GRADE EXPECTATIONS IN NUMERACY

FOR YEAR 1 CHILDREN

HELPING CHILDREN TO LEARN WELL

MOSS VALE PUBLIC SCHOOL

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LEARN TO LIVE

CONTENTS

Year 1 Parent Numeracy Checklist

YEAR 1

In Year 1, children work towards the following key skills. How confident is your child with the skills on this checklist? If you'd like to help your child with these skills, you've come to the right place!

Your child will be learning the skills on this checklist throughout the year. There is no specific order to learning them and you can revisit them at any time.

Whole Numbers

- ☐ 1 Count forwards and backwards by 1s from any number higher than 10
- ☐ 2 Identify the place value of digits in numbers
- ☐ 3 Read and write the numbers 0 to 99 (2-digit numbers)
- ☐ 4 Compare and order a group of numbers from 0 to 99 (2-digit numbers) from smallest to largest and vice versa
- ☐ 5 Read and use numbers to describe their place in an order to 31st (e.g. 1st, 2nd, 3rd etc.)
- ☐ 6 Recognise, describe and order Australian coins according to their value

Addition and Subtraction

- ☐ 7 Demonstrate addition and subtraction using pictures and objects
- ☐ 8 Recognise and remember number combinations that add up to 20
- ☐ 9 Demonstrate that numbers can be added in any order, e.g. 3 + 4 = 7 and 4 + 3 = 7
- ☐ 10 Write maths questions using drawings, words, numbers and the symbols +, – and = (e.g. 1 + 1 = 2, five minus three equals 2)
- ☐ 11 Mentally add and subtract 1-digit and 2-digit numbers. Explain how they worked out their answer in their head
- ☐ 12 Use the equals sign, and know that the total of the numbers on both sides must have the same value

Multiplication and Division

- ☐ 13 Skip count out loud by 2s, 5s and 10s starting at 0
- ☐ 14 Make and use equal groups as a strategy to multiply
- ☐ 15 Make and use equal groups as a strategy to divide

Fractions and Decimals

- ☐ 16 Show what half an object is. Know that a half is 2 equal parts of a whole
- ☐ 17 Use the symbol $\frac{1}{2}$ to describe a half

Patterns and Algebra

- ☐ 18 Show and explain odd and even numbers
- ☐ 19 Work with number patterns with increasing or decreasing numbers to identify, continue and explain patterns
- ☐ 20 Work with patterns of objects or symbols to identify, continue and explain patterns

Introduction to *parent support kit in numeracy*

Maths is everywhere! This kit can help you and your child to make real-life connections to what they're learning in the classroom. When children see, hear and use maths in real life, it gives their learning purpose. Use maths whenever you see the chance! Play maths games in the car. Involve the kids when you're cooking, shopping or budgeting. Add up the footy and cricket scores together. Talk about fractions as you serve food.

This parent support kit in numeracy is designed to help parents understand what children learn in each grade. At school, teaching is adjusted for the needs of each student. Children who show they have the skills listed in this kit will be working at grade level and assessed as sound.

This parent support kit uses parent-friendly language to explain the skills that children work to achieve by the end of each grade. We hope it empowers parents to help their children, and to participate in their child's education.

We know that every family is busy! The activities here are simple and straightforward. Any numeracy work you do at home with your child will help them in their learning. Your child's education is a partnership. Let's work together …

How to use this kit

This parent support kit:

- lists and explains the skills of children working towards a sound level
- shows ways to develop that skill with your child, including links to online resources like videos and games

Watch the videos to gain a deeper understanding of the skill. Work through the activities with your child. The suggestions here are a drop in the ocean – the internet has thousands! Use these as a starting point, and change them as you like.

Definitions are indicated by this icon throughout the kit. Lots of the definitions we use come from *www.schoolatoz.nsw.edu.au*.

Why is it important? Next to this icon, you'll see 2 types of explanations:

1 Why this particular skill is important in the real world or for what children will be learning later on
2 Tips to help with learning

A closer look: This icon points the way to:

- an activity to help develop the skill or concept using familiar language for your child
- examples of problems
- handy tricks to help remember skills

WEB link This icon points the way to online resources you can use at home, like games, videos and further explanations.

