

Phase 5 – Growing 6, 7, 8

#MathsEveryoneCan

Phase 5 – Book List

Reading to children is an essential part of their development. Any of these books would be useful during the phase Growing 6, 7, 8

Six Dinner Sid – Inga Moore

Kipper's Toybox – Mick Inkpen

Sidney the Silly Only Eats Six – M W Penn

Anno's Counting Book – Mitsumasa Anno

What the Ladybird Heard – Julia Donaldson

Simon's Sock – Sue Hendra

Pairs! In the Garden – Smriti Prasadam-Halls

The Giraffe who got a Knot – John Bush

Titch – Pat Hutchins

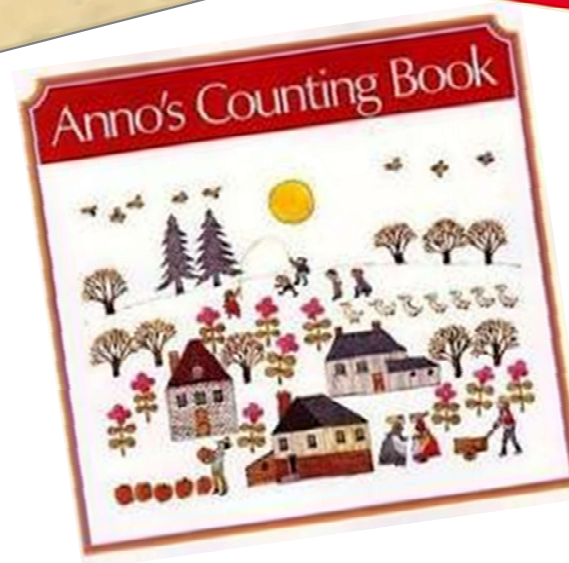
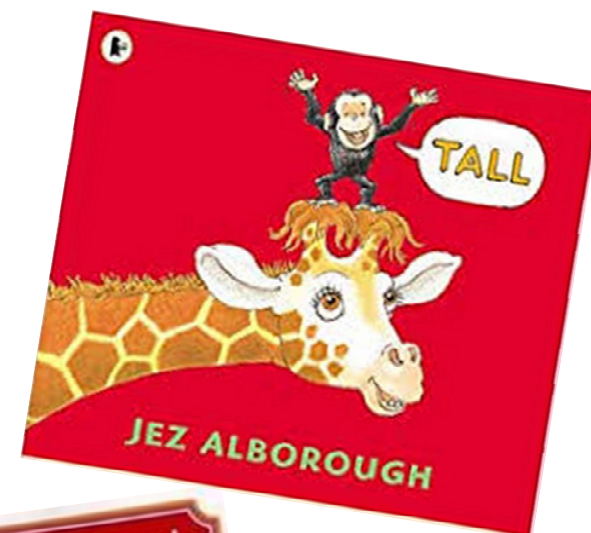
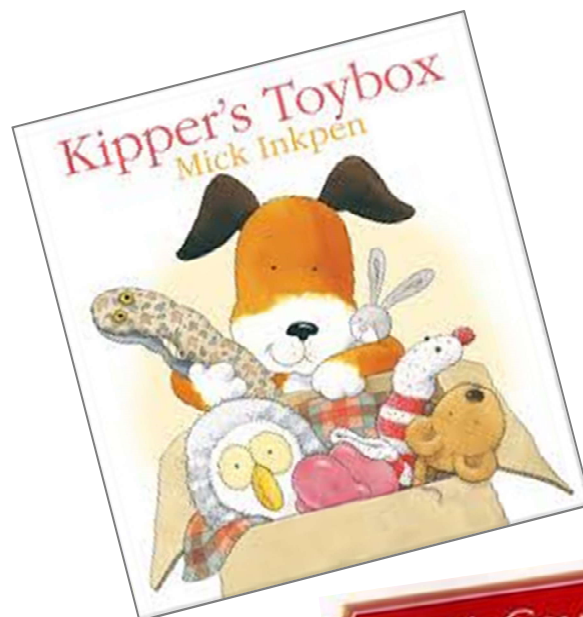
Tall – Jez Alborough

Jack and the Beanstalk – Traditional

Jim and the Beanstalk – Raymond Briggs

Mr Wolf's Week – Colin Hawkins

Jasper's Beanstalk – Nick Butterworth



6, 7 and 8

Guidance

Children continue to apply the counting principles when counting to 6, 7 and 8. They represent 6, 7, and 8 in different ways and can count out the required number of objects from a larger group.

