Family Maths Toolkit

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Everyday Activities Pack

5 + 2 =

Ages 6-7

Any questions, please email:
enquiries@nationalnumeracy.org.uk

familymathstoolkit.org.uk

Family Maths Toolkit

However you might feel about maths, you can make a huge difference to children's numeracy abilities.

This **Everyday Activities Pack**, created by National Numeracy, contains short, fun, 'real life' activities for families to do with children. No special knowledge or equipment is needed.

All the evidence shows that talking about everyday maths helps develop children's maths confidence. Here are some ideas for questions that you can ask each other when tackling the activities:

- What do we need to do?
- What information do we have? What do we need to find out?
- Would any equipment help?
- What do you notice when...?
- Shall we make a guess and see if that works?
- What could we do if we get stuck?
- If we were doing this again, is there anything we could do differently?

The majority of activities are designed to be open ended so you can explore everyday maths together. There are a handful of activities that have answers – these are on the last page of this pack. The pack is aligned by age with England's 2014 National Curriculum. Please note these are just average expectations - children may be working below or above the curriculum links stated.

You can adapt these activities to suit your family's interests and use whatever items you may have to hand at home or out and about. You might want to take photos, draw pictures, write calculations or create diagrams – it's up to you! Do use the comment boxes to reflect your discussions and thoughts as you complete each activity together.

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Estimating time

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Write as many activities as possible that you do at home into each column – include as many of your family as possible to fill in each column (don't forget any pets!).

5 - 10 minutes	About 30 minutes	About 1 hour	More than 1 hour

Family comments:

Child comments:

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Fireworks

Find the coins that will buy the fireworks.

Choose two fireworks and see how much they will cost altogether. Do this with again with different fireworks.
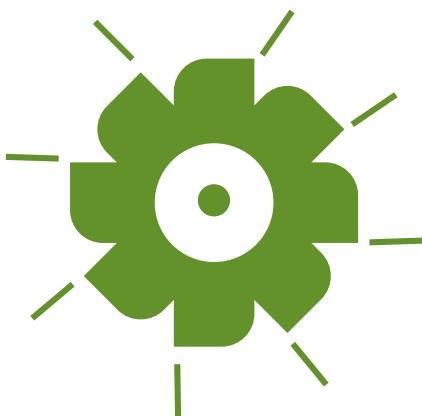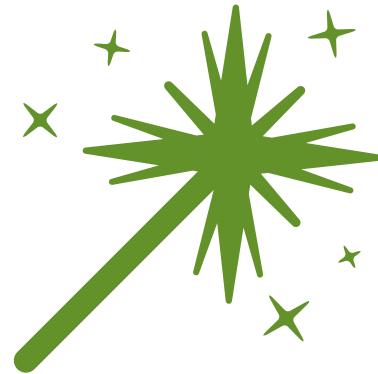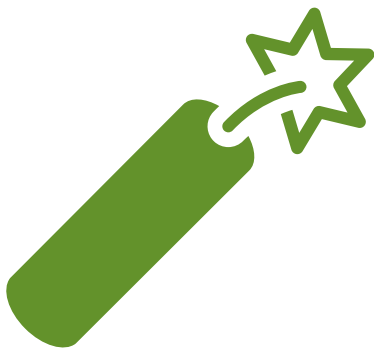
15p

35p

10p

25p

30p

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Which fireworks could you buy with exactly £1.00?