Notes: Helping young kids get maths

Video: Helping your child with primary school maths

Use the kit whenever and however you can! Your child will be working towards these skills all year. You might like to review the kit each term, or more regularly. If you have any questions about your child's learning, always talk to their teacher. Remember – we're all in this together!

Where do I learn more?

The key skills listed in this parent support kit are taken from the NSW Standards and Education Authority's (NESA's) Mathematics K-6 continuum of key ideas. You can find the complete mathematics syllabus for every grade at the NESA website.

Whole Numbers: Key Skill 1

Count forwards and backwards by 1s from any number higher than 10

Counting forwards and backwards helps children learn how numbers work in relation to each other. Children will find counting forwards easier than counting backwards. Counting over 10s and 100s can sometimes be tricky for children.

Count forwards and backwards together taking turns to say the next number.

Play a guessing game. Say, 'I'm thinking of a number. Here's a clue: it's the number after 5.' Or, 'I'm thinking of a number. Here's a clue: it's the number before 9.'

Draw a noughts and crosses grid and place a number in the middle. See if you can figure which numbers would go above, below, and either side of the number in the middle. The answers are (in clockwise direction from the top) 10 less than, 1 more than, 10 more than, 1 less than. Use a 100s chart to help you. (Here's a 100s chart you can print.)

WEB LINKS go to:

Notes: Helping young kids learn to understand numbers

Notes: 10 fun ways to help your child to count

Notes: Counting order

Notes: Before and after 10

Video: Counting

Video: Identifying one more or less

Game: Number before and after

Game: Number trains

Whole Numbers: *Key Skill 2*

Identify the place value of digits in numbers

A **digit** is a symbol used to write a numeral. The digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are used to write all the numbers in our number system. A 2-digit number is any 2 numbers together e.g. 25 or 76.

Place value shows the amount a digit is worth due to its position in a number – ones, tens, hundreds, thousands etc. e.g. 56 is 5 tens and 6 ones.

Understanding place value helps children understand the meaning and value of a number, which helps with maths strategies they learn later like trading in addition and subtraction.

Remember to include 0s when working with place value!

Check that the teen numbers are read and said clearly e.g. seven**teen** not seven**ty**! Children often write the teen numbers back to front e.g. 41 instead of 14 for fourteen. Sometimes when 18 and 81 are written next to each other, children see them as the same number.

Use a deck of playing cards (take out the face cards). Ask your child to pull 2 cards out, and ask them to read the number as a whole number, and then as tens and ones, e.g. 93 is 9 tens and 3 ones.

Play a game where your child becomes the 'numbers expert'! They can teach you how to write 2-digit numbers.

Play a game with playing or Uno cards. Draw 2 cards each and see who can make the largest number. They are the winner! How many times in a row can you win?

WEB LINKS go to:

Notes: Helping young kids learn to understand numbers

Video: Making 2-digit numbers

Game: Pop penguin and the place value race

Game: Number partner

Whole Numbers: Key Skill 3

Read and write the numbers 0 to 99 (2-digit numbers)

A **digit** is a symbol used to write a numeral. The digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are used to write all the numbers in our number system. A 2-digit number is any 2 numbers together e.g. 25 or 76.

Being able to read and write numbers is an important skill for future learning and everyday life.

Check that the teen numbers are read and said clearly e.g. seven*teen* not seven*ty*! Children often write the teen numbers back to front e.g. 41 instead of 14 for fourteen. Sometimes when 18 and 81 are written next to each other, children see them as the same number.

Look around! 2-digit numbers are everywhere! Point out 2-digit numbers, help your child read them, and talk about what they mean.

Read the daily temperature where you live and write it on the calendar.

Play bingo or snakes and ladders.

