

Parent Maths Handbook



SUPPORTING WORKING FAMILIES

Maths for life

At Altrincham C.E. Primary School we aim to give children the skills and attributes needed to be lifelong mathematicians.

Structure of lessons

Our lessons usually begin with a **Mental and Oral Warm Up**. This consists of consolidation of mathematical skills, essential for children to embed and practise skills. It is a fast paced part of the lesson and many of the activities are games based to increase enjoyment and challenge.

Following this we begin the lesson with new **Teaching** and at this point we build on an element children may have previously covered, taking it to a more complex level. We encourage independent thinking from the children and discussion is crucial to clarify understanding and check any misconceptions.

The main part of the lesson involves the children being engaged in a **Task**. We believe in giving children engaging, enjoyable and relevant tasks in their lessons. They might be working on their own, with a partner or small group.

Lessons are completed with a **Plenary** where children's learning is assessed and they are asked to share understanding. We often extend or challenge thinking and look at the next steps in children's learning. We feel it is also crucial that children assess their own learning and indicate how they feel they are achieving.

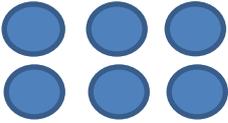
Skills

Encouraging children to be independent in ways of working will increase confidence and help build self-belief. Although supporting them with maths is crucial, it is also important that we do not do too much for them.

When children work on a problem and find it is a challenge, this becomes an opportunity to develop their resilience. This can also lead to a greater sense of achievement when they overcome the problem.

A major part of mathematics is the ability to transfer skills from one area to another.

For example - addition is a skill we teach but we might look at addition of money, measurements or weights etc. Encouraging children to see these links is crucial so we emphasise that maths is a transferable skill.

Term	Definition
Partition	<p>To split a number into smaller components</p> <p>E.g. $235 = 200 + 30 + 5$</p> <p>Or $37 = 30 + 7$ or $20 + 17$</p>
Number sentence	<p>Written horizontal calculation</p> <p>E.g. $45 + 34 = 45 + 30 + 4 = 75 + 4 = 79$</p> <p>Or $56 + 23 = 79$</p> <p>I won 5 marbles and then I won 3 more. I have 8 marbles altogether.</p>
Empty number line	<p>A hand drawn line used to assist with a mental calculation.</p> <p>E.g.</p> <div style="text-align: center;"> $\begin{array}{ccccccccc} & +10 & & +10 & & +10 & & +10 & & +4 \\ \text{↪} & & \text{↪} & & \text{↪} & & \text{↪} & & \text{↪} & \\ 26 & \text{---} & 36 & \text{---} & 46 & \text{---} & 56 & \text{---} & 66 & \text{---} & 70 \end{array}$ </div>
Jottings	<p>Any method of recording numbers / strategies that is not formalised.</p> <p>E.g. use of empty number lines, number sentences. We must encourage jottings.</p>
Array	<p>A way of arranging counters, objects or pegs to assist pupils with early stages of multiplication. E.g.</p> <div style="text-align: center;">  </div> <p>$3 \times 2 = 6$ or $2 \times 3 = 6$</p>
Near Double	<p>When two numbers are added that are extremely close to each other in terms of size or position on a number line. Children are encouraged to use their knowledge of doubling numbers and to make the relevant adjustments.</p> <p>E.g. $12 + 13$ Children might use their knowledge of 'double $12 = 24$' and then add an extra 1 to make 25. Alternatively they might use 'double $13 = 26$' and then subtract 1 to make 25.</p>

Rounding up or down	<p>When numbers are 'approximated' to the nearest multiple of 10 or 100. E.g. when rounding 27 to the nearest 10, 27 would become 30. Note that any numbers lying half way between two multiples, e.g. 25, are always rounded up (i.e. to 30).</p>
Vertical Method	<p>Any written method set out in a vertical format.</p> <p>E.g. $\begin{array}{r} 46 \\ + 27 \\ \hline 6+7 = 13 \\ 40+20= 60 \\ \hline 73 \end{array}$</p>
Expanded Method	<p>A written method that acts as a 'stepping stone' between a mental method with jottings and a standard written method.</p> <p>E.g. $\begin{array}{r} 274 \\ + 123 \\ \hline \end{array} \quad \begin{array}{r} 200 \\ + 100 \\ \hline 300 \end{array} \quad \begin{array}{r} 70 \\ + 20 \\ \hline 90 \end{array} \quad \begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array}$</p>
Standard Written Method or Compact Method	<p>An efficient written method.</p> <p>E.g. $\begin{array}{r} 376 \\ + 148 \\ \hline 524 \\ 11 \end{array}$</p> <p>6 add 8 is 14, which is 10 and 4. 4 in the units and 1 ten carried to the tens column. 70 + 40 is 110 and the extra 10 is 120. Write the 2 tens in the tens column and put the 1 hundred in the hundreds column. 300 and 100 is 400 and add the additional hundred making 500. The answer is 524.</p>
	<p>Multiplication written method involving the partitioning of numbers within a grid structure.</p>

<p>Grid Method</p>	<p>E.g. 34×27</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">x</td> <td style="border-left: 1px solid black; padding: 5px;">20</td> <td style="padding: 5px;">7</td> <td></td> </tr> <tr> <td style="border-top: 1px solid black; padding: 5px;">30</td> <td style="border-left: 1px solid black; border-top: 1px solid black; padding: 5px;">600</td> <td style="border-top: 1px solid black; padding: 5px;">210</td> <td style="padding: 5px;">= 810</td> </tr> <tr> <td style="border-top: 1px solid black; padding: 5px;">4</td> <td style="border-left: 1px solid black; border-top: 1px solid black; padding: 5px;">80</td> <td style="border-top: 1px solid black; padding: 5px;">28</td> <td style="padding: 5px;">= 108 +</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right; padding: 5px;"><u>918</u></td> <td></td> </tr> </table>	x	20	7		30	600	210	= 810	4	80	28	= 108 +			<u>918</u>			
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30	600	210	= 810																
4	80	28	= 108 +																
		<u>918</u>																	
<p>Sharing</p>	<p>A form of division where a number is shared equally into sets. E.g. There are 12 cub scouts and 3 tents. How many cubs will there be in each tent?</p> <p style="text-align: center;">$12 \div 3 = 4$</p>																		
<p>Grouping</p>	<p>This is also known as repeated subtraction. A form of division where groups of the divisor are subtracted.</p> <p>E.g. There are 12 cub scouts to be placed into teams of three. How many teams can we make?</p> <p>$12 \div 3 = 4$</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;">12</td><td></td></tr> <tr><td style="text-align: right;"><u>- 3</u></td><td>(1 x 3 or 1 team)</td></tr> <tr><td style="text-align: right;">9</td><td></td></tr> <tr><td style="text-align: right;"><u>- 3</u></td><td>(1 x 3)</td></tr> <tr><td style="text-align: right;">6</td><td></td></tr> <tr><td style="text-align: right;"><u>- 3</u></td><td>(1 x 3)</td></tr> <tr><td style="text-align: right;">3</td><td></td></tr> <tr><td style="text-align: right;"><u>- 3</u></td><td>(1 x 3)</td></tr> <tr><td style="text-align: right;">0 =</td><td>4 teams altogether</td></tr> </table>	12		<u>- 3</u>	(1 x 3 or 1 team)	9		<u>- 3</u>	(1 x 3)	6		<u>- 3</u>	(1 x 3)	3		<u>- 3</u>	(1 x 3)	0 =	4 teams altogether
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	<p>A strategy used in division involving repeated subtraction or the taking</p>																		

