

Phase 10 – On The Move

#MathsEveryoneCan

Phase 10 – Book List

Reading to children is an essential part of their development. Any of these books would be useful during Phase 10

Mr Gumpy's Outing – John Burningham

Billy's Bucket – Kes Gray

Mr Archimede's Bath – Pamela Allen

Who Sank the Boat – Pamela Allen

How Many Legs – Kes Gray

Pattern Bugs & Pattern Fish - Trudy Harris

The Secret Path – Nick Butterworth

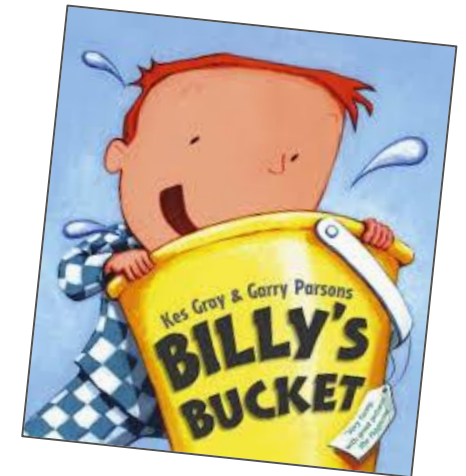
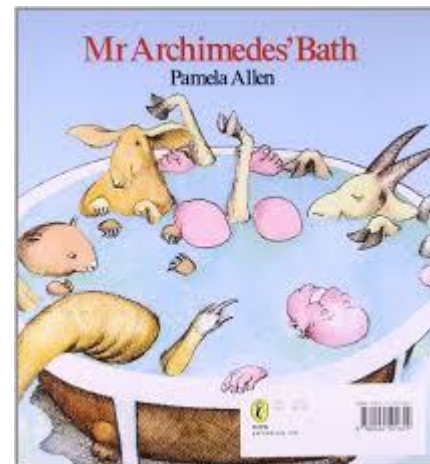
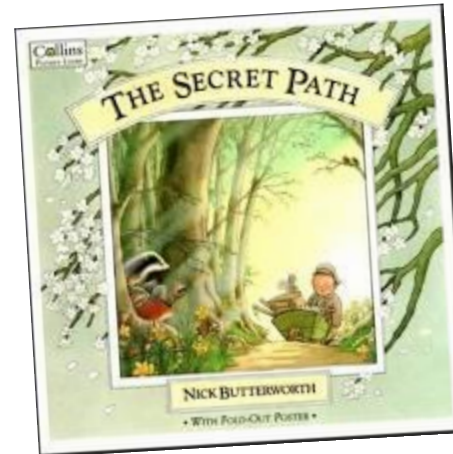
Me on the Map – Joan Sweeney

Little Red Riding Hood – Traditional

If I Built a House – Chris Van Dusen

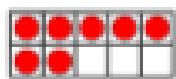
Once Upon a Time Map Book – B.G. Hennessy

In Every House on Every Street – Jess Hitchman

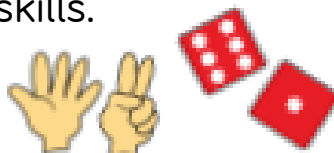


Consolidating Key Skills

During the summer term, continue to practise and consolidate these key skills.

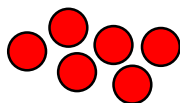


Subitising



Continue to provide regular opportunities for the children to instantly recognise small quantities.

Dice, domino and bingo games as well as matching and comparison games will continue to support children's subitising skills. Ensure they include a variety of different representations.

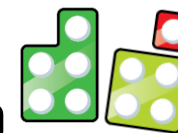


Counting

Provide regular opportunities for the children to practise and consolidate counting on and back within 10.

Support the children to use the counting principles in order to find how many in a set or to count out a required number of objects from a larger group.

Composition



Continue to develop the children's understanding that all quantities are composed of smaller quantities.

Sorting and Matching

Continue to encourage the children to notice similarities and differences as they match and sort objects in new contexts.

Ask: Can you find or build one the same as this?
Can you find or build one which is different to this?

Why is it different?

Can you see how I have sorted these items?

How else could we sort them?

Comparing and Ordering

Build in regular opportunities for the children to continue comparing and ordering quantities and measures.

Prompt them to notice which set has more, which has fewer and when 2 sets have the same amount.

Deepening Understanding

Guidance

Children need time and opportunities to engage in extended problem solving and develop their critical thinking skills. These problems can be linked to familiar stories or come from the children's suggestions or real problems that arise as they play.

