

Phase 9 – Find My Pattern

#MathsEveryoneCan

Phase 9 – Book List

Reading to children is an essential part of their development. Any of these books would be useful during Phase 9

This is the Story of Alison Hubble - Allan Ahlberg

Two of Everything – Lilly Hong

Double Dave – Sue Hendra

Double the Ducks – Stuart J Murphy

The Doorbell Rang - Pat Hutchins

The Gingerbread Man - Traditional

Bean Thirteen - Matthew McElligott

One Hungry Cat – Joanne Rocklin

Ness the Nurse – Nick Sharratt

One Odd Day – Doris Fisher

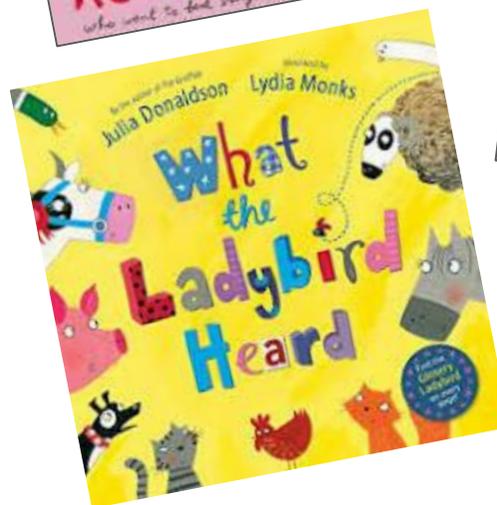
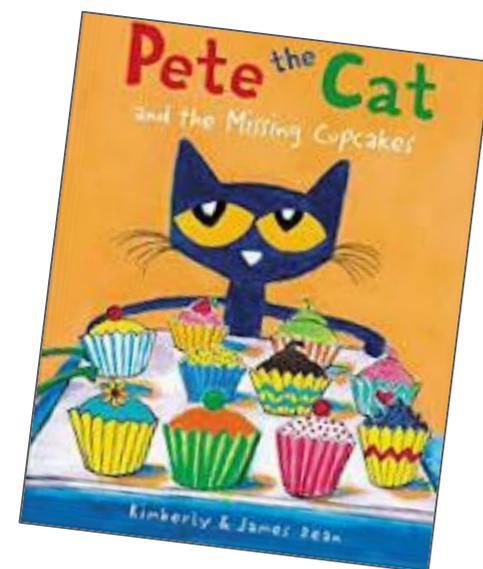
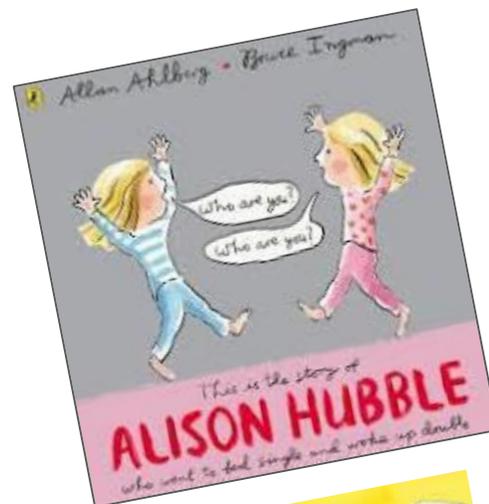
Pete the Cat and the Missing Cupcakes – K & J Dean

Underwater Counting – Jerry Pallotta

What the Ladybird Heard - Julia Donaldson

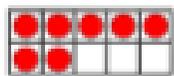
Rosie's Walk – Pat Hutchins

Mr Gumpy's Motor Car – John Burningham

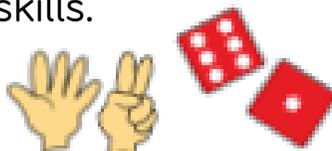


Consolidating Key Skills

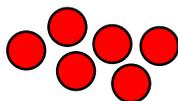
During the summer term, continue to practise and consolidate these key skills.