<p>Chunking</p>	<p>away of 'chunks' of the divisor.</p> <p>E.g. $256 \div 7$</p> $ \begin{array}{r} \underline{36 \text{ remainder (r) } 4} \\ 7 \overline{) 256} \\ \underline{- 70} \text{ (10 \times 7)} \\ 186 \\ \underline{- 140} \text{ (20 \times 7)} \\ 46 \\ \underline{- 42} \text{ (6 \times 7)} \\ 4 \end{array} $
<p>Short Multiplication</p>	<p>Multiplication by a single digit</p> <p>E.g. 34×3, or 243×8</p>
<p>Long Multiplication</p>	<p>Multiplication by a number with two or more digits.</p> <p>E.g. 34×13, 243×28, 26×3.4</p>
<p>Short Division</p>	<p>Division by a unit.</p> <p>E.g. $34 \div 3$, or $243 \div 8$</p>
<p>Long Division</p>	<p>Division by a number with two or more digits.</p> <p>E.g. $34 \div 13$, or $243 \div 28$</p>

Ideas of activities to do at home

Enjoying maths at home with family can help children consolidate work in school and allow them to see the need for lifelong maths. Here are some easy to implement ideas to try at home -

Number

- Use coins, packs of cards or number cards to play games - bingo, snap, pairs games using number bonds, times tables, odds and evens etc.
- Look at number around you as often as possible.
When out and about see where numbers are and how important they are in everyday life.

Time

- Get your child to tell the time when you are off out somewhere.
- Work out how long until an event takes place (Ie - bedtime!)
- Discuss the difference between times.

Measure

- When baking or cooking get your child to weigh out ingredients with you. It is more useful to work in g and kg but discussion about imperial is also beneficial without going into too much detail.
- Have children look for measurements on bottles. Again metric (ml and l) are most useful. Ask questions such as - if we pour out 50ml how much will still be in the bottle?

Money

- Encourage your child to use and handle money as much as possible.
- Discuss the value of money and allow them to add items in shops.
- Children saving up pocket money can be a great way to encourage the value of money and allow them to take responsibility.

Shape

- Encourage children to look for shapes around them, both 2D and 3D.
- What is this shape? How do you know?

Data Handling

- When sorting items out at home get your child to group them into different categories and discuss their choices.

- When making decisions get your child to construct surveys and ways of recording results. Which is the highest? Which had the lowest number of votes?

Do!

- Make maths fun.
- Encourage children to have a go.
- Praise achievements, however small.
- Encourage children to talk about how they work things out.
- Remember that asking questions is as important as finding answers.
- Work together for short sessions (little and often).
- Stop as soon as either of you have had enough!

Don't!

- Put children under too much pressure.
- As tricky as it can be try to not pass on negative feelings you may have about maths.
- Rush your child's learning.
- Worry about mistakes; we learn by taking risks and getting things wrong sometimes.
- Jump in too quickly with the answer. Encourage your child to solve problems for themselves.
- Continue if your child is finding the activity far too hard, instead give them a rest and possibly speak to their class teacher.

Calculations

The following pages indicate the progression through the 4 operations (addition, subtraction, multiplication and division) throughout the school.

Please remember all children will not necessarily be working at age related expectations, some above and others below. It is crucial that children only move onto the next stage when completely secure with the one before.

Targets for Pupils in Reception

Recognising numbers

Choose a number for the week, e.g. 2.

Encourage your child to look out for this number all the time.

Can your child see the number 2 anywhere?

at home

- in the kitchen

- on pages in a book

in the street

- on doors

- on car number plates

- on buses

while out shopping

- on the shop till

- on shelves

- in shop windows

- ♦ Find two apples, toys, spoons, straws, sweets, etc.
- ♦ Make patterns, such as two knives, two forks, two spoons, two knives, two forks, two spoons...
- ♦ Practise writing the number 2.

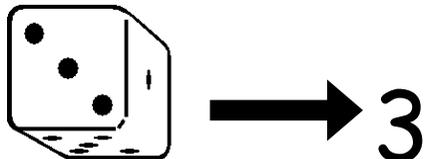
Choose a different number each week

Dice game

Use a 'dotted' dice and write the numbers 1 to 6 on a sheet of paper (or use the numbered animals).

Throw the dice. Can your child guess how many dots there are?
Check by counting.

- ♦ Ask your child which number on the paper matches the dots on the dice.



A Booklet for Parents

Help your child with Mathematics

By the end of this year, most children should be able to...

- Say and use number names in order in familiar contexts
- Use language such as 'more' or 'less' to compare two numbers
- Find one more or one less than a number from 1 to 10
- Count reliably up to 10 everyday objects
- Use developing mathematical ideas and methods to solve practical problems
- Recognise numerals 1 to 9
- Use developing mathematical ideas and methods to solve practical problems
- Begin to relate addition to combining two sets of objects and subtraction to taking away
- In practical activities and discussion begin to use the vocabulary involved in adding and subtracting
- Use language such as 'circle' or 'bigger' to describe the shape and size of solids and flat shapes
- Talk about, recognise and recreate simple patterns
- Use everyday words to describe position
- Use developing mathematical ideas and methods to solve practical problems
- Use language such as 'greater', 'lighter', 'smaller', 'heavier', or 'lighter' to compare quantities
- Use developing mathematical ideas and methods to solve practical problems

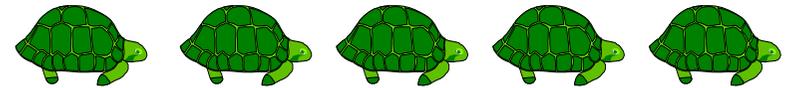
_____ is working on the targets that are ticked.

Fun activities to do at home

Counting and putting numbers in order

Use old magazines, comics or greetings cards.

Cut out pictures of animals, or anything else your child is interested in. Label the animals 1 to 5.

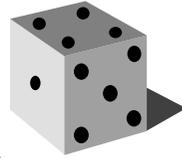


- ◆ Shuffle the animals. Put them in order from 1 to 5.
- ◆ Remove one animal. Ask your child which number is missing. Repeat with other numbers and more than one missing number.
- ◆ Ask your child to say what number comes before or after a number you choose.

When your child can do this, repeat with numbers 1 to 10.

Build a tower

For this game you need a dice



and some building blocks or lego bricks.

- ◆ Take turns.
- ◆ Roll the dice.
- ◆ Collect the number of bricks to build your own tower.
- ◆ The first to 10 wins!

For a change, start with 10 blocks or bricks each.

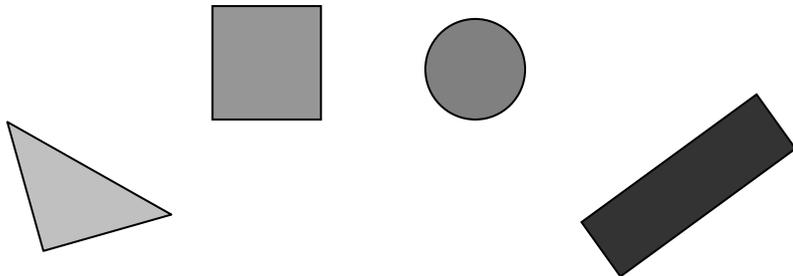
Take away the number on the dice. First to exactly zero wins.

Roll a shape

Cut out 12 shapes.

Make 3 triangles, 3 squares, 3 rectangles and 3 circles.

- ◆ Take turns to roll a dice and collect a shape that has that number of sides, e.g. roll a 4, collect a square.
- ◆ The first to have four different shapes wins.
- ◆ If you can name each shape you go first next time!



About the targets

These targets show some of the things your child should be able to do by the end of the Reception year.