WEB LINKS go to:

Notes: Helping young kids learn to understand numbers

Game: Place value party

Game: Untamed number names

Whole Numbers: Key Skill 4

Compare and order a group of numbers from 0 to 99 (2-digit numbers) from smallest to largest and vice versa

A **digit** is a symbol used to write a numeral. The digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are used to write all the numbers in our number system. A 2-digit number is any 2 numbers together e.g. 25 or 76.

Ordering numbers helps children learn about number relationships. These are important skills for their future learning, and for everyday life.

Check when teen numbers are included in your group. Sometimes when 18 and 81, or 14 and 41 are written next to each other, children see them as the same number.

Randomly choose a group of numbers between 1 and 100, and help your child to order them from smallest to largest. Once they're confident, time them with adding more numbers to sort. Work on largest to smallest too and turn it into a race!

Use a 100s chart and blank out some numbers. Work together to find what numbers go in the spaces. (Here's a 100s chart you can print.)

WEB LINKS go to:

Notes: Numbers before and after

Video: Identifying highest and lowest numbers

Video: Ordering numbers to 100

Read and use numbers to describe their place in an order to 31st (e.g. 1st, 2nd, 3rd)

Numbers used to describe a place in an order are called **ordinal numbers**. They tell the position of something in a sequence e.g. 1st, 2nd, 3rd, 15th, 100th.

We use ordinal numbers in everyday life to order and compare people, events and things.

Children learn this skill by finding first and last before moving on to places in the middle like 4th or 5th and finally, third hour of the day or 2nd last in the line. It is helpful to remember that ordinal numbers depend on the starting point e.g. 3rd last car from the left.

Find your position in the line at the supermarket. Are you third from the register? Last in the line?

Look at a sports competition ladder like the NRL ladder, and talk about the position of each team in the competition. Who is coming first? Who is coming last?

Rank things in order of size, e.g. Australian states, pencils, stuffed toys etc.

Find things to compare and order e.g. heights, times, sizes and find the first, last and a place in between.

Play any games where turn taking and places are a part of the game like backyard races, Jenga, Monopoly Junior, Collect 4, Hungry hippo and many more!

WEB LINKS go to:

Video: Ordinal numbers

Video: Ordinal numbers game

Video: Students learning ordinal numbers

Video: Ordinal numbers race

Whole Numbers: Key Skill 6

Recognise, describe and order Australian coins according to their value

The **value** of coins tells you how much each coin is worth.

Knowing and understanding the value of coins is an essential skill for everyday life.

Many children do not see physical money or money exchanges (we use eftpos machines!). Playing with and using money helps children to learn about money, as well as the types and value of coins.

Many children think that the biggest coin is the most valuable. Sometimes they think the amount of coins is more important than the type of coins. So 20 x 5c pieces is more money than 3 x $2 coins.

Open up a play shop or restaurant and practise using money. Help your child to group like coins together when buying or giving change at the restaurant or shop.

Play Monopoly Junior!

Go through your coins to show different types of coins. Talk about how they are similar and how they are different.

If you have coins from different countries, compare them to Australian coins. Talk about what's the same and different about them.

Create a 'coin caterpillar' that uses different coins working through their value e.g. $2 coins near the head and 5c pieces at the end or vice versa.

Make coin rubbings by rubbing a pencil over a piece of paper with a coin underneath.

Start a piggy bank at home and when it is full, open it and work together to order the coins saved in groups of their value.

WEB LINKS go to:

Video: Australian coins
Video: Australian notes and coins

Demonstrate addition and subtraction using pictures and objects

Addition is the process of combining collections of objects into a larger collection. It is the opposite of subtraction. Add, addition, plus and sum mean the same thing.

Subtraction is taking 1 number or amount away from another. It is the opposite of addition. Decrease, minus, subtract, subtraction and take away mean the same thing.

Children begin to learn about addition and subtraction by moving objects and using pictures. Finding everyday events to give your child experiences using addition and subtraction will help develop this skill. Children learn to count from a larger number when adding.

Children can sometimes get stuck if they forget to physically move objects when working out their answer. Look for every object being counted once and given a number as your child adds or subtracts. Check that they know the last number they count is the answer.