45p

20p

40p

30p

Family comments:

Child comments:

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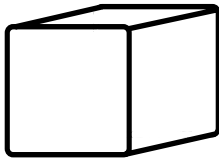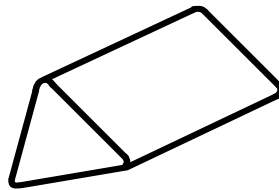# 3D shapes

Find objects around the house which are 3D shapes and see how many 2D shapes there are on the object.
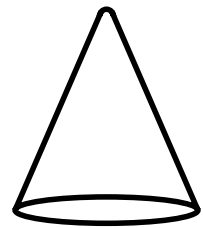
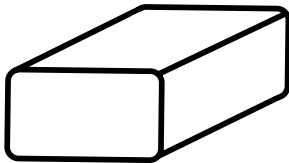**For example, a can of beans is a cylinder and it has 2 circles, one at each end and the middle is a rectangle.**
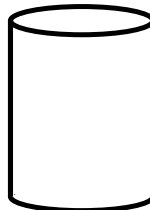
cube

triangular prism

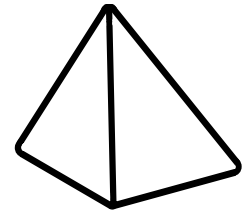cone

cuboid

cylinder

tetrahedron

How many did you find?
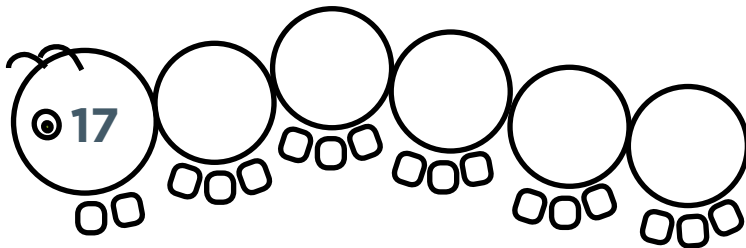
Family comments:

Child comments:

Curriculum Link

Identify 2D shapes on the surface of 3D shapes, for example a circle on a cylinder and a triangle on a pyramid.

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Caterpillars

Complete a caterpillar by adding 1 if a number is odd, or if a number is even halve it. Carry on until you get to 1. The first one has been done for you.

15 16 8 4 2 1

21 22

17
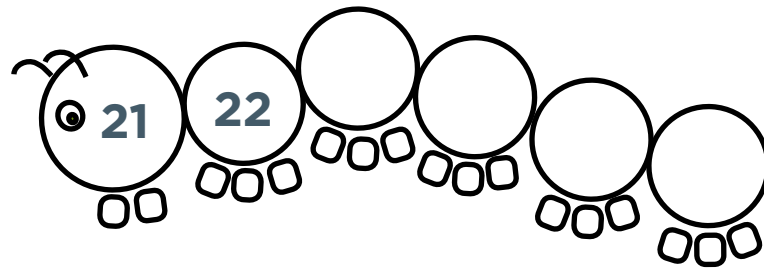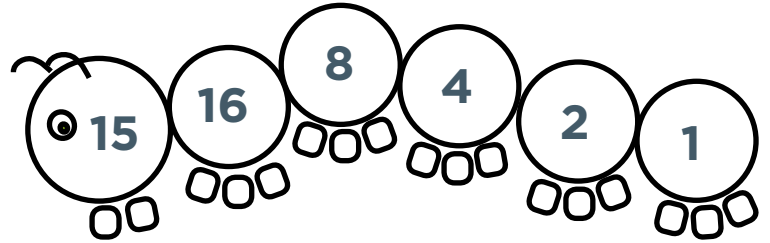
Can you make up some caterpillars of your own?

Using numbers less than 20 what is the shortest caterpillar? What is the longest caterpillar?

13
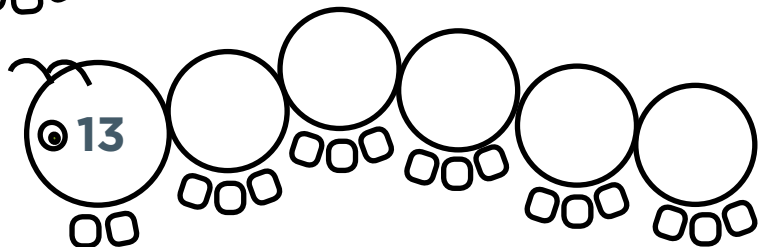
Family comments:

Child comments:

Curriculum Link

Odd and even numbers, adding and subtracting to 20, halving.