Some targets are harder than they seem, e.g. children who can count up to 10 may still have trouble saying which number comes after 5. They may have to start at 1 and count from there

Fun activities to do at home

Rhymes

Teach your child any number rhymes or songs that you know, particularly ones that involve holding up a number of fingers, like *Five little speckled frogs*. Practise them regularly, with actions.

You can get counting songs on audio tape for a very reasonable price.

Dicey counting

Take turns to roll a dice and count back to zero from the number thrown. For example:



Four, three, two, one, zero!

One more, one less

For this game you need a dice, a coin and some building blocks or Lego bricks.

- ◆ Take turns to roll the dice.
- ◆ Build a tower with that number of blocks or bricks.
- ◆ Then toss the coin. Heads means take one brick off. Tails means add one on.
- ◆ If you can guess how many bricks there will be after this, you keep them!
- ◆ The first to collect 20 bricks or more wins!

Counting

Practise counting. Start at 5, and count on from there to 11.

Start at 9, count back from there to zero.

Choose a different starting number each time.

Cupboard maths

Ask your child to help you sort a food cupboard out, putting **heavier** items on the lower shelf and **lighter** items on an upper shelf.



Fun activities to do at home

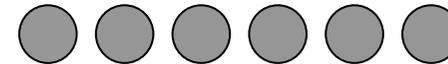
Collections

You need something to collect, e.g. sticky shapes, dried beans.

- ◆ In turn, one player claps 1, 2, 3, or 4 times while the other player closes his eyes and listens.
- ◆ How many claps did you hear? Take that number of shapes.
- ◆ The first to make a pattern with 12 sticky shapes wins.

Spot the difference

Draw a row of six big coloured spots.



- ◆ In turn, one player closes his or her eyes.
- ◆ The other player hides some of the spots with a sheet of paper.
- ◆ The first player looks and says how many spots are hidden.
- ◆ Try with other numbers of spots, e.g. five or seven.

YEAR 1 TARGETS

Read & write numerals from 0 to 20, then beyond; use knowledge of place value to position these numbers on a number track & number line

I know how to write numbers up to 20. I can read numbers on a number track

Derive & recall all pairs of numbers with a total of 10 and addition facts for totals to at least 5; work out the corresponding subtraction facts

I know some pairs of numbers that total 10. I can use counters or blocks to add numbers with answers up to 5

Use the vocabulary related to addition and subtraction and symbols to describe and record addition and subtraction number sentences

I can talk about adding/subtracting. I can record additions/subtractions

Visualise and name common 2-D shapes and 3-D solids and describe their features; use them to make patterns, pictures and models

I can use 2-D and 3-D shapes to make patterns, pictures and models. I can name most of the 2-D and 3-D shapes I use in my work as well as those I see in my classroom and playground. I am beginning to picture a shape in my head

Estimate, measure, weigh and compare objects, choosing and using suitable uniform non-standard or standard units and measuring instruments (e.g. a lever balance, metre stick or measuring jug)

I can compare the lengths/weights/capacities of more than two objects and put them in order

Answer a question by recording information in lists and tables; present outcomes using practical resources, pictures, block graphs or pictograms

I can help to answer a question and to show what we found out

Targets for Pupils in Year 1



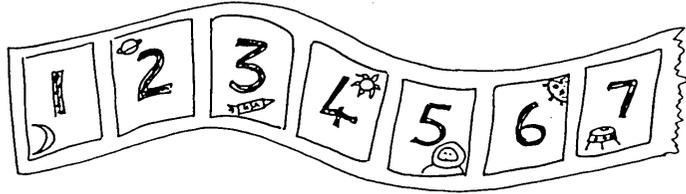
A Booklet for Parents

Help your child with Mathematics

_____ is working on the targets that are ticked.

Track games

Make a number track to 20, or longer. Make it relevant to your child's interests - sea world, space, monsters... Then play games on it.



- ◆ Throw a dice. Move along that number of spaces. BUT before you move, you must work out what number you will land on. If you are wrong, you don't move! The winner is the first to land exactly on 20. Now play going backwards to 1.
- ◆ Throw a dice. Find a number on the track that goes with the number thrown to make either 10 or 20. Put a counter on it, e.g. you throw a '4' and put a counter on either 6 or 16. If someone else's counter is there already, you may replace it with yours! The winner is the first person to have a counter on 8 different numbers.

Cupboard maths

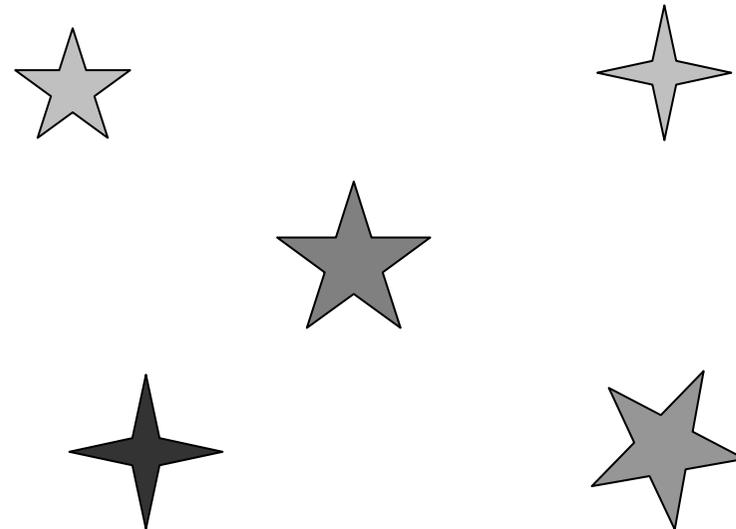
- ◆ Choose two tins or packets from your food cupboard.
- ◆ Ask your child to hold one in each hand and tell you which is heavier, and which is lighter. (Check by reading the weight on each tin or packet.)
- ◆ If he / she is right, they keep the lighter one. Then choose another item from the cupboard, trying to find one that is lighter still.
- ◆ Carry on until your child has found the lightest item in the cupboard. It might be suitable to eat as a prize!

Fun activities to do at home

Takings

For this game you will need a dice and a collection of small things such as Lego bricks, sticky shapes or dried beans. You will also need pencil and paper.

- ◆ Take turns.
- ◆ Roll a dice. Take that number of beans. Write down the number.
- ◆ Keep rolling the dice and taking that number of beans. BUT, before you take them, you must write down your new total. For example, Sally has 7. She throws 4. She has to work out how many she will have now. She starts counting from seven: *eight, nine, ten, eleven*. She writes 11.
- ◆ You can only take your beans if you are right.
- ◆ The first person to collect 20 beans wins!



Shape activity

At home, or when you are out, look at the surface of shapes.

- ◆ Ask your child - what shape is this plate, this mirror, the bath mat, the tea towel, the window, the door, the red traffic light, and so on.
- ◆ Choose a shape for the week, e.g. a square. How many of these shapes can your child spot during the week, at home and when you are out?

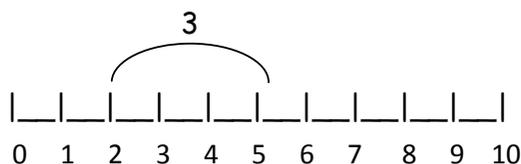


Dice game

You need a 1-6 dice, paper and pencil.

- ◆ Take turns.
- ◆ Choose a number between 1 and 10 and write it down.
- ◆ Throw the dice and say the dice number.
- ◆ Work out the difference between the chosen number and the dice number, e.g. if you wrote down a 2 and the dice shows 5, the difference is 3.

You could also draw a number line to help your child to see the difference between the two numbers.



How old?

Start with your child's age. Ask your child:

How old will you be when you are 1 year older?