Encourage the children to discuss different possible starting points. Children might need support to carry out their plans and to make adaptations as they go along. Afterwards, encourage the children to review and discuss their strategies. Which were the most successful, which didn't work and why?

Other Resources

Mr Gumpy's Outing – John Burningham

Billy's Bucket – Kes Gray

Harry and his Bucketful of Dinosaurs – Ian Whybrow

Who Sank the Boat – Pamela Allen

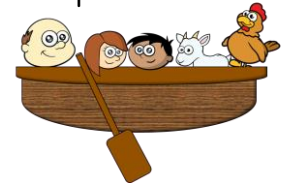
Mr Archimede's Bath – Pamela Allen

Prompts for Learning

Familiar stories provide a great starting point for problem solving. Mr Gumpy's Outing is one example. Show the children a page from the story and explain that Mr Gumpy has a problem. There are too many legs in his boat.

Everyone's legs are getting tangled up.

Ask the children to work out how many legs there are. Could they draw a picture to help them work it out?



What if there are 3 characters inside the boat? How many legs could there be? What if there are 14 legs in the boat? How many characters could there be? Ask the children to explore the different possibilities.

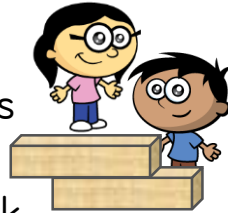


Billy's Bucket can be used as a starting point for comparison and number stories. Set up a small world scene in a tuff tray and ask the children to talk about what they can see. What number stories can they make using the different combinations like Billy? Can they create their own bucket scene and number stories?

Deepening Understanding

Construction Area

Show the children some photographs of bridges and talk about what they notice. Encourage the children to work together to build the longest bridge they can. How will they measure it?



What about the strongest bridge? How could they measure its strength?

Enhancements to areas of learning



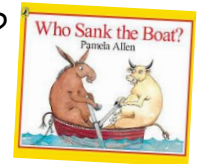
Water Area

Provide a range of different sized and shaped containers and some pebbles. Ask the children to half-fill their containers with water. What happens to the water if they add pebbles to their container? How many pebbles will they need to add to make the container overflow like Mr Archimedes' bath?

Water Area

Ask the children to make boats out of a given material such as tin foil or modelling clay. How many marbles will their boat hold whilst staying afloat?

Whose boat will hold the most marbles? Could they adapt their design so their boat holds more marbles?



Outdoors

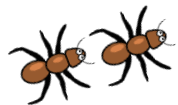
Challenge the children to solve problems on a large scale: The playground is a crocodile-infested swamp! How could we rescue teddy without putting our feet on the ground? Can you build a shelter to keep everyone dry? How could we fill the bucket with water when all of our containers have holes? Which team can fill their bucket first?

Patterns & Relationships

Guidance

Children should be given opportunities to explore and investigate relationships between numbers and shapes. Classroom resources based around a standard unit such as Cuisenaire rods, pattern blocks and the unit construction blocks are particularly good for exploring these relationships.

Children should also continue to copy, continue and create a widening range of repeating patterns and symmetrical constructions. Draw children's attention to patterns in stories from a range of cultures.



Other Resources

Ants Rule The Long and Short of it – Bob Barner

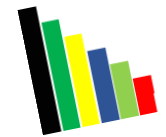
Pattern Fish – Trudy Harris

Pattern Bugs - Trudy Harris

The Leopard's Drum – Jessica Souhami

Jamil's Clever Cat – Fiona French

Prompts for Learning



Show the children a set of Cuisenaire rods
How many green blocks measure the same as one blue block? What other relationships can they find?
Can they find a block which is double the length of another block? How could they check?



Show the children one rabbit. How many ears do they see? Add another rabbit. How many ears now? Continue to add rabbits and count the ears each time. Encourage the children to notice that each rabbit has two ears, every time they add one rabbit they are adding two more ears. Can they continue the pattern?



Build a repeating ABBC pattern.

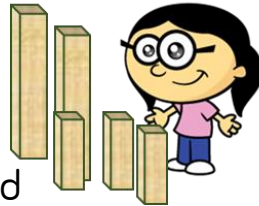
Ask the children to describe and continue the pattern.
Can they identify the unit of repeat? Challenge them to create a different pattern using the same ABBC structure.
Can they represent their pattern using drawings or symbols?
Can they make their pattern continue around a circle?

Patterns & Relationships

Construction Area

Ask the children to explore the different relationships they can find between the unit construction blocks. For example, how many short blocks do they need to match 4 long blocks?

How could they use the blocks to make a set of stairs?



