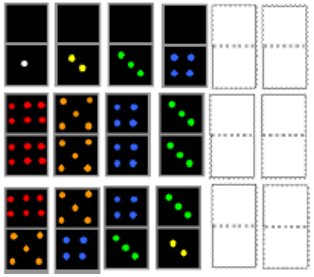
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Counts objects to 10, and beginning to count beyond 10.	• Mix up cards with different objects on from 1 object to 10 objects. *Can you arrange them from smallest to largest? Largest to smallest? Find one less than 7? How do you know you have 6? Can you show me 6 another way?*  • Dinosaur hunt! *Can you find the group of 8 dinosaurs?* Ask children to bring the different groups to the carpet and order them. *How many different ways can you order them?* • Play a game of dominoes. To extend: *What comes next in each of these sequences?*  • Sing: 1,2,3,4,5 once I caught a fish alive with images of fish. 5 currant buns in a bakers shop with images of buns. • In construction area set a challenge to create different structures using exactly 20 bricks.

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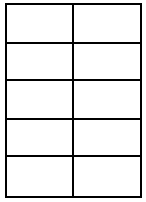
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.	• Using Numicon, *can you find the correct numeral to match the tile?* • Bingo cards with Numicon or sets of objects – *can you match the correct picture to numeral?* • Children match a numeral to several towers of bricks ranging from 1-10. Give the children a wide range of numerals to select from (not just 1-10) • Provide dominoes/ domino cards/ Numicon and also numeral cards – children match them up. • Play snap! Children are given the same amount of cards (with pictorial representation and numerals on). They turn them over one at a time. If two cards, that are equal, are placed down in a row you can put your hand on top and shout 'snap'. • Play pairs. The cards are face down and children can turn them over two at a time. If they find a matching pair, they can keep it. • Here is a ten frame.  *Use the counters to make 5* *Is this the only way you can represent 5?* *How many ways can you find?* To extend: *Can you record the different ways?*

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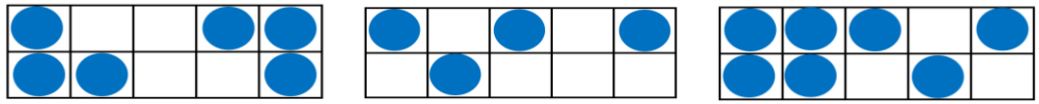
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Estimates how many objects they can see and checks by counting them	• Flash a ten frame on screen for a second or longer if needed with part or all filled in. Give children counters and a ten frame. They build their ten frame so it looks identical to the one they saw on screen.  • Place items on tray. In teams, label children a number. Call one number up at a time to come and look at the contents of the tray for 5 seconds. They return to their group and begin to create what they saw on the tray. Call another number to have a look. Repeat until all numbers have seen the tray. *Does your tray look identical to another group's tray? How many items do you have altogether?* • Cut out different shapes. *How many toys* (e.g. plastic superheroes) *do you think can fit into the circle? Will this be more or less than the triangle? Why do you think this? What will be difficult in this task? Do you have a strategy?* • *I need 12 bricks to build a house. Do I have enough? How do you know?*

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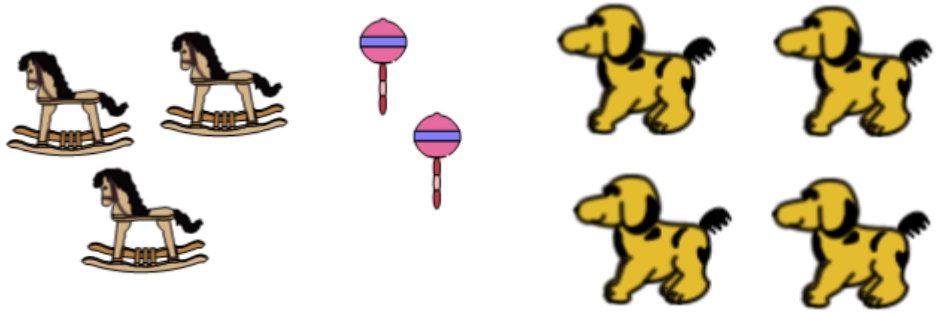
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Uses the language of 'more' and 'fewer' to compare two sets of objects	• *Which group has more/fewer? Can you order them and explain how you have ordered them?*  • Challenge question each day on a mini whiteboard. Have two baskets with possible answers. Each child puts their name in the basket they think is the right answer. *Can you find out whether there are more girls or boys here today? Are there more jumpers or cardigans today? Are there fewer skirts or trousers today?* To extend: *Which number is 1 more than 3?* Have two options; 2 and 4. Place someone's name (teachers/made up child) in the wrong box. *Can you explain to teacher why this is not right?* • True or false? – *There are fewer girls here today. Prove it*. • Have a challenge table with 2 sets of objects. *There are fewer apples than oranges – yes or no? Prove it.* • Use a pan balance to introduce concept of balance as equal, down as more and up as less. Frame questions to include the target language e.g. place 2 cubes on one side and 5 on the other. *Which is more/which is less?* Children find classroom / seasonal objects to place on one pan. *How many cubes are needed to balance it?* When the pans are not balanced ask the children *do you need to add more or fewer cubes to a side to make it balance?*