Arranging 6, 7 or 8 items into small groups will support the children to conceptually subitise and see how the numbers are made up of smaller numbers.

E.g. I know it is 8 because I see 4 and 4

Encourage the children to order and compare their representations, noticing the one more/less patterns as they count on and back to 8

Other Resources

Six Dinner Sid – Inga Moore

Kipper's Toybox – Mick Inkpen

Sidney the Silly Only Eats Six – M W Penn

Anno's Counting Book – Mitsumasa Anno

What the Ladybird Heard – Julia Donaldson

Prompts for Learning

Note: All the prompts for representing, comparing and composition to 5 can be applied to 6, 7, and 8

Begin with a story such as Six Dinner Sid. How many times do they meet 6 ? Ask the children to make houses to represent Sid's street. Can they number the doors and order the houses from 1 to 6?

What if we added another house? And another?

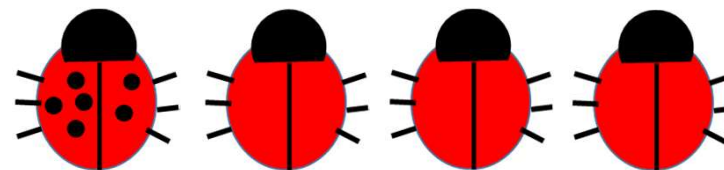
How many legs does a ladybird have?

How many spots?

Do you know any other creatures with 6 legs?

Use counters to add 6 spots to the other ladybirds.

Can you find more than one way to do it?



How many colours do you see in the rainbow?

Can you paint a rainbow with 7 colours?

Can you make rainbows using objects around the classroom? How many colours did you use?

Can you find the rainbow in Anno's counting book?

6, 7 and 8

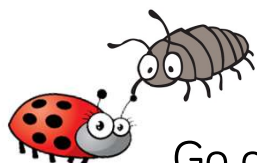


Maths Area



Encourage the children to think about where we see 6, 7, and 8 in everyday life and to make collections of 6, 7 and 8 objects in the classroom.

Sort these items into 6, 7 and 8
How else could you show 6, 7, and 8?



Outdoors

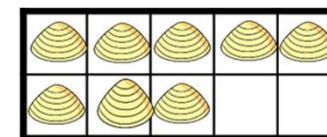
Go on a mini-beast hunt.

Use magnifying pots to observe the creatures carefully. How many legs can they see? Provide pictures to help them identify what they find. Ask the children to make careful drawings of the creatures they find.

Enhancements to areas of learning

Loose Parts

Provide a range of loose parts such as buttons, beads, pebbles, shells and some ten frames. Ask the children to count 6, 7, and 8 items onto the 10 frames. How many do they have? Can they see without counting? The children may also enjoy filling large 10 frames outside.



Kipper's Toybox

Provide a basket of toys for the children to use to re-enact the story. Take turns to 'hide' one of the toys. Can the children spot which toy is missing? How many toys are there now?

What if an extra toy arrives?
How many will there be now?



Making Pairs

Guidance

Children build on their earlier work on matching to find and make pairs. They begin to understand that a pair is two. Provide collections of items which come in pairs.

Encourage the children to arrange small quantities into pairs and notice that some quantities will have an odd one left over with no partner.

Teach the children to play games which involve matching pairs for example snap or memory games.