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

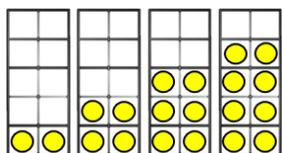
Build in regular opportunities for the children to continue comparing and ordering quantities and measures. Prompt them to notice which set has more, which has fewer and when 2 sets have the same amount.

Doubling

Guidance

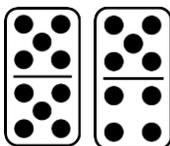
The children will learn that double means ‘twice as many’. They should be given opportunities to build doubles using real objects and mathematical equipment. Building numbers using the pair-wise patterns on 10 frames helps the children to see the doubles.

Mirrors and barrier games are a fun way for children to see doubles as they build and to explore early symmetry. Encourage children to say the doubles as they build them, e.g. Double 2 is 4. Provide examples of doubles and non-doubles for the children



Pair-wise pattern

to sort and explain why.



Other Resources

Double Trouble - Nrich

This is the Story of Alison Hubble - Allan Ahlberg

Two of Everything – Lilly Hong

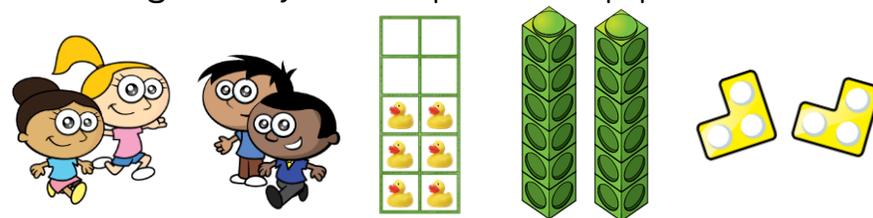
Double Dave – Sue Hendra

Double the Ducks – Stuart J Murphy

Numberblocks Series 2 Episode 9 - Double Trouble

Prompts for Learning

Allow the children to explore different ways to build doubles using real objects and practical equipment.



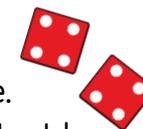
Provide sets of dominoes and ask the children to find the doubles. Show the children how to play dominoes and look at the doubles they make as they play.

Play Match my Quantity

The children sit opposite each other in pairs with a barrier between them and a collection of small items such as pebbles or cubes. One child sets out a quantity. They show their partner quickly and then hide again. Their partner matches the quantity. Then the barrier is removed. Check - Is it a double? Which double have we made?

Play Doubles

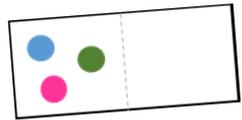
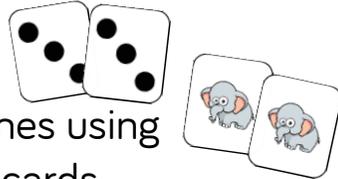
The children take turns to roll 2 dice. They score a point each time they roll a double. The first to reach 3 points wins the game.



Doubling

Maths Area

Play snap or matching pairs games using pictorial playing cards or dot cards. Encourage the children to say the doubles as they make them. The person with the most doubles or pairs of cards at the end wins the game.



Art Area

Provide large paper with a fold down the middle. Encourage the children to make doubles by adding blobs of paint to one side of the paper only. Then fold the paper over to make the double. Can they predict how many blobs of paint there will be altogether if they start with 3 blobs?

Enhancements to areas of learning

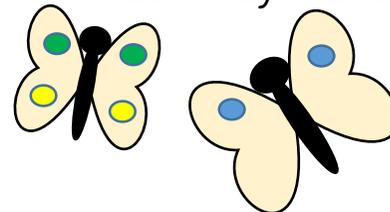
Outdoors

Have number shapes hidden around the outdoor area. Give each child a number shape and ask them to find another one the same to make a double. Encourage them to say the double they have found, e.g. Double 5 is 10



Finger Gym

Provide ladybird or butterfly templates and ask the children to use the tweezers to make doubles by adding the same number of pompoms to each side. How many different doubles can they make? Can they make one which is not a double and tell you why?