How old were you last year?

How old will you be 10 years from now?

and so on.

Fun activities to do at home

Secret numbers

0123456789

- ◆ Write the numbers 0 to 20 on a sheet of paper.
- ◆ Ask your child secretly to choose a number on the paper. Then ask him / her some questions to find out what the secret number is, e.g.

Is it less than 10?

Is it between 10 and 20?

Does it have a 5 in it?

He / she may answer only yes or no.

- ◆ Once you have guessed the number, it is your turn to choose a number. Your child asks the questions.

For an easier game, use numbers up to 10. For a harder game, use only 5 questions, or use bigger numbers.

About the targets

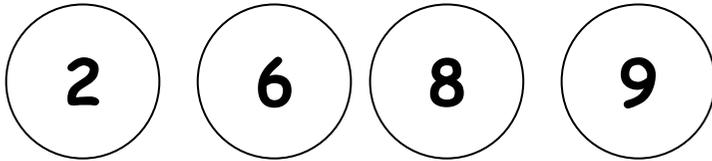
These targets show some of the things your child should be able to do by the end of Year 1.

Some targets are harder than they seem, e.g. children who can count up to 20 may still have trouble saying which number comes after 12. They may have to start at 1 and count from there.

Adding circles

For this game, you need a dice and pencil and paper.

- ◆ Each of you should draw four circles on your piece of paper. Write a different number between 2 and 12 in each circle.



- ◆ Roll the dice twice. Add the two numbers.
- ◆ If the total is one of the numbers in your circles then you may cross it out.
- ◆ The first person to cross out all four circles wins.

Dicey coins

For this game you need a dice and about twenty 10p coins.

- ◆ Take turns to roll the dice and take that number of 10p coins.
- ◆ Guess how much money this is. Then count aloud in tens to check, e.g. *saying ten, twenty, thirty, forty...*
- ◆ If you do this correctly you keep one of the 10p pieces.
- ◆ First person to collect £1 wins.
- ◆ Don't forget to give the coins back!

Out and about

On the way to school, see how many cuboids, spheres and cylinders you can spot. Which did you see most of?

Fun activities to do at home

Car number bingo

- ◆ Each person chooses a target number, e.g. 10. Think about which pairs of numbers add to make your target.
- ◆ You have to see a house that has two numbers that add up to your target number.



- ◆ Say: $4 + 6 = 10$, *bingo!*
- ◆ Change the target number each week.

You can extend this activity by looking for three numbers which add up to your target number.

Targets for pupils in Year 2



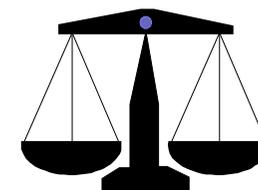
A Booklet for Parents

Help your child with Mathematics

How heavy?

You will need some kitchen scales

that can weigh things in kilograms.



- ◆ Ask your child to find something that weighs close to 1 kilogram.
- ◆ Can he / she find something that weighs exactly 1 kilogram?
- ◆ Find some things that weigh about half a kilogram.

31 39 35 36 33

Out and about

- ◆ During a week, look outside for 'thirties' numbers, such as 34 or 38, on house doors, number plates, bus stops, etc. How many can you spot? What is the biggest one you can find?



By the end of Year 2, most children should be able to...

- Count up to 100 objects by grouping them and counting in tens, fives or twos; explain what each digit in a two-digit number represents, including numbers where 0 is a place holder; partition two-digit numbers in different ways, including into multiples of 10 and 1

I can count objects by putting them into groups. I can partition numbers

- Derive and recall all addition and subtraction facts for each number to at least 10, all pairs with totals to 20 and all pairs of multiples of 10 with totals up to 100

I can recall number facts for each number up to 10

- Add or subtract mentally a one-digit number or a multiple of 10 to or from any two-digit number; use practical and informal written methods to add and subtract two-digit numbers

I can add and subtract some numbers in my head

- Use the symbols +, −, ×, ÷ and = to record and interpret number sentences involving all four operations; calculate the value of an unknown in a number sentence (e.g. $\square \div 2 = 6$, $30 - \square = 24$)

I know how to write number sentences for multiplication and division as well

as addition and subtraction. I can explain what my number sentence means

- Visualise common 2-D shapes and 3-D solids; identify shapes from pictures of them in different positions and orientations; sort, make and describe shapes, referring to their properties

I can look at pictures of 2-D shapes and name them

- Use units of time (seconds, minutes, hours, days) and know the relationships between them; read the time to the quarter hour; identify time intervals, including those that cross the hour

I can estimate how long an activity might take, then check using a timer.

I can tell the time when it is something o'clock or half past the hour

- Use lists, tables and diagrams to sort objects; explain choices using appropriate language, including 'not'

Fun activities to do at home

Number facts

You need a 1-6 dice.

- ◆ Take turns. Roll the dice. See how quickly you can say the number to add to the number on the dice to make 10, e.g.
- ◆



and 6

About the targets

These targets show some of the things your child should be able to do by the end of Year 2.

A target may be harder than it seems, e.g. a child who can count up to 100 may still have trouble saying which number comes after 47 or which number comes before 50.

Speedy pairs to 10

Make a set of 12 cards showing the numbers 0 to 10, but with two 5s.

If you wish, you could use playing cards.

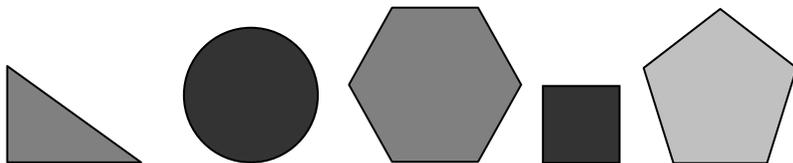
- ◆ Shuffle the cards and give them to your child.
- ◆ Time how long it takes to find all the pairs to 10.



Repeat later in the week. See if your child can beat his / her time.

Guess my shape

- ◆ Think of a 2-D shape (triangle, circle, rectangle, square, pentagon or hexagon). Ask your child to ask questions to try and guess what it is.
- ◆ You can only answer *Yes* or *No*. For example, your child could ask: *Does it have 3 sides?* or: *Are its sides straight?*
- ◆ See if he can guess your shape using fewer than five questions.
- ◆ Now ask them to choose a shape so you can ask questions.



Fun activities to do at home

Car numbers

- ◆ Each person chooses a target number, e.g. 15.
- ◆ How many car numbers can you spot with 3 digits adding up to your target number, e.g. K456 XWL.
- ◆ So $4 + 5 + 6 = 15$, bingo!

Bean subtraction

For this game you need a dice and some dried beans or buttons.

- ◆ Start with a pile of beans in the middle. Count them.
- ◆ Throw a dice. Say how many beans will be left if you subtract that number.
- ◆ Then take the beans away and check if you were right!
- ◆ Keep playing.
- ◆ The person to take the last bean wins!

Board games

Make a board like this.

The numbers are arranged differently from usual, but the games will still work if you use a normal snakes and ladders board.

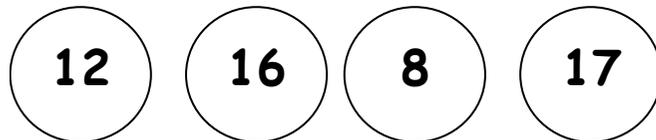
91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

- ◆ Roll a dice twice. Add the two numbers.
- ◆ Move along that number of spaces. Before you move, you must work out what number you will land on.
- ◆ If you are wrong, you don't move!
- ◆ The first to the end of the board wins.

For a change, you could roll the dice and move backwards. Or you could roll the dice once, then move the number that goes with your dice number to make 10, e.g. throw a 3, move 7.