When you're at the shops, ask your child to count the number of items in the basket. Ask questions like, 'How many will there be when we add 2 more items to the basket? How many will there be if we put back 1 item? After we put 5 items on the counter, how many will be left?'

Play skittles! Write down the number of pins you start with, and take away the number you knock down. At the end, add your scores.

Give your child a group of objects and ask them to answer a maths question that you give them.

$7 + 4 = \triangle$ $\qquad$ $13 - 5 = \triangle$ $\qquad$ $\triangle = 6 + 2$ $\qquad$ $20 - 7 = \triangle$

WEB LINKS go to:

Notes: Helping your child with arithmetic

Video: Adding

Video: Subtraction in action

Games: Addition and subtraction games

Recognise and remember number combinations that add up to 20

Number combinations are a pair of numbers that add up to 20 e.g. 19 and 1, 18 and 2, 17 and 3, 16 and 4 etc. They are also called number bonds and friends of 20.

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Knowing number combinations makes adding and subtracting in their head easier. Through number combinations, children can start to see the relationships between numbers. For example, $11 + 10 = 21$ because 10 and 10 are friends of 20, and 11 is one more.

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Practise quick recall of numbers that add to 20.

$19 + 1 = 20$	$1 + 19 = 20$
$18 + 2 = 20$	$2 + 18 = 20$
$17 + 3 = 20$	$3 + 17 = 20$
$16 + 4 = 20$	$4 + 16 = 20$
$15 + 5 = 20$	$5 + 15 = 20$
$14 + 6 = 20$	$6 + 14 = 20$
$13 + 7 = 20$	$7 + 13 = 20$
$12 + 8 = 20$	$8 + 12 = 20$
$11 + 9 = 20$	$9 + 11 = 20$
$10 + 10 = 20$	

Your child might use the words 'friends of 20', e.g. 9 and 11 are 'friends' of 20, because $9 + 11 = 20$ and $11 + 9 = 20$.

Make a rainbow artwork and write the friends of 20 underneath. $10 + 10$ are on the smallest arc and $19 + 1$ on the largest arc. Each arc joins to make 20!

Create number bonds to 20 building lego towers. 19 white and 1 red = 20, 18 yellow and 2 green = 20 and so on.

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WEB LINKS go to:

Video: Combinations to 20 game

Game: Number bonds make 20

Game: Subtraction to 20

Addition and Subtraction: *Key Skill 9*

Demonstrate that numbers can be added in any order. This is the commutative law e.g. 3 + 4 = 7 and 4 + 3 = 7

The **commutative law** shows that numbers can be added in any order or multiplied in any order and the answer will be the same. Commutativity and turn-around facts all mean the same thing.

This is a maths skill needed for mental maths strategies (working out answers in your head). Children can spin the numbers around to answer questions faster and easier! Remember that this works only for addition and multiplication - not subtraction or division.

$20 + 5 = 5 + 20$ $20 - 5 \neq 5 - 20$

This is very handy when teaching children to start with the bigger number first and then add the smaller number. For example, with 3 + 16 it is easier start from 16 and count on 3 (16 + 3) than start from 3 and count on 16 (3 + 16).

Play a dice game! Roll 2 dice, put them next to each other, and add up the results. Switch the order, and add up the results again. Explain that, even though they're in a different order, the result is the same.

Play with dominoes and take turns to add up the 2 numbers on each domino. Swap the order you add them to check the answer is always the same!

Investigate the commutative law for yourselves! Make some tricky questions and see if you can stump the law. Some examples to help you on your way:

$5 + 6 + 3 =$ $= 3 + 2 + 8$ $= 3 + 6 + 1$ $2 + 6 + 7 + 3 =$

WEB LINKS go to:

Notes: Turn-around facts

Video: Commutative law of addition explained

Video: Commutative law of addition

Addition and Subtraction: Key Skill 10

Write maths questions using drawings, words, numbers and the symbols +, – and = (e.g. 1 + 1 = 2, five minus three equals 2)

Being able to read and write maths symbols, words and drawings helps children to create their own maths questions and understand how to use each in the right way.