Sharing and Grouping

Guidance

The children will probably already have some experience of sharing and will be quick to point out when items are not shared fairly. During snack time or group activities, encourage them to check that the items are shared equally and that everyone has the same. The children should also be given opportunities to recognise and make equal groups. For example can you put 3 crackers on each plate or plant 2 flowers into each pot.

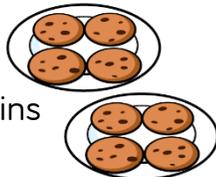
What groups do they notice on a bead string?

The children will notice that sometimes there are items left over when they share or group. Encourage them to come up with their own suggestions for how to resolve this.

Other Resources

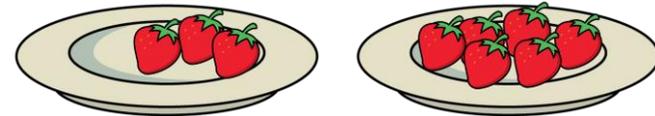
The Doorbell Rang - Pat Hutchins
Nrich – Maths Story Time

The Gingerbread Man - Traditional
Bean Thirteen - Matthew McElligott
One Hungry Cat – Joanne Rocklin
Ness the Nurse – Nick Sharratt



Prompts for Learning

Show the children a bowl of strawberries. Explain that you are going to share them into 2 equal groups so there will be half for you and half for your friend. Put a handful straight onto each plate without counting – make sure that one plate clearly has more strawberries than the other. Ask the children if it is fair. Prompt them to show you how to share the strawberries fairly. What if another friend arrives?



Provide opportunities for children to group objects in different contexts.

Can they give each gingerbread man 3 buttons?
Can they give each child 5 carrot sticks during snack.
Can they arrange their pebbles into groups of 2?
What about groups of 3?



Provide opportunities for the children to share items equally. They could share out the cards or dominoes before playing a game. Prompt the children to notice that sometimes they can make equal groups and sometimes they have items left over.

Sharing and Grouping

Snack

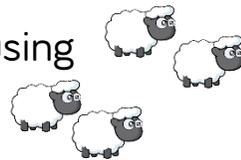
Encourage the children to sit with their friends in small groups for snack or have a picnic outside. Provide quantities of food that can be shared onto their plates. For example a box of raisins, a handful of crackers, some sticks of carrot or slices of banana.



Enhancements to areas of learning

Small World

Ask the children to make groups using the small world animals.



Can they make groups of 2?

What happens if they make groups of 3?

Can they make more groups of 2 or more groups of 3?

Funky Fingers

Provide some threading beads or coloured pasta and encourage the children to thread the items in groups to create a necklace.

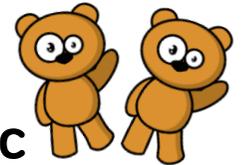
Do all of the necklaces have equal groups?

Compare the necklaces.

What's the same? What's different?



Teddy Bear Picnic



Provide teddy bears, plates and small quantities of loose parts for representing different food items. Ask the children to share out the loose parts fairly so that each teddy gets the same. Are there any items left over? What will happen if another teddy joins the picnic?

Even and Odd

Guidance

The children begin to understand that some quantities will share equally into 2 groups and some won't. They may also notice that some quantities can be grouped into pairs and some will have one left over. Provide opportunities for them to explore these ideas in different contexts as they play and to talk about what they notice.



Encourage the children to notice the odd and even structure on the number shapes and by building pair-wise patterns on the 10 frames.

