Reception

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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/

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.

mathshub@trinityacademyhalifax.org

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

MathsHUBS White Rose

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.

mathshub@trinityacademyhalifax.org

Term by Term Objectives

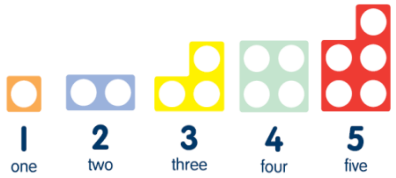
Reception

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?*

mathshub@trinityacademyhalifax.org

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.**	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?*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	Counts up to three or four objects by saying one number name for each item	• Show a selection of Duplo brick walls with a variety of number of bricks. *Can you continue building the model that has four bricks? Choose the smallest brick wall – how many bricks does it have? Is it possible to make a smaller one? How many bricks could it have?* • 4 boxes labelled with numerals 1-4 and a symbol e.g. Numicon/dots. Children put the correct number of items in the box and prove it by counting. • Play skittles. *How many skittles have you knocked over? My friend has 1 red skittle and 3 blue skittles. She knocks them all down. How many skittles does she knock down?* • Throw beanbags into a hoop. *How many are in the hoop? How many are not in the hoop? Can you get them all in?* • One child finds Numicon in feely bag and identifies number by counting not looking. Partner has to build a tower with correct number of bricks. *Are they the same?* (If not) *Can you make them the same?* • Label 5 pipe cleaners with numerals 1-5 and have some beads in a pot. Children thread the correct number of beads onto the right pipe cleaner. • *Count the toy cars.* Once children have counted them, swap two of them. *There is a different amount now. Do you agree? Explain why.* • Have 3 items on the table. *There are 4 items here. I know this because I counted them. 1, 2, 4* *Have I made a mistake. Can you explain my mistake?*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

Term by Term Objectives

Reception

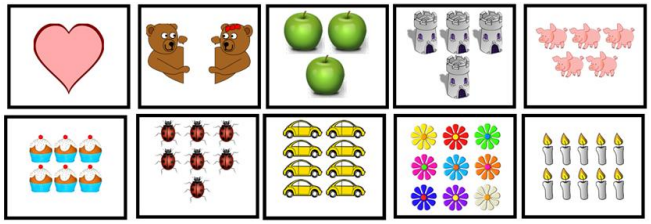
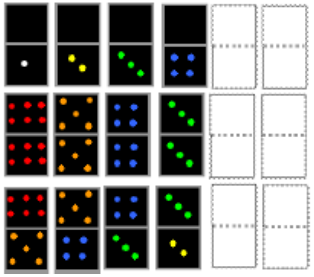
ELG	Objective	All students
		Example tasks
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Count actions or objects which cannot be moved	• *Think of a number and say it to your partner. Can your partner do that amount of star jumps? Are they correct? Can your partner think of a number for you?* • Children to work in pairs. Give each child a bag with numerals and Numicon 1 – 5 in. Child A chooses a numeral or Numicon and keeps it hidden. They bang a drum (or hop/clap/skip) the correct number of times. Child B counts and then finds the corresponding Numicon or number from their bag. *Do they match?* • Beat out a number on a drum. *Can you count and say how many beats there were?* • With their eyes closed, children listen and count aloud as teacher drops cubes into a jar. *Can you show me on one hand how many cubes I used? Can you use two hands? How many different ways can you make the number using your fingers?* To extend: *Can you record all the different ways to make the number?* • *How many doors / windows (if up to 5) are there in our classroom?* • Have 4 items on a table. *I have counted five items. Watch me count.* Say 1 without touching an item. Say 2 and touch the first and so on until you reach the last one and say 5. *Have I made a mistake? Can you think of a tip that will help me correct this?*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	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.

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

Term by Term Objectives

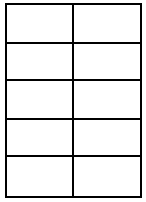
Reception

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.**	Counts out up to six objects from a larger group	• Walk carefully into the classroom carrying an open box. 'Trip up' on something and let the contents spill out onto the floor. *Can anyone help me? These were all in groups of 6.* To extend: *These were all in groups. Each group had a different number of objects but I can't remember how many they all had. Can you put them in to different sized groups and record how many are in each?* • Give children two ten frames filled with double sided counters (or two different coloured counters). *How many ways can you see 6 in this group of 20 counters?* Explore as a class to model changing the counters.  • Give children a box of counters and two ten frames each. The aim is to build up exactly 20 on your ten frames to win. Children take in turns to roll a die and count out the same number of counters showing on the die. *How do you know you have made 20?* • In the water area, place pebbles/marbles in the water. *Can you find 6 red marbles? How do you know that you have found 6? Can you show me on a ten frame? Can you find the same amount of pebbles? What's the same? What's different?*