Act out a story or a problem and then draw the question and answer in pictures.

Play Mr Squiggle and turn maths symbols, words, numbers into drawings to help your child become familiar with the symbols.

Play a game where you use a combination of symbols, pictures, numbers and words all together to make maths questions. Fold a piece of paper in 5 strips and take turns adding the next part of the question hiding the part before it. Play around with all the options and at the end reveal your question and answer the question together.

WEB LINKS go to:

Video: Making equations
Video: Mr Squiggle

Mentally add and subtract 1-digit and 2-digit numbers. Explain how they worked out their answer in their head

A **digit** is a symbol used to write a numeral. The digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are used to write all the numbers in our number system. A 2-digit number is any 2 numbers together e.g. 25 or 76.

Children use **mental strategies** to figure out the maths problem in their head, without writing anything down.

Mental calculation is an important everyday skill – we use it at the shops, when we're playing sport and we're in the car to figure out when we'll get there. When children can add and subtract in their head, it builds their confidence and lays the groundwork for skills they'll need later.

Start with questions that don't use trading and work to harder questions where trading is needed. We often use a 100s chart to help children work towards mental addition and subtraction (here's a 100s chart you can print). Sometimes children need a reminder to start with the largest number. It is important that they can explain *how* they came to their answer.

Make up some sums for your child to solve (use the place value chart to start with). Ask, 'How did you figure that out? Can you show me how you got that answer? What if I change the number to?'

Pretend that you don't know how to answer the question and get it wrong on purpose. Have your child become the expert and teach you how to solve the problem!

Play a game of subtraction bowling! Write down the number of pins you start with, and take away the number you knock down. At the end, add your scores.

Play a subtraction game with dice. Start with a 50 or 100, roll the dice, and subtract the result. The first person to 0 wins! Try doing the same with addition starting at 0 and aiming for 50 or 100.

WEB LINKS go to:

Notes: How to help your child with mental calculation

Video: Mental subtraction strategies

Video: Subtraction strategies

Game: Gobbling goblins

Addition and Subtraction: Key Skill 12

Use the equals sign, and know that the total of the numbers on both sides must have the same value

The **equals sign** is a symbol used to show that 2 or more amounts have the same value e.g. $5 + 3 = 9 - 1$.

The equals sign is like a balance beam! The numbers on either side must always be equal. It doesn't just mean 'write the answer here'. The equals sign's job is easily and quickly forgotten and children need reminding of this often! Talk to your child about sums and the equals sign. Use words like value, same, different and even balance beam.

Use different coloured pegs to create different combinations that add up to the same number. 4 green + 2 blue = 3 green + 3 blue. See how many different combinations you can make to create the same total!

Don't forget to write questions of the other side of the equals sign! $7 = 3 + 4$ and is the same as $3 + 4 = 7$ but not often seen like this.

$= 2 + 7$ $= 8 - 4$ $= 7 - 5$ $= 3 + 11$

Create your own scales with a coat hanger, 2 cups and string. Put an equals sign in the middle then make and test your own questions using pegs, marbles or even food!

Try some questions where the 2 sides don't add up to the same number. Put 2 boxes either side of the equals sign with objects in each 1 so your child can count and move items to help them find then fix the problem.

$5 + 2 = 3 + 5$ $10 - 2 = 3 + 3$ $10 + 2 = 12 + 4$

WEB LINKS go to:

Video: What is the question?

Video: Using the equals sign in Year 1

Game: Balance the cups

Multiplication and Division: Key Skill 13

Skip count out loud by 2s, 5s and 10s starting at 0

Skip counting is counting forwards or backwards in groups or multiples of a particular number.

Learning to skip count helps children learn strategies for addition and subtraction. It builds number confidence and strong multiplication skills. Skip counting helps children to move from counting by 1s, to using number facts to count e.g. starting at 7 to count on.

Children will find skip counting forwards easier than skip counting backwards. Counting over 10s and 100s can sometimes be tricky too.