Other Resources

Numberblocks Series 2 Episode 11 Odds and Evens

One Odd Day – Doris Fisher

Pete the Cat and the Missing Cupcakes – James Dean

Underwater Counting – Jerry Pallotta

10 Fat Sausages song

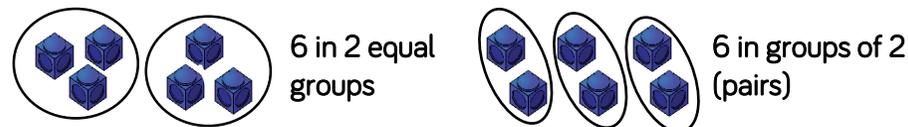
Prompts for Learning

Ask 5 children to come to the front. Can we group the children into pairs? Does everyone have a partner? Why not? What could we do to solve this problem?

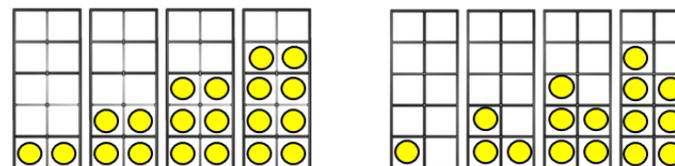


Investigate with other quantities of children. Encourage the children to notice that sometimes we can make even pairs and sometimes there is an odd one left out.

Encourage the children to investigate whether small quantities are odd or even by sharing into 2 groups and by making pairs. Prompt them to recognise that sometimes there is one left over.



Ask the children to build pair-wise patterns on the 10 frames and sort them into those which have two equal groups (even numbers) and those which have two unequal groups (odd numbers).



Even and Odd

Maths Area

Provide pots of items containing quantities from 1 to 10. Ask the children to count the items in each pot and decide if there is an odd or an even quantity. How could they check? They could also make odd and even collections of their own.



Feely Bag



Place the number shapes into a bag. Ask the children to feel inside the bag and find an odd number. How did they know it was odd? Can they find an even number? Can they sort the number shapes into odd and even? Can we line them up to see the odd, even, odd, even pattern as we count?

Enhancements to areas of learning

Outdoors

Ask the children to get into pairs ready for a game. Are they able to do this?

Does that mean that there are an even number or an odd number of players?

If there are an odd number of players, how could the problem be solved?



Art Area

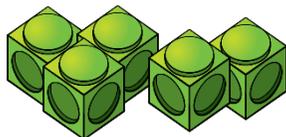


After reading *One Odd Day*, encourage the children to create their own odd and even pictures. Look at the pictures together. Is this an odd or an even picture? How do you know?

Encourage the children to talk about the pictures. How many odd or even features can they spot?

Digging Deeper

Odd and Even



Ask all the children to collect an odd number of cubes.

Ask them to check each others and compare the different quantities.

Are all the quantities odd? How could you check?

Now ask the children to collect one more cube and add it to their set.

How many do you have now?

Do you still have an odd number of cubes?

Ask the children to continue adding one more cube and to discuss what they notice.

What is the largest odd number you can build?

How can you check that it is odd?

Find Half

Provide 2 teddies and plates and a selection of items for halving. Ask the children to explore which quantities will halve exactly into 2 equal groups and which will have one left over.

If you have 6, can you give both teddies the same?

What about if you start with 5?

Are these even or odd numbers? How do you know?

Encourage the children to draw pictures to record their findings.



Make Equal Groups

This time keep 12 items to share each time but vary the number of teddies and plates.

Ask the children to explore sharing the 12 items into equal groups so that each teddy gets the same.

If there are 2 teddies will they each get the same?

How many are in each group?

Are there any items left over?

What about 3 teddies? 4 teddies? 5 teddies?

Spatial Reasoning (3)

Guidance

Children understand that places and models can be replicated and need to experience looking at these from different positions. Provide opportunities for children to replicate simple constructions, models, real places and places in stories. Prompt them to use positional language to describe where objects are in relation to other items. The use of gesture to accompany the positional language can also support understanding.

Encourage children to visualise simple models by playing barrier games and providing verbal instructions for them to follow as they build.