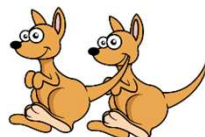
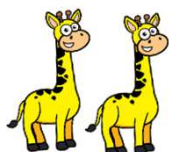
Other Resources

Simon's Sock – Sue Hendra

10 Fat Sausages

1 2 Buckle my Shoe

Noah's Ark



Pairs! In the Garden – Smriti Prasadam-Halls

Webgames online.com/memory/

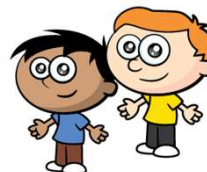
Prompts for Learning

Collect a basket of small items in pairs – have enough items for each child to have one. As the children come into the classroom ask them to collect one item from the basket. When all the children have arrived, ask them to find who has the same and sit together in a pair.

Have a basket of unsorted socks or wellies and ask the children to help you sort them into pairs.

Can they spot which pairs go together?

Why do they match?



Ask the children to get into pairs ready for a game or to line up in pairs for a Spring walk.

Do they notice any pairs on their walk?

They could also face each other in pairs and take it in turns to mirror the other's actions or play bunny ears.

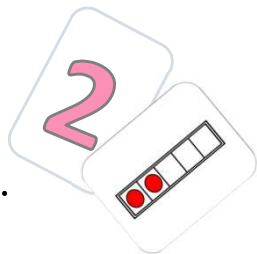
Encourage children to investigate making pairs using different quantities of small world creatures, cubes or counters. Which quantities will make pairs and which will have one left out? Do they notice a pattern?

Making Pairs

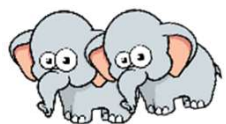
Maths Area

Provide a set of cards with different representations of the numbers to 8. Teach the children how to play pair games such as snap and memory matching games.

Add some blank cards and encourage the children to create their own sets of cards in pairs to use.



Enhancements to areas of learning



Small World

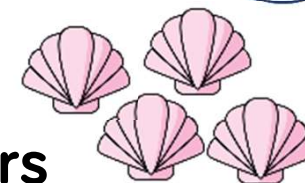
Encourage the children to match pairs of animals to create their own Noah's Ark procession.

Can they build their own arks?

Can they fit all the pairs of animals inside?

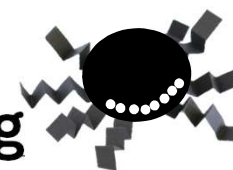


Outdoors



Provide collections of items that can be arranged into pairs. Encourage the children to notice which quantities make even pairs and which have an odd one left over. Do they notice a pattern?

Modelling



Follow the mini-beast hunt by providing a variety of materials for the children to create their own insect models. Encourage them to fold zig-zags to give their insects springy legs.

How many pairs of legs will they add to their creatures?

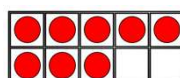
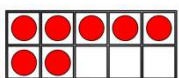
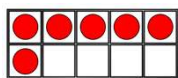
Digging Deeper

Dot Plates

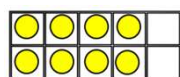
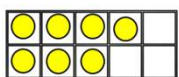
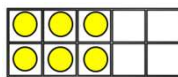
Show the children 6, 7 and 8 on a ten frame or in a 10-hole egg box. Can they see how many without needing to count in ones?

Encourage the children to build 6, 7 and 8 onto the 10 frames in pairs – what do they notice?

Compare the 5-wise and pair-wise patterns for each number. What's the same and what's different?



5-wise patterns



Pair-wise patterns

How Many Now?

Count out 6 cubes with the children and then cover them so they can't be seen.

Add one or two more cubes. How many are there now?

What if we took one or two cubes away?

Encourage the children to make jottings or to use their fingers to help them solve the problem.

Key Questions

How do you 6 here?

How do you see 6 now?

What do you notice when you try to make pairs with 7?

How many are hidden now? How do you know?

Can you draw a picture to show me?

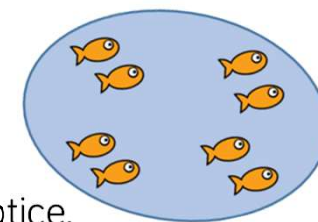
Can you show me with these cubes?

Composition of 6,7,8

Provide each child with a blue 'pool' and 8 fish. Ask them to arrange their fish into pairs.