mathshub@trinityacademyhalifax.org

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.**	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?*

mathshub@trinityacademyhalifax.org

Term by Term Objectives

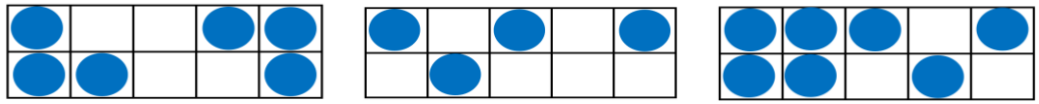
Reception

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.**	Counts an irregular arrangement of up to ten objects	• *Charlie rolled 4 on a die. He counted the teddies. He says that they match. Is he correct?*  To extend: *Can you create a statement that will be false?* • Put 4/5 eggs into a 12 holed egg box. Children to count how many then rearrange them for partner to count. *Is it the same amount? Can you arrange them a different way?* • *Can you count the objects on the seasonal table? I think there are 3 objects. Can you arrange them so it is easy to see there are 3?* • *How many children can sit at this table?* (Children count the chairs) *Will there be more children on stools than chairs? Can you arrange the table so you and four friends can sit together?* • Share 4 items between 4 tables. *There are 5 items. Do you agree?* 'Prove' to children there are 5 by counting the first object twice – once at the beginning and once at the end. *Can you think of a tip to stop me from making the same mistake again?*

mathshub@trinityacademyhalifax.org

Term by Term Objectives

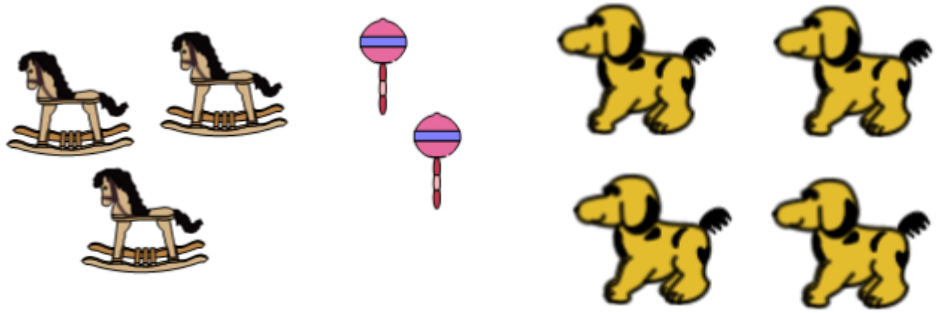
Reception

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.**	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?*

mathshub@trinityacademyhalifax.org

Term by Term Objectives

Reception

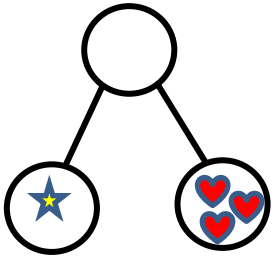
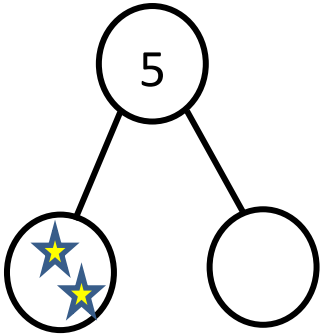
ELG	Objective	All students Example tasks
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.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

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	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?* 

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	Says the number that is one more than a given number	• Teddy bears' picnic – set up a picnic blanket with items and teddies. *Another teddy bear has joined the picnic. Do we need more of anything? What do we need more of? How many are there now? How many will we need? Can you make these changes so it is correct?* Ask children to close their eyes. Choose one child to come and hide something. Rest of class open their eyes and identify the new mistake. *Who can say how many items there are now and how many we actually need?* • Create a story with up to five characters that all wear a top, shorts, socks and shoes. Ask for up to five volunteers to dress up as the characters. Empty a bag of the clothes with some missing. *We only have 3 tops, how many more do we need?* (Make the answer 1) • Label 5 pots with the numerals 0, 1, 2, 3 and 4. Taking turns, children aim and throw the ball into the pots. Whichever pot the ball lands in the child has to say the number that is one more. To extend: *My friend says the number 3, what pot did she throw the ball into?*