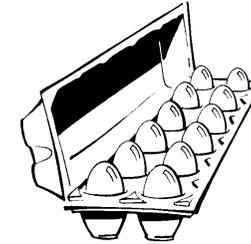
Circle trios

Draw four circles each on your piece of paper. Write four numbers between 3 and 18, one in each circle.



- ◆ Take turns to roll a dice three times and add the three numbers.
- ◆ If the total is one of the numbers in your circles then you may cross it out.
- ◆ The first to cross out all four circles wins.

Fun activities to do at home



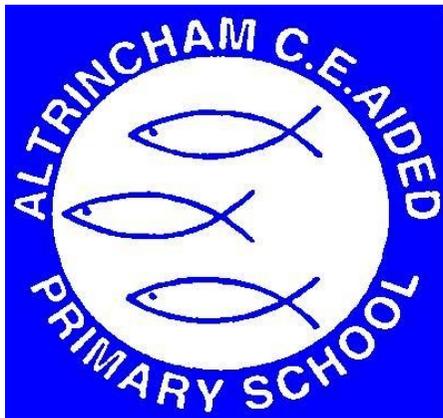
68p

Shopping maths

After you have been shopping, choose 6 different items each costing less than £1. Make a price label for each one, e.g. 39p, 78p. Shuffle the labels. Then ask your child to do one or more of these.

- ◆ Place the labels in order, starting with the lowest.
- ◆ Say which price is an odd number and which is an even number.
- ◆ Add 9p to each price in their head.
- ◆ Take 20p from each price in their head.
- ◆ Say which coins to use to pay exactly for each item.
- ◆ Choose any two of the items, and find their total cost.
- ◆ Work out the change from £1 for each item.

Targets for pupils in Year 3



Booklet for Parents

Help your child with Mathematics

Can you tell the time?

Whenever possible, ask your child to tell you the time to the nearest 5 minutes. Use a clock with hands as well as a digital watch or clock.

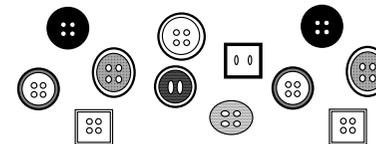
Also ask:

- ◆ What time will it be one hour from now?
- ◆ What time was it one hour ago?

Time your child doing various tasks, e.g.

- ◆ getting ready for school;
- ◆ tidying a bedroom;
- ◆ saying the 5 times, 10 times or 2 times table...

Ask your child to guess in advance how long they think an activity will take. Can they beat their time when they repeat it?



Fractions

Use 12 buttons, or paper clips or dried beans or...

- ◆ Ask your child to find **half** of the 12 things.
- ◆ Now find one **quarter** of the same group.
- ◆ Find one **third** of the whole group.

Repeat with other numbers.

By the end of Year 3, most children should be able

Partition three-digit numbers into multiples of 100, 10 and 1 in different ways

I can split a number into hundreds, tens and ones
I can explain how the digits in a number change when I count in 10s or 100s
Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100

I know the sum and difference of any pair of numbers to 20
I can add and subtract multiples of 10 or 100 in my head
Add or subtract mentally combinations of one-digit and two-digit numbers

I can add and subtract one-digit and two-digit numbers in my head (e.g. $62+7$, $7+45$, $48-6$, $60-8$)
Draw and complete shapes with reflective symmetry; draw the reflection of a shape in a mirror line along one side

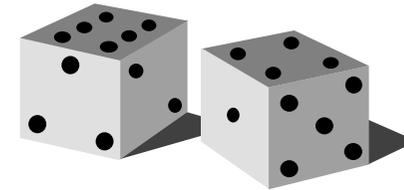
I can draw a symmetrical shape. I can reflect a shape when the mirror line is one of its sides
Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy

I can use a ruler or a tape measure to measure a length to the nearest $\frac{1}{2}$ cm
Use Venn diagrams or Carroll diagrams to sort data and objects using more than one criterion
I can place objects on a Venn diagram

Fun activities to do at home

Number games

Roll two dice. Make two-digit numbers, e.g. if you roll a 6 and 4, this could be 64 or 46. If you haven't got two dice, roll one dice twice. Ask your child to do one or more of the activities below.



- ◆ Count on or back from each number in tens.
- ◆ Add 19 to each number in their head. (A quick way is to add 20 then take away 1.)
- ◆ Subtract 9 from each number. (A quick way is to take away 10 then add back one.)
- ◆ Double each number.

Board games

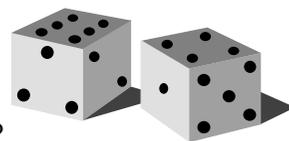
For these games you need to sketch a board like this. Notice how the numbers are arranged.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

- ◆ Start on 1. Toss a coin. If it lands heads, move 1 place along. If it lands tails, add 10, saying the total correctly before moving. First person to reach the bottom row wins.
- ◆ Start anywhere on the board. Roll a dice. Even numbers move you forwards and odd numbers move you backwards. If you land on a multiple of five, you can move either 10 forwards or 10 backwards. The first person to reach either the top or bottom of the board wins.

Up and down the scales

- ◆ Guess with your child the weights of people in your home.
- ◆ Then weigh them (if they agree!). Help your child to read the scales.
- ◆ Record each weight, then write all the weights in order.



Repeat after two weeks. What, if any, is the difference in the weights?

Bean race

You need two dice and a pile of dried beans.

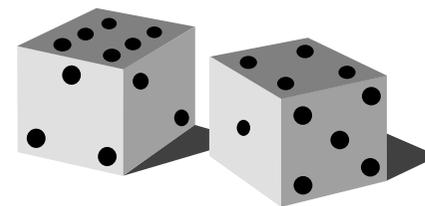
- ◆ Take turns to roll the two dice.
- ◆ Multiply the two numbers and call out the answer.
- ◆ If you are right, you win a bean.

Fun activities to do at home

Make 20

For this game you need to write out numbers 0 to 20 on a piece of paper. Make them big enough to put counters or coins on.

- ◆ Take turns. Roll a dice. Put a coin on the number that goes with the dice number to make 20, e.g. throw a '4' and put a coin on 16.
- ◆ If someone else's counter is there already, replace it with yours!
- ◆ The first person to have counters on 6 different numbers wins.
- ◆ Now roll two dice, add the numbers together and look for a number to make 20. The first with coins on 10 different numbers wins.



About the targets

These targets show some of the things your child should be able to do by the end of Year 3.

A target may be more complex than it seems, e.g. a child who can count to 1000 may not know what each digit represents. In 784, for example, the '8' is worth 80 not just 8.

Guess my number

Choose a car number you can see, e.g. 592.



- ◆ Add 10 to the number in your head. Say the answer aloud.
- ◆ Can your child guess which car you were looking at? If so she or he can have a turn next.

Secret sums

- ◆ Ask your child to say a number, e.g. 43.
- ◆ Secretly do something to it (e.g. add 30). Say the answer, e.g. 73.
- ◆ The child then says another number to you, e.g. 61.
- ◆ Do the same to that number and say the answer.
- ◆ The child has to guess what you are doing to the number each time!
- ◆ Then they can have a turn at secretly adding or subtracting something to each number that you say to them.

Cupboard maths

Ask your child to look at the weights printed on jars, tins and packets in the food cupboard, e.g.

tinned tuna 185g

tinned tomatoes 400g

jam 454g

Choose six items. Ask your child to put them in order. Is the largest item the heaviest?