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Puppy multiplication fun

Some puppies are playing on the beach.

Each puppy has 1 waggy tail; 1 wet nose; 2 floppy ears; 2 bright eyes; 4 long legs and 5 clipped claws on each foot.

There are 10 puppies on the beach – how many long legs? How many wet noses? How many floppy ears?

There are 5 puppies playing ball – how many waggy tails?

How many long legs? How many bright eyes?

2 puppies are digging a hole! How many clipped claws?

Can you make up some more questions (and answers!) about the puppies on the beach? You can change how many puppies there are if you like.

Helpful hint: Drawing the puppies helps to see the repeated addition or multiplication.

Adapted from the Dogs Trust 'Real life problems for 7-11 year olds'.

Family comments:

Child comments:

Curriculum Link

Using multiplication to solve everyday problems.

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At the pet shop

Paddy is a large dog and needs a new bed and a bag of food.

At the shop	Bed	Drinking bowl	Safe fluffy toy	Food bowl	Lead	Bag of food
Large dog	£30.00	£10.00	£15.00	£14.00	£25.00	£50.00
Small dog	£20.00	£8.00	£12.00	£10.00	£15.00	£30.00

How much will this cost at the pet shop?

If he also buys a new lead, will the total be more than £100?

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His friend Monty is a small puppy – he only has £50 to spend – what could he have?

A dog needs a new bag of food every 3 months. How much will it cost Paddy for a year?

Do you know any pets? Can you find out some of their costs? (If you don't know anyone with a pet, what would you like – imagine what they would need.)

Family comments:

Child comments:

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Investigating pancakes

On Shrove Tuesday, it is traditional to make pancakes to eat. Sometimes they can be eaten with sugar and lemon; other people like them with syrup or jam.

Pancakes can be different sizes. If you had to share one, investigate (use a paper circle if you are not making pancakes!) the smallest size you could make for all your family to have a piece.

What is the largest you could make? (Measure the diameter of the pancake – across the middle from edge to edge.) What is a good size for one person? What size could you make for one of your teddies?
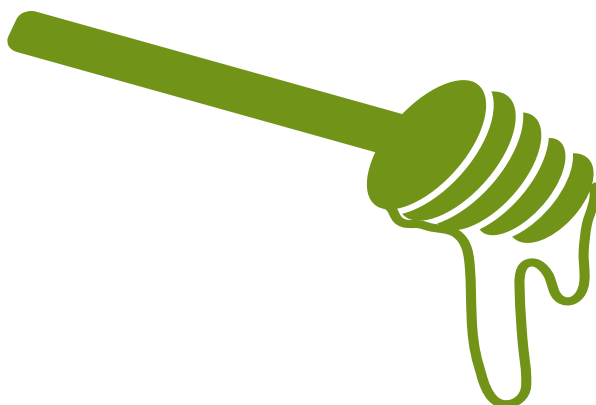
Family comments:

Child comments:

Curriculum Link

Use appropriate standard units to compare and order lengths.

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Months of the year

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Thirty days hath September,
April, June and November.
All the rest have thirty one
Except February alone;
It has twenty eight days clear
And twenty nine in each leap year.

Use a calendar or diary to talk about:

1. Which month is your birthday in? How many days are in that month?

2. Find out which month your family's birthdays are in – who has a birthday in the longest months?

3. How many days is it until your birthday? What day of the week will it be on this year? Will it be the same day next year?

4. How many days until the next school holiday?

5. February is the shortest month – does anything special happen in February?

6. What is the next exciting thing on the calendar?

7. If you chose a birthday for one of your toys, when would it be? Why?

8. Is there something special you do on the same day every week? How many times will you do this in March?

Family comments:

Child comments:

Curriculum Link
....
Compare and sequence intervals of time.