mathshub@trinityacademyhalifax.org

Term by Term Objectives

Reception

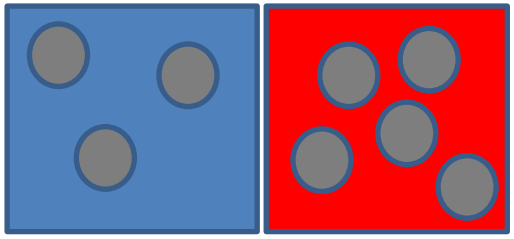
ELG	Objective	All students Example tasks
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.**	Finds one more or one less from a group of up to five objects, then ten objects	• Teddy bears' picnic – set up a picnic blanket with items and teddies. *A squirrel has eaten a sandwich, how many have we got now? One teddy has eaten a bun – how many are there now? Which teddy has one less than the rest? Can you arrange it so two teddies have one more than the rest?* • Kim and Khloe are in the line, Rob joins them. *How many people are in the line now?* (teacher modelling based on classroom situations to maximise opportunities for adding or subtracting one from a group). *Can you make two equal lines from a group of 4 children? Who has more? Who has less? Can you change it so the other line has more? What is the biggest difference in two groups you can make?* To extend: *Can you make two equal lines from a group of 5 children? Explain why.* Children can use concrete objects to help them explain. • Show children a tray, covered by a cloth. *I have one less than 4 on my tray.* Children show on their fingers or write on a whiteboard how many are on the tray. Reveal the amount on the tray. To support children: model drawing 5 objects and counting 4 then crossing one out to find one less. To extend: *I have pens and pencils on my tray. I have one less than 3 pens and 1 more than 2 pencils. How many items do I have altogether?* • Children hold two cards. One has 'more' on it and one has 'less' on it. Show statements on the board with more or less missing and read to class e.g. *3 is one ___ than 4.* Children hold up correct card to complete the sentence. *Can anyone prove this with objects from the room?* • Children have five cards with 1-5 on them. Show statements on the board with number missing and read to class e.g. 1 *is one less than* ___. Children hold up correct card to complete the sentence. *Can you think of a sentence with a number missing?* Share with partner/class.

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	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?* 

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

Term by Term Objectives

Reception

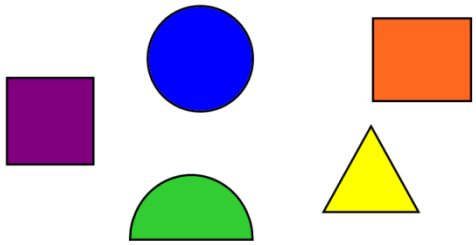
ELG	Objective	All students
		Example tasks
Numbers **Children count reliably with numbers from 1 to 20, place them order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.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

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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?*

mathshub@trinityacademyhalifax.org

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.**	Selects a particular named shape.	• *Think of a shape ask your friend to find it? Is he correct?* • *I'm thinking of a shape. Can you ask questions about it properties? I can only answer yes or no so think about the questions you are asking.* • Song: *Feely bag, what's inside? What's the shape you try to hide? Is it circle, rectangle, triangle or square? Feel inside describe what's there.* • Make a team shape picture. *What shape do we need for their face*? To extend: *You have an alien on your team. Can you make them using shapes? What's the same and what's different about you and your alien?* • Shape hunt around the environment. *We are looking for squares. When you see one make a note of it in any way you want.* Create a tally chart of how many squares the class found. *Could we compare the different shapes by adding to this chart? What shapes could we add to it?* • Barrier games. Put shapes onto a template by following instructions e.g. *Put the circle onto the blue marker. Put the triangle next to the circle* etc • *Show me where you can spot rectangles/squares/circles/triangles in our classroom.*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	Can describe their relative position such as *'behind'* or *'next to'*	• When children are joining a line ask them to join: *behind child A* *next to child B* *in front of child C* *two places behind child D* *to the side of Child E* • In the construction area, children work in pairs to build something. Children take it in turns to give instructions and follow instructions. Model this to children. *Can you place one brick behind the two big bricks? Put 5 bricks in a tower on top of the blue brick.* • Children role play a school trip. Organise how their group will sit on the bus, who their partner will be, what order they will line up in. • Use an image like the one below and model sentences such as *The boy with a yellow jacket is below a boy with sunglasses on.* Encourage the children, in pairs, to take turns to say sentences like this. The last one to say a sentence without pausing wins a point. *Can you record your points?* 