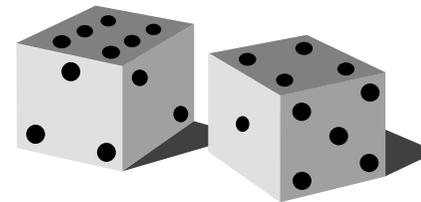
Fun activities to do at home

Bingo!

One person has the 2x table and the other has the 5x table. Write six numbers in that table on your piece of paper, e.g.

4 8 10 16 18 20

- ◆ Roll one or two dice. If you choose to roll two dice, add the numbers, e.g. roll two dice, get 3 and 4, add these to make 7.
- ◆ Multiply that number by 2 or by 5 (that is, by your table number, e.g. 7×2 or 7×5).
- ◆ If the answer is on your paper, cross it out.
- ◆ The first to cross out all six of their numbers wins.



Targets for pupils in Year 4



Booklet for Parents

Help your child with Mathematics

Number game 3

Use three dice.

If you have only one dice, roll it 3 times.

Make three-digit numbers, e.g. if you roll 2, 4 and 6, you could make 246, 264, 426, 462, 624 and 642.

- ◆ Ask your child to round the three-digit number to the nearest multiple of 10. Check whether it is correct, e.g.

76 to the nearest multiple of 10 is 80.

134 to the nearest multiple of 10 is 130.

(A number ending in a 5 always **rounds up**.)

- ◆ Roll again. This time round three-digit numbers to the nearest 100.

Tables

Practise the 3x, 4x and 5x tables. Say them forwards and backwards. Ask your child questions like:

What are five threes?

What is 15 divided by 5?

Seven times three?

How many threes in 21?

$$8 \times 3 = 24 \quad 24 \div 3 = 8$$

Measuring

Use a tape measure that shows centimetres.

Take turns measuring lengths of different objects, e.g. the length of a sofa, the width of a table, the length of the bath, the height of a door.

- ◆ Record the measurement in centimetres, or metres and centimetres if it is more than a metre, e.g. if the bath is 165 cm long, you could say it is 1m 65cm (or 1.65m).
- ◆ Write all the measurements in order.

By the end of Year 4, most children should be able to...

- Use diagrams to identify equivalent fractions (e.g. $\frac{6}{8}$ and $\frac{3}{4}$, or $\frac{70}{100}$ and $\frac{7}{10}$); interpret mixed numbers and position them on a number line (e.g. $3\frac{1}{2}$)
I can use a fraction to describe a part of a whole. I can show you on a diagram of a rectangle made from eight squares that one half is the same as two quarters or four eighths
Derive and recall multiplication facts up to 10×10 , the corresponding division facts and multiples of numbers to 10 up to the tenth multiple
I know my 8 times-table and my 9 times-table
- Add or subtract mentally pairs of two-digit whole numbers (e.g. $47 + 58$, $91 - 35$)
I can add and subtract two-digit numbers in my head (e.g. $26 + 47$, $43 - 16$)
Develop and use written methods to record, support and explain multiplication and division of two-digit numbers by a one-digit number, including division with remainders (e.g. 15×9 , $98 \div 6$)
I can multiply and divide a two-digit number by a one-digit number
Know that angles are measured in degrees and that one whole turn is 360° ; compare and order angles less than 180°
I know that angles are measured in degrees. I know that a whole turn is 360 degrees or four right angles
- Choose and use standard metric units and their abbreviations when estimating, measuring and recording length, weight and capacity; know the meaning of 'kilo', 'centi' and 'milli' and, where appropriate, use decimal notation to record measurements (e.g. 1.3 m or 0.6 kg)
I can measure lengths, weights, and times to help me find out more about a question I am exploring
- Answer a question by identifying what data to collect; organise, present, analyse and interpret the data in tables, diagrams, tally charts, pictograms and bar charts, using ICT where appropriate
I can collect data and put it in a table to help me explore an idea and find out more about it

Fun activities to do at home

Number game 1

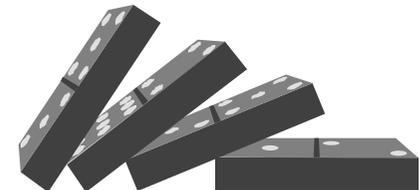
You need about 20 counters or coins.

- ◆ Take turns. Roll two dice to make a two-digit number, e.g. if you roll a 4 and 1, this could be 41 or 14.
- ◆ Add these two numbers in your head. If you are right, you win a counter. Tell your partner how you worked out the sum.
- ◆ The first to get 10 counters wins.

Now try subtracting the smaller number from the larger one.

Number game 2

- ◆ Put some dominoes face down.
- ◆ Shuffle them.
- ◆ Each choose a domino.
- ◆ Multiply the two numbers on your domino.
- ◆ Whoever has the biggest answer keeps the two dominoes.
- ◆ The winner is the person with the most dominoes when they have all been used.



Looking around

Choose a room at home.

Challenge your child to spot

20 right angles in it.

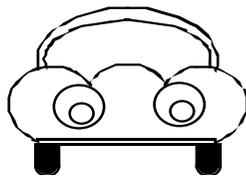


Dicey division

You each need a piece of paper. Each of you should choose five numbers from the list below and write them on your paper.

5 6 8 9 12 15 20 30 40 50

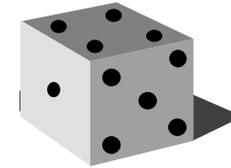
- ◆ Take turns to roll a dice. If the number you roll divides exactly into one of your numbers, then cross it out, e.g. you roll a 4, it goes into 8, cross out 8.
- ◆ If you roll a 1, miss that go. If you roll a 6 have an extra go.
- ◆ The first to cross out all five of their numbers wins.



Sum it up

- ◆ Each player needs a dice.
- ◆ Say: *Go!* Then each rolls a dice.
- ◆ Add up all the numbers showing on your own dice, at the sides as well as at the top.
- ◆ Whoever has the highest total scores 1 point.
- ◆ The first to get 10 points wins.

Fun activities to do at home



Dicey tens

For this game you need a 1-100 square (a snakes and ladders board will do), 20 counters or coins, and a dice.

- ◆ Take turns.
- ◆ Choose a two-digit number on the board e.g. 24.
- ◆ Roll the dice. If you roll a 6, miss that turn.
- ◆ Multiply the dice number by 10, e.g. if you roll a 4, it becomes 40.
- ◆ Either add or subtract this number to or from your two-digit number on the board, e.g. $24 + 40 = 64$.
- ◆ If you are right, put a coin on the answer.
- ◆ The first to get 10 coins on the board wins.

Pairs to 100

This is a game for two players.

- ◆ Each draw 10 circles. Write a different two-digit number in each circle - but not a 'tens' number (10, 20, 30, 40...).
- ◆ In turn, choose one of the other player's numbers.
- ◆ The other player must then say what to add to that number to make 100, e.g. choose 64, add 36.
- ◆ If the other player is right, she crosses out the chosen number.
- ◆ The first to cross out 6 numbers wins.

Mugs

You need a 1 litre measuring jug and a selection of different mugs, cups or beakers.



- ◆ Ask your child to fill a mug with water.
- ◆ Pour the water carefully into the jug.
- ◆ Read the measurement to the nearest 10 millilitres.
- ◆ Write the measurement on a piece of paper.
- ◆ Do this for each mug or cup.
- ◆ Now ask your child to write all the measurements in order.

All the sixes

Time your child while he / she does one or more of these.

- ◆ Count in sixes to 60.
- ◆ Count back in sixes from 60 to zero.
- ◆ Start with 4. Count on in sixes to 70.
- ◆ Start with 69. Count back in sixes to 3.

6 6 6

Next week, try to beat the record.