Ask the children what they notice.

Ask the children to arrange their fish in a different way and to discuss the different compositions of 8 that they notice.



Encourage them to explore the composition of 6 and 7 in a similar way.

You can vary the contexts. For example, cars in a car park, horses in a field, ladybirds on a log.

Combining 2 Groups

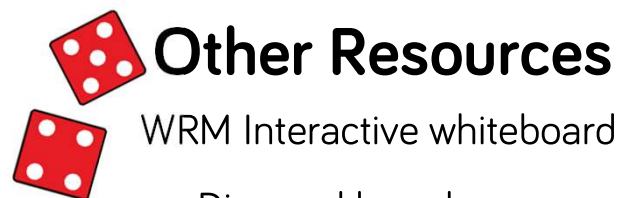
Guidance

Children begin to combine 2 groups to find how many altogether. They should be given opportunities to do this in many contexts using real objects.

E.g. There are 3 frogs on the log and 4 in the pool. How many frogs altogether?

Encourage the children to subitise where possible although they may need to count in ones to find how many altogether.

The interactive whiteboard files can also be used to create pictorial scenes for the children to discuss.



Other Resources

WRM Interactive whiteboards

Dice and board games

Quack and Count by Keith Baker

The Elephant and the Bad Baby – Elfrida Vipont

Don't forget the Bacon – Pat Hutchins

Prompts for Learning

Tell your partner about the flowers. How many purple flowers can you see? How many blue flowers?

How many flowers altogether?



Spread a set of dominoes out face down.

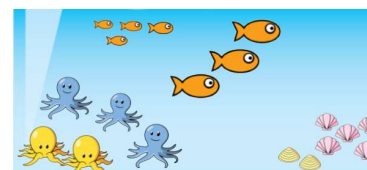
Ask the children to pick a domino and tell their partner how many spots there are on each side. Can their partner tell them how many spots on the domino altogether?

What if my domino has 6 spots? How many could be on each side? Can you draw a domino with 6 spots?

Can you draw more than one?



Provide pictures or small world scenes which provide opportunities for combining 2 groups.



What can you see in the picture?

How many big fish can you see?

How many small fish?

How many fish altogether?

I spy a group of 3 and a group of 2. What am I looking at?

Combining 2 Groups

Maths Area

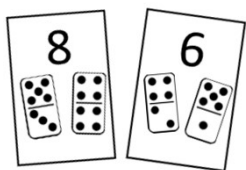


Provide simple board games and pairs of dice. The children roll 2 dice and move the required number of spaces on the board. Ask: What numbers did you roll?

How many altogether?

How many do you need to win the game?

(1-3 dice could be used first before moving onto 1-6)



Small World

Provide a set of dominoes and a large 'parking area' with numbered garages. Ask the children to find the total amount of spots on the dominoes and park them into the correct garage!

Enhancements to areas of learning



Finger Gym

Provide a coat hanger and a basket of pegs.

Ask the children to put the pegs onto the hanger and to explore how their numbers can be partitioned in different ways and recombined to see how many altogether.



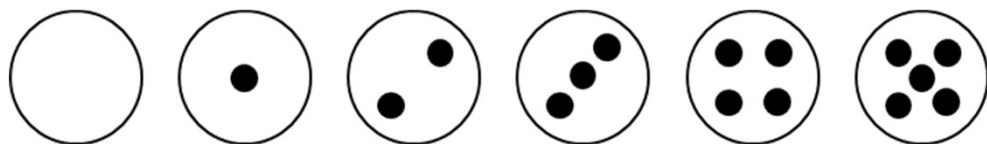
Number Shapes

Provide an assortment of 1-5 number shapes. Ask the children to choose a number shape. Next, find a friend and combine their shapes to see what number they can make altogether? Repeat by moving to different friends.