Play a game! Take turns skip counting by 2s, 5s or 10s. Here are some examples:

'Let's count by 5s starting from 0 and see how high we can go.'
'Let's start at 0 and count up by 10s. I'll go first then you go after me. 0, 10 …'

Colour in all the 2s, 5s or 10s in a 100s chart and talk about the patterns you have made. (Here's a 100s chart you can print.)

Make cards showing multiples of 2, 5 or 10 to help with skip counting. Use playing cards, scrap paper, paddle pop sticks or anything to race. See who can order them forwards or backwards the fastest.

Play pick up sticks but in order! You could use paddle pop sticks to make this game easier for little fingers.

Skip count out loud and deliberately miss a number. Work together to find what the number should be.

WEB LINKS go to:

Video: How to teach kids to skip count
Game: Skip counting game

Multiplication and Division: Key Skill 14

Make and use equal groups as a strategy to multiply

Equal groups means to have the same amount in each group.

Putting objects together in equal groups helps children to understand early multiplication and division. Encourage your child to physically move objects to create equal groups.

Make groups with objects your child can move around themselves, like pencils, pebbles, fruit etc. Count each group to check they are equal.

Here are some examples of problems you can solve together.

- I need 2 groups of 5. Let's make 2 groups with 5 in each group. Now let's add them together.
- 'Look at this! There are 6 grapes in that group, and 6 in this group. How many grapes are there altogether? That means 2 groups of 6 is 12.'

WEB LINKS go to:

Notes: Using groups

Notes: Divide

Video: Multiplying for Year 1

Video: Multiplying with objects

Make and use equal groups as a strategy to divide

Division is often talked about as 'sharing'. We share out the items in a big group to make smaller groups.

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Putting objects together in *equal groups* helps children to understand early multiplication and division. Encourage your child to physically move objects to create equal groups.

There are 2 types of sharing problems. Children work with the total to give each group a specific number of items. Here's the difference:

- Share 10 pencils into 5 groups. How many pencils are in each group?

  Share 12 objects into 3 groups. How many objects are in each group? The key element is that the child has to work out that there are 3 groups of 4.

- Share 10 pencils so that each child gets 2 each. How many children get a pencil?

  Share 12 objects so that there are 3 in each group. How many groups are there? The key element is that the child has to work out that there are 4 groups.

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Start with a bigger group of objects, and share them out equally. Here are some examples:

- 'We have 10 apples and 2 children. How many apples will we give each child?'

Try a number line to divide! We skip count backwards on the line and then see how many skips we made to get to 0. The number of skips (or hops) is our answer! For 12 ÷ 3 we draw a number line, then start at 12. We jump backwards by 3s to 9, 6, 3 and then 0. We jumped 4 times so the answer is 4. 12 ÷ 3 = 4

Make physical groups and share out real objects. Help divide and share out baked treats, fruit pieces or even dinner so that they are all equal.

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WEB LINKS go to:

Notes: Using groups

Notes: Empty number lines

Video: Division strategies

Video: Division in action

Video: Division into groups

Video: Division example

Show what half an object is. Know that a half is 2 equal parts of a whole

A **half** is 1 of 2 equal parts of a whole.

This is the beginning of learning about fractions. Encourage your child to discover that a fraction is a part of a whole. The whole could be an object, a group of objects or a number.

Show that to create a half, a whole is split into 2 *equal* parts.

Use food! Slice in half a pizza, cake, banana etc. Explain that both sides are equal, so the item has been halved.

Read the story "Give Me Half" by Stuart J. Murphy with your child.

WEB LINKS go to:

Video: Halving numbers

Video: Halves in the real world

Video: "Give Me Half" book reading

Fractions and Decimals: Key Skill 17

Use the symbol $\frac{1}{2}$ to describe a half

A **fraction** is part of a whole that has been broken into equal parts. It has a:

- **numerator** (the top number)
- **fraction bar** (the line in the middle)
- **denominator** (the bottom number)

A **numerator** is the number above the line in a fraction which shows how many parts you have.

A **denominator** is the number below the line in a fraction. It shows the number of parts a whole has been divided into.