Other Resources



Rosie's Walk – Pat Hutchins

What the Ladybird Heard - Julia Donaldson

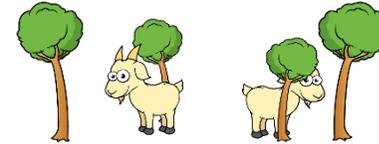
We're Going on a Bear Hunt – Michael Rosen

Mr Gumpy's Motor Car – John Burningham

Cockatoos – Quentin Blake

Prompts for Learning

Set up a small world scene and ask the children to describe where things are in relation to other things. Then ask them to move around and look at it from a different view point. Does it look the same? What do they notice?



During class visits, walks around the local area, or when playing outdoors, encourage the children to notice and describe where things are in relation to others. Encourage the children to recreate the places they have visited.

Provide each child with a set of items the same as yours.

Provide verbal instructions as you arrange your items.

Prompt the children to arrange their set in exactly the same way.

Compare the finished arrangements to see if they look the same.

Repeat with different children taking on the role of leader.



Add a barrier. Give verbal instructions as you arrange your blocks behind the barrier. The children follow your instructions to try to recreate the same arrangement. Once the models are complete, remove the barrier and compare.

Spatial Reasoning (3)

Outdoors



Take photographs of the outdoor area from unusual viewpoints. For example, under the tree or from very high up or low down. Challenge the children to identify where the photographer was standing. Can they take their own photos from different viewpoints?



Support the children to recreate real places they have visited or places in stories using the large scale loose parts and outdoor resources. Prompt them to consider the scale needed in their constructions.

For example, how big do we need to build Mr Gumpy's motor car so that we can all fit inside?

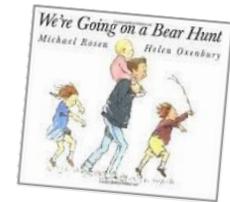
Enhancements to areas of learning

Loose Parts



Encourage the children to build identical constructions and arrangements. Take turns to be the designer who gives instructions and the followers who recreate the same arrangement. Barriers can be added to provide additional challenge.

Art Area



Provide a range of papers and materials. Encourage the children to create their own collage representations of real places or places in stories. Can they tell you about their picture? Prompt them to describe where things are in relation to other things.

Digging Deeper

Can You Build a...

Ask the children to take photographs of their models and display them in the construction area.

Encourage the children to talk about the pictures.

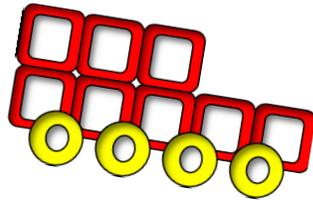
What do they notice?

Which model do they like best and why?

Can they use the pictures to recreate a model?

Which pieces do they need to collect?

Could they ask the designer for help?

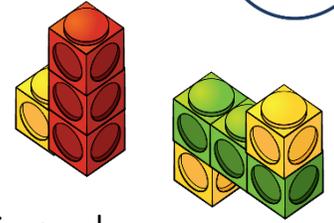


After building, prompt them to compare their models to the pictures.

Ask: Is there anything else you would like to add to your model?

Could you make a different model using the same pieces?

How Many Cubes?



Show the children a simple arrangement made from interlocking cubes. Ask them to talk about what they notice.

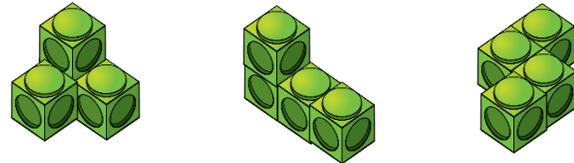
Can they recreate the same arrangement?

How many cubes will they need?

Are any of the cubes hidden?

Can you design a different arrangement for us to build using these cubes?

Do same colour models make this task easier or harder?



You can add extra challenge by just allowing the children quick peeps of the model as they build and then encouraging them to compare their models to the original afterwards.