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Times around the house

How many things can you find in your house which display the time? Are they all the same?

Do you see any times displayed when you are out and about? Where?

Look in a newspaper – can you find any times? Can you see which is the longest TV programme today?

How long is your favourite programme?

Family comments:

Child comments:

Curriculum Link

Tell and write the time to the nearest 5 minutes.

Using mathematical signs

Everyone knows that = means equal or the same value as.

Find ways to use < and >

< is less than and > is more than.

Find things at home or in the garden to compare. Record your ideas like this:

- Leaves on the tree > petals on a plant
- A child's age < a teacher's age

How many examples can you think of?

Family comments:

Child comments:

Curriculum Link

Compare numbers using +, < and >

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Easter egg symmetry
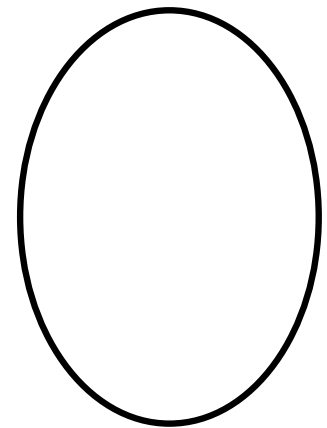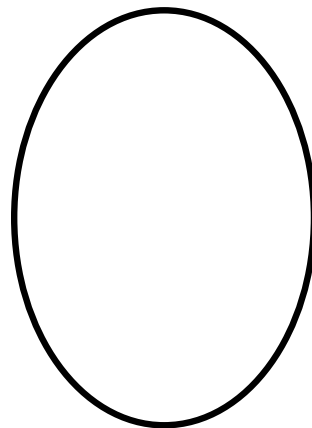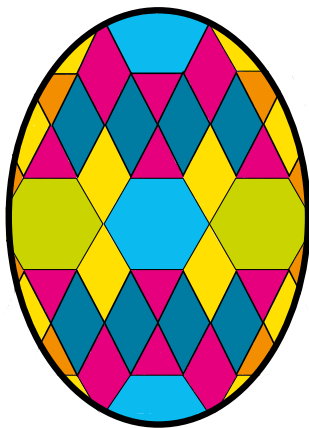
Easter egg wrappers often have symmetrical patterns. They sometimes use mathematical shapes to make the patterns.

Can you design an egg wrapper using different shapes and colours – make it symmetrical!

Can you draw half a symmetrical pattern, for an egg, and ask someone in your family to complete it? Do not make it impossibly hard!

Helpful hint: Talk about which shapes have been used and their orientation.
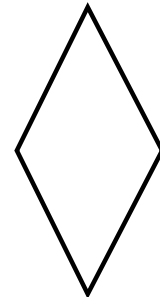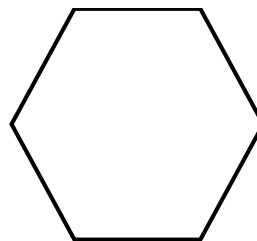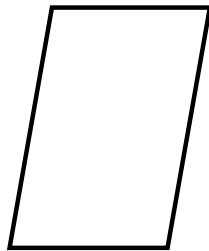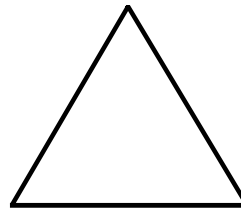
Family comments:

Child comments:

Curriculum Link

Work with patterns of shape, including those of different orientations.

Tessellation

Which of these shapes tessellate?

Find things in the house this shape, or you could draw the shapes and cut them out, to see if they fit next to each other with no spaces. Add a tick or a cross:
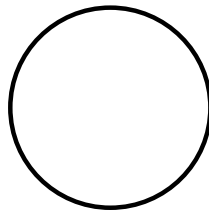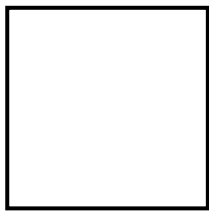
What do all of the tessellating shapes have in common? Which shapes do not tessellate? Why is this?