The line in between the numerator and the denominator is called the **fraction bar**. Division bar and vinculum mean the same thing.

It will help your child to use these words when talking about fractions.

Remember that fractions represent equal parts of a whole. If the parts are not equal, it is not a fraction.

Look around! Point out where you see the $\frac{1}{2}$ symbol – shopping catalogues, recipes, the newspaper etc. Talk about what the symbol means in each situation.

WEB LINKS go to:

Notes: Fractions

Notes: Numerator

Notes: Denominator

Video: How to write a half

Video: Parts of a fraction

Show and explain odd and even numbers

Even numbers are whole numbers ending in 0, 2, 4, 6, or 8.

Odd numbers are whole numbers ending in 1, 3, 5, 7 and 9.

Even and odd numbers help children with their skip counting, doubling and halving. Later, they'll help with division and prime numbers.

When you talk about numbers, ask your child whether they are odd or even. Talk about how many letters are in the names of people in your family, house numbers of people you know, the number of cousins your child has etc. Odd or even? Make a table of the results.

Create an artwork with flowers. Make flowers with odd and even petals. Write which one they are in the middle of the flower.

Play a game of Uno and call out if the card played is odd or even as you play.

Read the story "Even Steven and Odd Todd" by Kathryn Cristaldi or "Missing Mittens" by Stuart J. Murphy with your child. Talk about whether the items in the story are even or odd.

WEB LINKS go to:

Video: Even and odd numbers

Video: "Even Steven and Odd Todd" book reading

Video: "Missing Mittens" book reading

Video: Odd and even numbers

Game: Number jumbler

Game: Odd and even

Patterns and Algebra: Key Skill 19

Work with number patterns with increasing or decreasing numbers to identify, continue and explain patterns

A **pattern** is made up of a number of elements that repeat.

A **number pattern** is made up of numbers that repeat following a rule e.g. 2, 4, 6, 8 the number pattern is increasing by 2.

Finding number patterns help children to see the relationships between numbers. For example, I can calculate 6 + 5 because I know that 5 + 5 is 10 and so 6 + 5 is 1 more. Identifying patterns is the easiest of these skills, with continuing and then explaining patterns being harder.

Use a 100s chart to colour in a number pattern. For example, +5 every time or colour all the numbers that end in 6. Look at the pattern that is being made. Describe your pattern. Can you make another pattern? What other patterns do you see? (Here's a 100s chart you can print.)

Start with a number on a calculator and add or subtract the same numbers. For example, start with 34 then minus 2. Then minus 2 again, and again. See what happens to the number. Guess what the next number will be before you type it into the calculator.

WEB LINKS go to:

Video: Identifying missed numbers in patterns

Game: Treasure cliff

Game: Interactive 100s chart

Patterns and Algebra: *Key Skill 20*

Work with patterns of objects or symbols to identify, continue and explain patterns

A **pattern** is made up of a number of elements that repeat.

Sorting and classifying objects and numbers is a child's first look at patterns. Looking for similarities and differences between objects such as size, colour and shape is the beginning of finding patterns. Patterns can be like puzzles and encourage logical thinking which is important for maths. Identifying patterns is the easiest of these skills, with continuing and then explaining patterns being harder.

Help your child to make a repeating pattern as an artwork.

Ask your child what comes next in a pattern. Here are some examples:

- 'Tree, house, dog, tree, house, … what comes next?'
- 'Train, bus, car, plane, train, bus, car … how am I making this pattern?'

Play games involving body actions such as clapping or jumping. Ask your child to repeat the pattern, continue the pattern or make up a new one!

Find the patterns in the beat of your favourite music. See if they can explain the pattern they are hearing.

Arrange some random materials and ask your child to explain if it's a pattern. Ask questions like

'Why is it a pattern?'
'What can we add or take away to make a pattern?'
'How can we keep the pattern going?'
'Describe the pattern to me'
'Can you make another pattern?'

Discuss the numbers on houses in the street and ask your child to describe what's happening as you walk along.

WEB LINKS go to:

Notes: Patterns

Video: Patterns

Game: Making patterns