Fun activities to do at home

Left overs

- ◆ Take turns to choose a two-digit number less than 50.
- ◆ Write it down. Now count up to it in fours. What number is left over?
- ◆ The number left is the number of points you score, e.g.

Choose 27.

Count: 4, 8, 12, 16, 20, 24.

3 left over to get to 27.

So you score 3 points.

- ◆ The first person to get 12 or more points wins. Now try the same game counting in threes, or in fives.

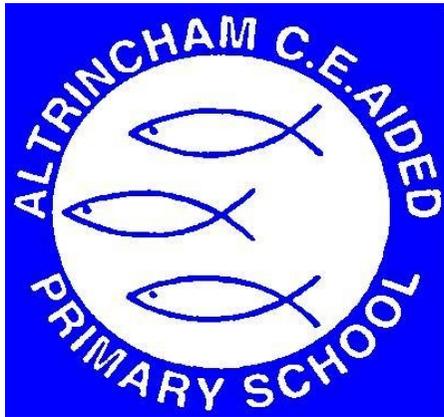
Can you spot which numbers will score you points?

About the targets

These targets show some of the things children should be able to do by the end of Year 4.

A target may be more complex than it seems, e.g. children may be able to subtract 497 from 506 by writing it in columns without realising it is quicker to count on from 497 up to 506 in their heads.

Targets for pupils in Year 5



Booklet for Parents

Help your child with Mathematics

Decimal number plates

- ◆ Each choose a car number plate with three digits.



- ◆ Choose two of the digits, e.g. 4 and 6. Make the smallest and largest numbers you can, each with 1 decimal places, e.g. 4.6 and 6.4.
- ◆ Now find the difference between the two decimal numbers, e.g. $6.4 - 4.6 = 1.8$.
Whoever makes the biggest difference scores 10 points.
- ◆ The person with the most points wins.

Play the game again, but this time score 10 points for the smallest difference, or 10 points for the biggest total.

Finding areas and perimeters

Perimeter = distance around the edge of a shape

Area of a rectangle = length \times breadth (width)

- ◆ Collect 5 or 6 used envelopes of different sizes.
- ◆ Ask your child to estimate the perimeter of each one to the nearest centimetre. Write the estimate on the back.
- ◆ Now measure. Write the estimate next to the measurement.
- ◆ How close did your child get?
- ◆ Now estimate then work out the area of each envelope.
- ◆ Were perimeters or areas easier to estimate? Why?

You could do something similar using an old newspaper, e.g.

- ◆ Work out which page has the biggest area used for photographs.
- ◆ Choose a page and work out the total area of news stories or adverts on that page.

By the end of Year 5, most children should be able to...

- Explain what each digit represents in whole numbers and decimals with up to two places, and partition, round and order these numbers
- I can say what any digit represents in a number with up to seven digits*
- Use knowledge of place value and addition and subtraction of two-digit numbers to derive sums and differences and doubles and halves of decimals (e.g. 6.5 ± 2.7 , half of 5.6, double 0.34)
- I can work out sums and differences of decimals with two digits*
- Use efficient written methods to add and subtract whole numbers and decimals with up to two places
- I can explain each step when I write addition and subtraction calculations in columns*
- Read and plot coordinates in the first quadrant; recognise parallel and perpendicular lines in grids and shapes; use a set-square and ruler to draw shapes with perpendicular or parallel sides
- I can read and plot coordinates to make shapes*
- Draw and measure lines to the nearest millimetre; measure and calculate the perimeter of regular and irregular polygons; use the formula for the area of a rectangle to calculate the rectangle's area
- I can draw and measure lines to the nearest millimetre. I can measure the sides of polygons and add them to find the perimeter*
- Construct frequency tables, pictograms and bar and line graphs to represent the frequencies of events and changes over time
- I can explain why I chose to represent data using a particular table, graph or chart*

_____ is working on the targets that are ticked.

About the targets

These targets show some of the things your child should be able to do by the end of Year 5.

A target may be harder than it seems, e.g. a child may subtract 3994 from 9007 by writing it in columns, without realising it is quicker to count on from 3994 up to 9007 in his / her head.

Fun activities to do at home

How much?

- ◆ While shopping, point out an item costing less than £1.
- ◆ Ask your child to work out in their head the cost of 3 items.
- ◆ Ask them to guess first. See how close they come.
- ◆ If you see any items labelled, for example, '2 for £3.50', ask them to work out the cost of 1 item for you, and to explain how they got the answer.

Times tables

Say together the six times table forwards, then backwards.

Ask your child questions, such as:

Nine sixes?

How many sixes in 42?

Six times four?

Forty-eight divided by six?

Three multiplied by six? Six times what equals sixty?

Repeat with the seven, eight and nine times tables.

Tables

Make a times-table grid like this. Shade in all the tables facts that your child knows, probably the 1s, 2s, 3s, 4s, 5s and 10s.

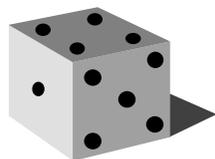
- ◆ Some facts appear twice, e.g. 7×3 and 3×7 , so cross out one of each.
- ◆ Are you surprised how few facts are left?
- ◆ There might only be 10 facts to learn. So take one fact a day and make up a silly rhyme together to help your child to learn it, e.g. nine sevens are sixty-three, let's have lots of chips for tea!

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

Telephone challenges

- ◆ Challenge your child to find numbers in the telephone directory where the digits add up to 42.
- ◆ Find as many as possible in 10 minutes.
- ◆ On another day, see if they can beat their previous total.

Telephone: 01264 738 281



Target 1000

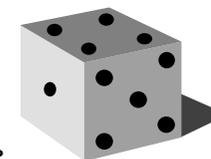
- ◆ Roll a dice 6 times.
- ◆ Use the six digits to make two three-digit numbers.
- ◆ Add the two numbers together.
- ◆ How close to 1000 can you get?

Fun activities to do at home

Car numbers

- ◆ Try reading a car number as a measurement in centimetres, then converting it to metres, e.g. 456cm, which is 4.56m, or 4m and 56cm.
- ◆ Try this with car numbers that have zeros in them, e.g. 307cm, which is 3.07m or 3m and 7cm; 370cm, which is 3.7m, or 3m and 70cm. These are harder!

Dicey subtractions



- ◆ Take turns to roll a dice twice.
- ◆ Fill in the missing boxes.

$$400\square - 399\square$$

e.g. $4002 - 3994$

- ◆ Count on from the smaller to the larger number, e.g. 3995, 3996, 3997, 3998, 3999, 4000, 4001, 4002.

Line it up

You need a ruler marked in centimetres and millimetres.

- ◆ Use the ruler to draw 10 different straight lines on a piece of paper.
- ◆ Ask your child to estimate the length of each line and write the estimate on the line.
- ◆ Now give them the ruler and ask them to measure each line to the nearest millimetre.
- ◆ Ask them to write the measurement next to the estimate, and work out the difference.
- ◆ A difference of 5 millimetres or less scores 10 points. A difference of 1 centimetre or less scores 5 points.
- ◆ How close to 100 points can she get?

My estimate 8.5 cm

Guess my number

- ◆ Choose a number between 0 and 1 with one decimal place, e.g. 0.6.
- ◆ Challenge your child to ask you questions to guess your number. You may only answer 'Yes' or 'No'. For example, he could ask questions like 'Is it less than a half?'
- ◆ See if he can guess your number in fewer than 5 questions.
- ◆ Now let your child choose a mystery number for you to guess.

Extend the game by choosing a number with one decimal place between 1 and 10, e.g. 3.6. You may need more questions!