Enhancements to areas of learning

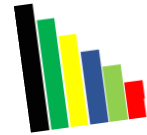
Outdoors

Provide quoits or beanbags to throw and hoops or buckets. Encourage the children to devise their own scoring systems where the harder targets score more points.



Encourage them to keep a tally of their points as they play. How many different ways are there to score 6 points?

Maths Area



Ask the children to build a staircase pattern using the Cuisenaire rods?

Can they make it go up then down?

Can they make it go down then up?

Compare the different staircase patterns. What do they notice? Can they make a staircase pattern which uses different steps?

Outdoors



Use the natural materials and loose parts to create repeating patterns. Encourage the children to make different patterns which have the same structure? Can they build a circular repeating pattern which continues around the circle? Is there more than one way to describe this pattern? What starting point would you use?

Spatial Reasoning (4)

Guidance

The children understand that we can make maps and plans to represent places and use these to see where things are in relation to other things.

Provide a range of maps and plans for the children to look at and discuss. What can they see on the map?

Where would we put the carpet area on a map of our classroom? Provide opportunities for them to create their own maps to represent the models they build, familiar places and places in stories.

Other Resources

The Secret Path – Nick Butterworth

Me on the Map – Joan Sweeney

Little Red Riding Hood – Traditional

If I Built a House – Chris Van Dusen

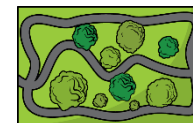
In Every House on Every Street – Jess Hitchman

Once Upon a Time Map Book – B.G. Hennessy



Prompts for Learning

Show the children some different maps, lots of books have maps of the story settings. What can they see on the maps? Which map do they like best? Why do we need maps? Can they draw their own map of the places in the story? Could they change the story and design a new map? What if Little Red Riding Hood didn't go to Grandma's house?

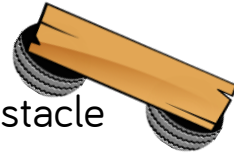


Ask the children what they pass on the way to school. Can they draw a simple linear map to show their home, their street, the school and some of the landmarks they pass on the way? What do they pass first, next etc.

Provide a large piece of paper in the shape of the classroom with the doors and windows already marked on. Explain that you are going to make a map of the classroom. Have some simple pictures to represent the classroom items. Ask the children to discuss where to place them on the map.

Spatial Reasoning (4)

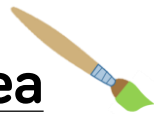
Outdoors



Provide a simple map of an obstacle course. Encourage the children to use the map to build the obstacle course, checking where things need to be in relation to others. They might also like to design their own obstacle course and draw a map to help them remember their design.

Enhancements to areas of learning

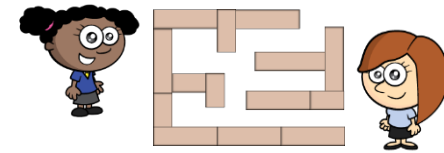
Art Area



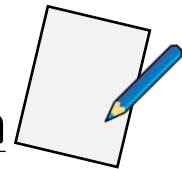
Ask the children to draw or paint maps of familiar journeys or places in stories. For example the mouse's journey in *The Gruffalo* or the island in *Pirates Love Underpants*.

Construction Area

Provide some pictorial mazes for the children to explore. Can they trace their finger through the maze? Encourage them to use blocks to build their own mazes. Can they help a character to find a way out like in *The Secret Path*?



Maths Area



Encourage the children to design their own new room and to draw a plan like Jack in *If I Built a House*. Ask them to talk about their designs. What have they included? Prompt them to use positional language as they describe their rooms.

Digging Deeper

How Many Legs?

The book *How Many Legs?* by Kes Gray provides many starting points for exploring counting problems.



Ask the children to work out how many legs there are in the different scenarios described in the story. The children will need to consider a wide variety of many-legged animals as well as items which don't have any legs at all.

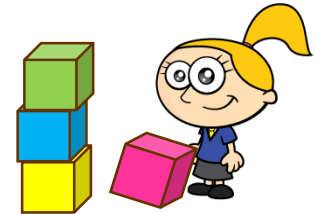
Encourage the children to create their own nonsense scenarios in the style of the story and calculate how many legs there would be.

These could be collated and made into a class *How Many Legs?* book.

X Marks the Spot!

Prepare a simple map or plan with a route marked on for the children to follow. At the end of the route, hide some treasure for the children to discover and mark the spot with an X!

Can the children follow the map and find the hidden treasure?



Counting Towers

Challenge the children to build a tower as tall as they can before the timer runs out. How many blocks did they manage to build?

What if each block was worth 2 points?

How many points did they score?

Challenge them to have another go and to see if they can score more points.