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	Orders two or three items by length or height	• Pick 6 children to stand in a line. *Can you order these children in height order? Is this the only way you can order them in height? What helped you to order them? Do you think you could change anything to make it fairer to order?* • Create a problem – *The head teacher needs 6 long pencils to be able to complete her work with her friends. Can you find the 6 longest pencils in our classroom?* • Bring in a range of cuboid shaped presents with similar widths but different lengths and heights. *Which of these will use the most wrapping paper? Which will use the least? Can you order them for me?* Estimate amount of wrapping paper needed for each and wrap presents. • Make a tower of 5 bricks and a tower of 9 bricks. *Can you create a tower that will be smaller than one of these towers but taller than the other? Can you make 3 more towers and order them all?* • True or false? *Two teddy bears stood side by side will always be longer than one teddy bear. Can you prove it?*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	Orders two or three items by weight or capacity	• Pass around an orange. Discuss the weight of it. *Can you think of anything that would weigh the same?* Encourage the children to explore this. Use scales to test out their objects. Show children a mango. *Will this be lighter or heavier? How do you know?* Show children a balloon filled with air. *Will this be lighter or heavier? How do you know? Why do you think it weighed less?* • Have a range of measuring jugs that are visibly taller/smaller/thinner/wider. Ask children to fill up the jugs and order them from least amount of water to most. Give children identical transparent containers to pour the water into. *Were you correct? Why?* • Create a problem – *The three bears are thirsty and their glasses are all empty. Daddy bear needs the most water and baby bear needs the least amount of water. Using only one cup, can you fill their glasses so they have the correct amount. You can refill your cup as many times as you like.* • Place a range of items in the water. Ask children to arrange their pictures in a line from lightest to heaviest. Pick out the items and test them by holding them first and then use the scales. *A marble is lighter than a stone. A stick is heavier than a marble. Will the stick be lighter or heavier than a stone?*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	Use familiar objects and common shapes to create and recreate patterns and build models	• *Can you make a house using the 2D shapes? Can you make a house with 5 windows?* • Present a pattern to class. *One of these shapes is in the wrong place. Can you find the wrong one? Can you make the pattern correct either by drawing or using the 2D shapes?*  • *Can you create your own pattern using three different shapes?* • Provide a big bag of 2D shapes for children to explore. *Make me a picture by arranging the shapes on the carpet and then describe your picture to your partner. Why have you used circles?* • Provide paper & paint / colouring equipment. *Can you copy this pattern and continue it? Can you create your own pattern using three colours and four shapes?*  • Show two patterns with similarities and differences. W*hat's the same? What's different?* 

mathshub@trinityacademyhalifax.org

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.**	Uses everyday language related to time	• Self-register: Have a 'morning' and an 'afternoon' register. Children find their name and put it under the correct heading to register themselves morning and afternoon. • Introduce flash cards with time vocabulary on. Children act out getting ready for school using these words. • Have a class toy that is sent home on an evening/weekend. Child who has had the toy explains what they have done to class. Encourage use of time vocabulary. • Visual timetable – *can you order the day? What will you do this morning? What will you do after that? What will you do before lunchtime?* • Given children images of a story. Ask them to work in pairs to order it and tell the story using time vocabulary. This can be modelled first with different images. *Why did you choose to use this picture first?*  • Create paintings of different seasons - *can you explain why this is summer? What could we add to this to show it is autumn?*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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 everyday language related to money	• *In the shop, can you pay for your items using money? How much change you will need?* • Billy goes to the shop. *What will he need to pay for the shopping?*  • Give children a template to match their coins to. *What is the same and what is different about the coins?* • Visit a shop to buy ingredients for cooking. *Can you give the customer change? Can you pay in pence? Can you pay in pounds?* • Snack bar – children have to select the correct coins to 'pay' for their milk. *To have the milk you need to choose a coin with straight edges. To have a piece of fruit you need to pay with two coins that have curved edges.* • Set up a shop role play area, model the target language (pence, cost, how much, how many) in role as shopkeeper with children as customers. Swap roles so that children become the shopkeeper serving you and other children. *How much is the doll?* • Label some items with price tags e.g. 5p, 3p. *'Can you find me something to buy that costs Xp? Can you find 2 items that cost Xp in total?'*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	Orders and sequences familiar events	• Visual timetable – *can you order the day? What will you do this morning? What will you do after that? What will you do before lunchtime?* • Order the months of the year. *Can you put the months of the year into the correct seasons?* • Sing songs that order the days of the week and months of the year. • Discuss a recent trip. *What was your favourite moment? Can you draw this? Does anyone else have a different favourite moment?* Once children have drawn/painted their different moments, ask them to order their pictures. T*ell me what happened from start to end using your pictures.*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose

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.**	Measures short periods of time in simple ways	• Put the months in order. *Can you find the month we are in now? How many months until your birthday? How many months are left this year? How do you know?* • Mention amounts of time throughout the day. *We will be having lunch in half an hour. You have five minutes to tidy up.* • *How many star jumps can you do whilst your partner builds a ten brick tower? Do you think this will be more or less than when they build a five brick tower? What will change? Why do you think that? What might happen to change your prediction?*

mathshub@trinityacademyhalifax.org

MathsHUBS White Rose