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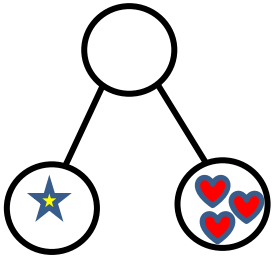
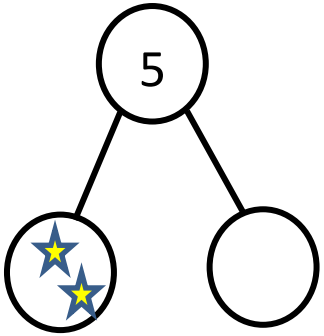
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Finds the total number of items in two groups by counting all of them	• Adult makes a deliberate error e.g. adult takes 2 dinosaurs and 3 fairies and says *I have 4 objects altogether – am I right? Can you suggest a way to count them so I don't make a mistake next time? Is this the only way to count them?* • Teacher suggests a target total *'I want to have 5 spots altogether on this ladybird'.* Invite the children to show different ways of making up the number 5 on two sides of a ladybird template. *Have we found all of the ways to make 5 spots?* • Teacher asks for 4 objects altogether but from two different sets e.g. *can you bring me some classroom items in one hand and different objects in the other hand but 4 altogether?* • Use a part-whole model and demonstrate moving the two parts together to count the whole.  Share the whole and one part. *How can we work out what the other part was? What can we do to check this?* 

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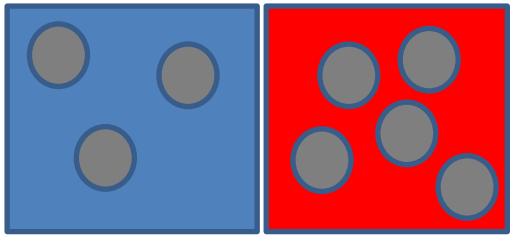
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting	• Provide a visual stimulus for partner discussion e.g. make a background of two colours and put different number of objects on each side  *What's the same? What's different? How could you make each side the same?* To support: use prompts such as *I can see 3 pebbles on the blue side and 5 on the red side. I could add 2 more to the blue side to make it the same* To extend: use questions such as *My friend said there used to be 4 pebbles. What could the original picture look like? What can you do to make it look how it used to?* • When lining up suggest children sit back down or join the line. *Are we adding to the line? Are taking away from the line? Will the line get bigger? Will the line get smaller? How many will be in the line if everyone sits down?* Create a problem: *– I promised my mum 5 buns but I have eaten 3. I don't know what to do. Can you help me?* *– Everyday my mum adds a 1p and a 2p to my savings tin. What is happening to my money? What is the easiest way to count my money?* To extend: *When I checked my tin after 4 days, I had this money* (show a mistake in Dad's giving of money e.g. five 2p and four 1p or four 2p and three 1p). *What mistake has my Dad made? How can I correct it?* *– How many ways can you arrange the spots on the butterflies wings? How many spots does the butterfly have altogether?* 

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Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Records, using marks that they can interpret and explain.	• *How many children are here today?* (You may do this in smaller groups so the numbers are 20 or below) *Can you organise the children so they are easy to count? Can you record this amount and explain what you have done?* To extend: *Can you edit you drawing/recordings to show me how many are girls and how many are boys?* To support: Give all the children's pictures to a child. *Can you organise them into girls and boys? Can you draw the girls and count how many are here?* • Split the class/group into two teams. Do a quiz and ask for one child to record the points. Ask for them to share who has the most points at the end. • Have a 'question of the day' on big sheets of paper for children to answer throughout the day. Schedule a time every day to look at the answers. *Can anyone tell me what this means? Do you agree? Why? Would you record it differently? Can you show the class?*

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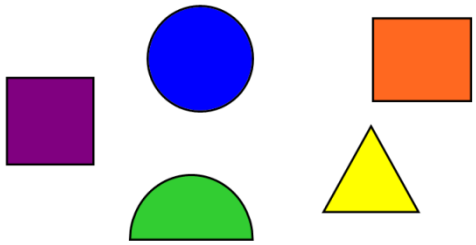
Term by Term Objectives

Reception

ELG	Objective	All students Example tasks
Shape, space and measures **Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore 12 characteristics of everyday objects and shapes and use mathematical language to describe them.**	Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes.	• *Can you find all the shapes with straight sides? Can you find any more shapes that have straight sides in the room? Can you describe one of the shapes for your friend to find?*  • Bake cookies. *We need 5 cookies for teddy. He likes square cookies. Which cutter do we need? Can you cut 5 cookie shapes out?* Enhance the playdough provision with cookie cutters of various shapes. • Put a sound button (recording) in the playdough area. *The shape I want you to make today has 3 sides and 3 corners – can you make it? Show your shape to someone else. Do they know what it is?* • On a maths walk, ask children to talk about the shapes they can see in their surroundings. Take pictures and print them out. *Organise the shapes and explain how you have organised them.* • With appropriate picture books / whiteboard picture stories, ask the children to stop you and tell you when they spot a particular named shape. Make shapes with string and have them on the carpet for when the children come in. Discuss the mystery shapes without actually telling the children the names. *What do you notice about the mystery shapes? Can you construct your own?*

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