Times tables

Ask your child a different times-table fact every day,

e.g. *What is 6 times 8? Can you use this to work out 12×8 ?*

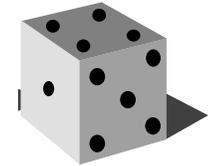
and: *What is 48 divided by 6?*

Fun activities to do at home

Car numbers

- ◆ Choose a car number.
- ◆ You may add or subtract 10, 20, 30, 40, 50, 60, 70, 80 or 90.
- ◆ Try to get as close as possible to 555.
- ◆ Who can get closest during a week?

Dicey division



For this game you need a 1-100 board (a snakes and ladders board will do), a dice and 20 coins or counters.

- ◆ Take turns.
- ◆ Choose a two-digit number. Roll a dice. If you roll 1, roll again.
- ◆ If your two-digit number divides exactly by the dice number, put a coin on your chosen two-digit number. Otherwise, miss that turn.
- ◆ The first to get 10 counters on the board wins.

TV addicts

Ask your child to keep a record of how long he / she watches TV each day for a week. Then ask him / her to do this.

- ◆ Work out the total watching time for the week.
- ◆ Work out the average watching time for a day (that is, the total time divided by 7).

Instead of watching TV, you could ask them to keep a record of time spent eating meals, or playing outdoors, or anything else they do each day. Then work out the daily average.

Four in a line

Draw a 6 x 7 grid.

Fill it with numbers under 100.

26	54	47	21	19	5	38
9	25	67	56	31	49	13
39	41	6	1	75	28	90
14	50	81	23	43	4	37
45	29	72	34	7	58	17
36	2	55	11	22	40	42

- ◆ Take turns.
- ◆ Roll three dice, or roll one dice three times.
- ◆ Use all three numbers to make a number on the grid.
- ◆ You can add, subtract, multiply or divide the numbers, e.g. if you roll 3, 4 and 5, you could make $3 \times 4 - 5 = 7$, $54 \div 3 = 18$, $(4 + 5) \times 3 = 27$, and so on.
- ◆ Cover the number you make with a coin or counter.
- ◆ The first to get four of their counters in a straight line wins.

Targets for pupils in Year 6



Booklet for Parents

Help your child with mathematics

By the end of Year 6, most children should be able to...

Express one quantity as a percentage of another (e.g. express £400 as a percentage of £1000); find equivalent percentages, decimals and fractions

I can work out a quantity as a percentage of another and find equivalent percentages, decimals and fractions

Use knowledge of place value and multiplication facts to 10×10 to derive related multiplication and division facts involving decimals (e.g. 0.8×7 , $4.8 \div 6$)

I can use tables facts to work out other facts with decimals

Use efficient written methods to add and subtract integers and decimals, to multiply and divide integers and decimals by a one-digit integer, and to multiply two-digit and three-digit integers by a two-digit integer

I can add, subtract, multiply and divide whole numbers and decimals using efficient written methods

Visualise and draw on grids of different types where a shape will be after reflection, after translations, or after rotation through 90° or 180° about its centre or one of its vertices

I can reflect, rotate and translate shapes on grids

Select and use standard metric units of measure and convert between units using decimals to two places (e.g. change 2.75 litres to 2750 ml, or vice versa)

I can convert from one unit of measure to another

Solve problems by collecting, selecting, processing, presenting and interpreting data, using ICT where appropriate; draw conclusions and identify further questions to ask

I can answer questions about the data I have represented

_____ is working on the targets that are ticked.

About the targets

These targets show some of the things your child should be able to do by the end of Year 6.

Some targets may be more complex than they seem, e.g. children may know how to work out sums on paper but need to see when it is quicker to work them out in their heads.

Fun activities to do at home

Favourite food

- ◆ Ask your child the cost of a favourite item of food. Ask them to work out what 7 of them would cost, or 8, or 9. How much change would there be from £50?
- ◆ Repeat with his / her least favourite food. What is the difference in cost between the two?

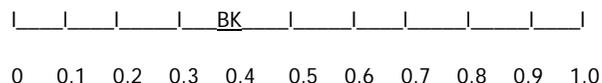
Sale of the century

- ◆ When you go shopping, or see a shop with a sale on, ask your child to work out what some items would cost with:
 - 50% off
 - 25% off
 - 10% off
 - 5% off
- ◆ Ask your child to explain how she worked it out.

Three in a row

For this game you need a calculator.

Draw a line like this:



- ◆ Take it in turns to choose a fraction, say $2/5$. Use the calculator to convert it to a decimal (i.e. $2 \div 5 = 0.4$) and mark your initials at this point on the line.
- ◆ The aim of the game is to get 3 crosses in a row without any of the other player's marks in between.
- ◆ Some fractions are harder to place than others, e.g. ninths.

Flowers

- ◆ Take turns to think of a flower.



- ◆ Use an alphabet code, A = 1, B = 2, C = 3... up to Z = 26.
- ◆ Find the numbers for the first and last letters of your flower, e.g. for a ROSE, R = 18, and E = 5.
- ◆ Multiply the two numbers together, e.g. $18 \times 5 = 90$.
- ◆ The person with the biggest answer scores a point.
- ◆ The winner is the first to get 5 points.

When you play again you could think of animals, or countries.

Fun activities to do at home

Recipes

Find a recipe for 4 people and rewrite it for 8 people, e.g.

4 people

125g flour

50g butter

75g sugar

30ml treacle

1 teaspoon ginger

8 people

250g flour

100g butter

150g sugar

60ml treacle

2 teaspoons ginger

Can you rewrite it for 3 people? Or 5 people?

Fours

- ◆ Use exactly four 4s each time.
- ◆ You can add, subtract, multiply or divide them.
- ◆ Can you make each number from 1 to 100?
- ◆ Here are some ways of making the first two numbers.

$$1 = (4 + 4)/(4 + 4)$$

$$2 = 4/4 + 4/4$$

Card game

Use a pack of playing cards.
Take out the jacks, queens and kings.



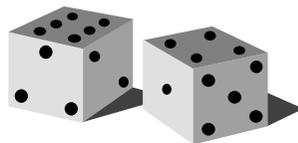
- ◆ Take turns.
- ◆ Take a card and roll a dice.
- ◆ Multiply the two numbers.
- ◆ Write down the answer. Keep a running total.
- ◆ The first to go over 301 wins!

Remainders

Draw a 6 x 6 grid like this.

82	33	60	11	73	22
65	12	74	28	93	51
37	94	57	13	66	38
19	67	76	41	75	85
86	29	68	58	20	46
50	69	30	78	59	10

- ◆ Choose the 7, 8 or 9 times table.
- ◆ Take turns.
- ◆ Roll a dice.
- ◆ Choose a number on the board, e.g. 59. Divide it by the tables number, e.g. 7. If the remainder for $59 \div 7$ is the same as the dice number, you can cover the board number with a counter or coin.
- ◆ The first to get four of their counters in a straight line wins!



Doubles and trebles

- ◆ Roll two dice.
- ◆ Multiply the two numbers to get your score.
- ◆ Roll one of the dice again. If it is an even number, double your score. If it is an odd number, treble your score.
- ◆ Keep a running total of your score.
- ◆ The first to get over 301 wins.

Fun activities to do at home

Journeys

Use the chart in the front of a road atlas that tells you the distance between places.

- ◆ Find the nearest place to you.
- ◆ Ask your child to work out how long it would take to travel to some places in England if you travelled at an average of 60 miles per hour, i.e. 1 mile per minute, e.g.

York to Preston: 90 miles 1 hour 30 minutes

York to Dover: 280 miles 4 hours 40 minutes

Encourage your child to count in 60s to work out the answers mentally.

£1,000,000

One million pounds

Assume you have £1 000 000 to spend or give away.
Plan with your child what to do with it, down to the last penny.