Digging Deeper

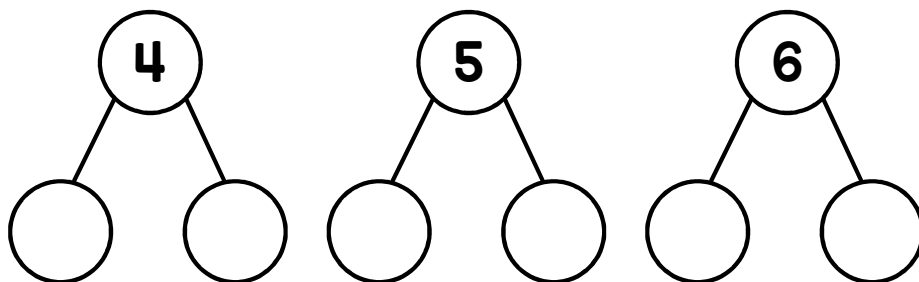
Dot Plates

Provide children with dot plates or cards from 0 to 5



Ask the children to arrange the 6 plates so that they have:

- a pair of plates with a total of 4 dots
- a pair of plates with a total of 5 dots
- a pair of plates with a total of 6 dots



Is there more than one way to solve the problem?

Key Questions

How many dots does each plate have?

How many dots are there on these 2 plates together?

Can you find 2 plates which have (4, 5, 6) dots?

Is there more than one way to make (4, 5, 6) dots?

Can you find more than one way to arrange your 6 plates to make the given total?

What other totals can you make with your plates?

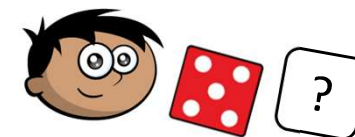
Exploring Possibilities

Jack rolled 2 dice and scored 10



Amir scored less than Jack.

One of Amir's dice showed 5.



What other number could Amir have rolled?

Is there more than one answer?

Are there any numbers Amir could not have rolled?

Length and Height

Guidance

Children begin by using language to describe length and height, e.g. the tree is tall, the pencil is short.

When making direct comparisons, they may initially say something is bigger than something else. Encourage them to use more specific mathematical vocabulary relating to length (longer, shorter), height (taller, shorter), and breadth (wider, narrower)

Encourage the children to make indirect comparisons using objects such as blocks or cubes to measure items. E.g. The sand tray is 4 blocks long. The table is 5 blocks long. The sand tray is shorter than the table.

Other Resources

The Giraffe who got a Knot – John Bush
Titch – Pat Hutchins
Tall – Jez Alborough
Jack and the Beanstalk – Traditional
Jim and the Beanstalk – Raymond Briggs

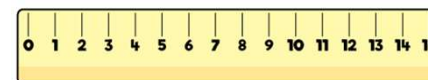
Prompts for Learning

Opportunities for comparing length or height will arise naturally through the children's talk as they play. They may compare the height of their towers or length of their roads, or see who has the longest scarf, or who can thread the longest string of beads.



Support each child to make a paper 'footprint'. Can they find items which are longer than their foot, shorter, about the same size? Can a small group arrange their footprints in size order by making direct comparisons?

Provide a selection of measuring items for the children to explore. E.g. rulers, tape measures, trundle wheels, height charts. The children may also like to create their own height charts and tape measures and use them to measure items inside and out.



Provide pots and soil and seeds for the children to plant. Encourage them to find ways to measure, compare and record the height of their plants as they grow.



Length and Height

Construction

Build a tower or a road. Challenge the children to build a tower the same height as yours, a shorter tower, a taller tower. A longer road, a shorter road.

How tall is the tallest tower they can build?
Can they build beds or chairs for Daddy Bear, Mummy Bear and Baby Bear?



Small World

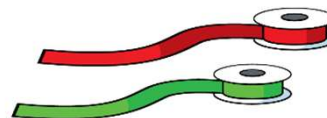
Provide materials for the children to construct bridges for the cars. They will need to consider how long, how wide and how high they want their bridges to be and select which blocks to use.

They could also investigate who can push their car the furthest?

How will they measure this?



Enhancements to areas of learning



Workshop

Provide a variety of ribbon, lace, string. Ask the children to cut pieces and make direct comparisons with a given length (E.g. a piece of ribbon taped to the table) Can they sort the lengths into the same as, longer than and shorter than the given length? They could also line the lengths up in order from longest to shortest.