Draw and colour your own tessellating pattern. Can you use more than one shape?

Where might a tessellated shape pattern be used in real life?

Family comments:

Child comments:

Curriculum Link

Compare and classify geometric shapes based on their properties and work with patterns of shapes.

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Animal tablets

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A vet has a problem – he finds it hard to work out halves – can you help?

He has 3 packets of 5 cat tablets. He does not know if he has enough for the cats in his surgery today. Cats have tablets to match their weight. Use this table to help you work it out:

Cat weighs	Number of cats	Number of tablets each
0.5kg - 0.9kg	2	$\frac{1}{2}$
1kg - 1.4kg	3	1
1.5kg - 2.9kg	1	$1\frac{1}{2}$
3kg - 4.9kg	2	2
5kg - 5.9kg	3	$2\frac{1}{2}$

How many packets does he need? Does he have enough?

Do you know any animals who have tablets?
How many do they have to take?

Helpful hint: Cut out small paper circles to represent tablets - these can then be cut in half to make calculating easier.

Family comments:

Child comments:

Challenge – If a cat who weighs 10kg needs 3 tablets, estimate how many an adult male lion might need if he weighs 200kg!
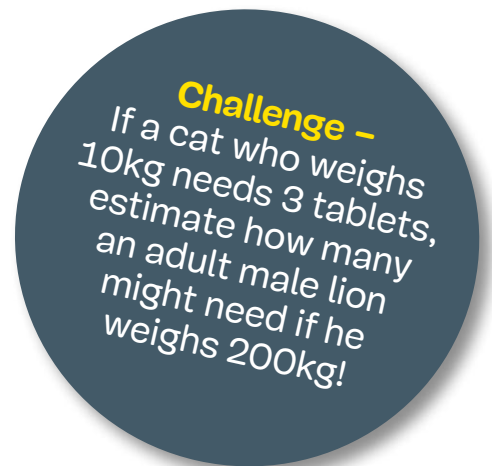
Curriculum Link

Using appropriate standard measurements to compare and order weight (g/kg); solve problems involving halves; refining estimation skills.

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At the zoo

At the zoo, there are many different types of animals. Some have 2 legs, some have 4 legs, some have more than 4 legs and some have none at all!
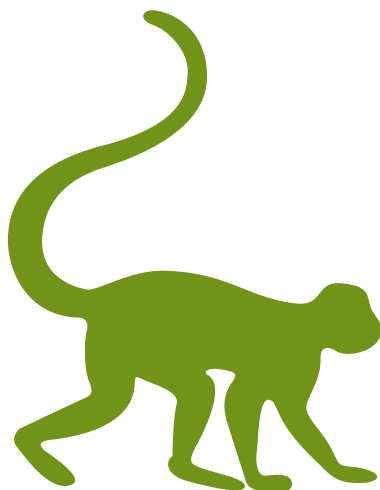
Can you and your family think of all the zoo animals you like and count how many fit into each group according to how many legs they have?

You could draw a picture, a pictogram, a tally chart, bar charts or a table. Could you think of an animal for each group? Which group had the most?

How many more had 4 legs than had no legs?

ZOO

Family comments:

Child comments:

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Vet's medicine

A bottle of medicine holds 50 ml.

A cat needs 5 ml, a rabbit needs 4 ml, a dog needs 20 ml, a horse needs 30 ml, a guinea pig needs 3 ml, a goat needs 25 ml, a lizard needs 2 ml.

If the animals need a dose every day, how long will the bottle last?

Imagine you are a vet, which animals do you have in your surgery at the moment? How much medicine will you need?

Can you find a bottle in your house which has 200 ml or close? What is it used for?

Use < (less than); > (more than) or = (equal).