Dough



Encourage the children to use mathematical language relating to length as they play.

Ask: Can you make a long snake?

A short snake?

A thick snake? A thin snake?

Show me the longest snake you can make. How many blocks long is your snake?

Time

Guidance

Children continue to order and sequence important times in their day and use language such as now, before, later, soon, after, then and next to describe when events happen..

They begin to recognise that regular events happen on the same day each week and use the vocabulary 'yesterday', 'today' and 'tomorrow' to describe when events happen.

Children are able to describe significant events in their lives and talk about events they are looking forward to.

They learn through their own experience and the stories they read that some processes such as growing vegetables, take a longer time.

Other Resources



The Bad-Tempered Ladybird – Eric Carle

Mr Wolf's Week – Colin Hawkins

Jasper's Beanstalk – Nick Butterworth

5 Minutes Peace – Jill Murphy

Days of the Week Song

Prompts for Learning

Look back over the year so far with the children – use pictures or learning journeys to help them remember.

What have been their favourite times in Reception?

What key events can they remember?

Ask the children to bring in a photograph of themselves when they were small.

Can the children guess whose picture is who?

How have they changed?

Start each day by singing the days of the week song.
Read Jasper's Beanstalk. Order the days of the week and ask the children to order and match the key events in the story to the days of the week.



Challenge the children to see how many tasks they can complete in one minute. For example how many times can they write their name in one minute.

How high can they count in one minute?

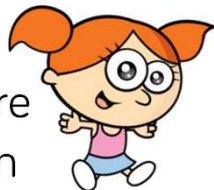
How many star jumps can they do in one minute?

Time

Outdoors

Provide a range of timers that measure different lengths of time. Children can choose a timer and then see what they can do in that period of time.

E.g. How many star jumps can you do in 30 seconds? How many bean bags can you throw into the hoop in one minute?



Outdoors

Provide seeds, soil and plant pots. Encourage the children to plant seeds and to look after them as they grow. Have a look each week and discuss the changes you can see. Inside you can grow cress seeds or grass heads which grow more quickly.



Enhancements to areas of learning

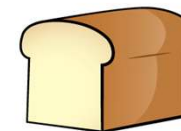
Snack

Support the children to make toast for snack. How does the bread change when you toast it?

How long do they need to toast the bread for to make nice golden toast?

What happens if it is toasted for too long?

What happens if it's not toasted for long enough?



Outdoors

Set up a circuit of different activities around the outdoor area. Challenge the children to see how many of each activity they can do in one minute. E.g. How many bean bags can they throw into the hoop? How many skittles can they knock down? How many bricks can they build into the tower? Provide minute timers for the children to use.



Digging Deeper

How Far Can You Throw?

Give each child a small object such as a bean bag or welly. In small groups or pairs, challenge the children to throw the object as far as they can.

Who has thrown their item the furthest?

How could we check?



Encourage the children to discuss and try different ways to find this out.

For example they could count strides or heel-to-toe footsteps or use a trundle wheel.

Prompt them to use the language of further, nearer and closer. Encourage them to record their distances using their own methods.

Have another throw – did they manage to throw their item further this time?

Key Questions

Who has thrown their item the furthest?

How could we check?

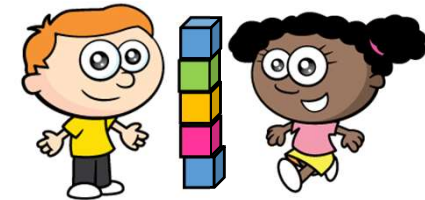
Have another go – Did you throw it further this time?

How do you know?

Who is the tallest person? How do you know?

How many bricks measure the same height as you?

Towers



In a small group put the children into pairs and ask them to build a tower the same height as their partner.

Can they order their towers from shortest to tallest?

Encourage the children to draw their friends and towers and to record how many bricks there are in each tower. Prompt them to use the language of shortest, shorter than, taller than and tallest as they compare their towers and friends.