For example; a bottle of tomato sauce > 200 ml.

How long do you think it will last for your family?

Family comments:

Child comments:

Curriculum Link

Use appropriate standard units to estimate, measure, compare and order capacity (l/ml); use <, > and =

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Quarters of circles

Find paper circles of different sizes (you could draw around things like cans or lids and cut them out).

1. Fold to find a quarter ($\frac{1}{4}$) of circles of different sizes.
2. What is the same? What is different?
3. How could you find three quarters ($\frac{3}{4}$) ?
4. What would 5 quarters ($\frac{5}{4}$) look like?
5. How would you find $\frac{1}{4}$ of a piece of string?
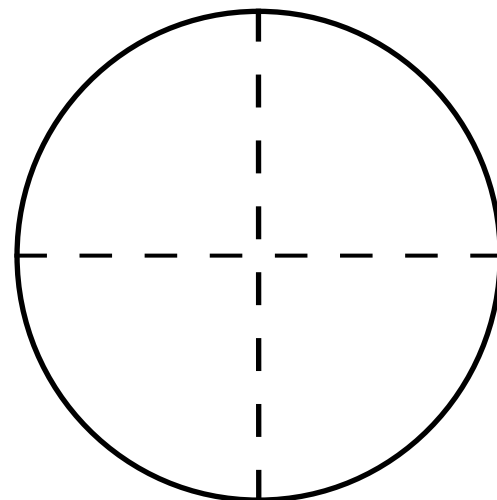
Challenge – What about ¼ of 2 pieces of string?

Family comments:

Child comments:

Curriculum Link

Find fractions of shapes and measures; meet $\frac{3}{4}$ as a non-unit fraction; begin to count in fraction quantities.

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Registered charity no: 1145669

The Pillars of Islam

This is a picture of The Pillars of Islam which Muslims believe gives them rules for how to behave in life (like the 10 Commandments in Christianity and Judaism).
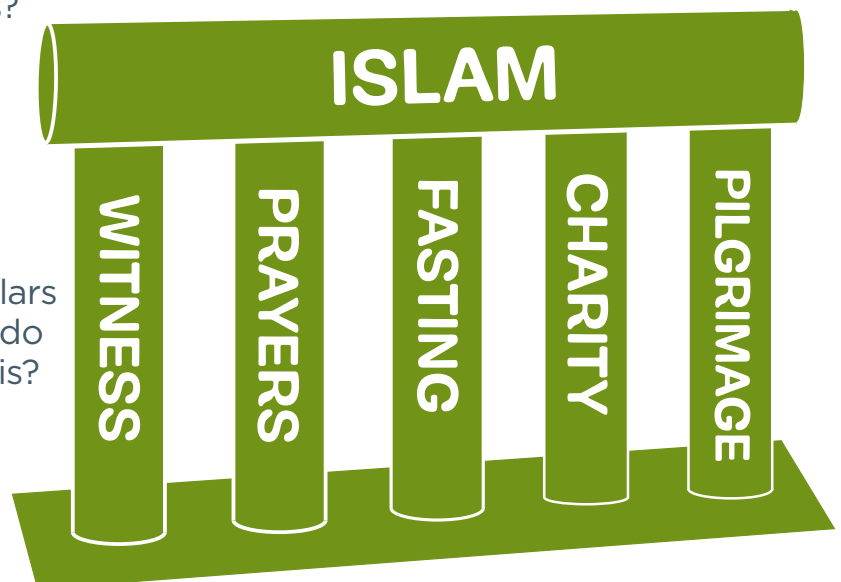
Using recycled paper (cardboard tubes, empty cartons or newspapers are good) or kitchen rolls or similar, try to create the five pillars. They all need to be the same height – what height are yours?

How far apart can you make them stand so they support a kitchen roll as shown in the picture?

How tall can you make another pillar (it must stand up!)?

Can you find different pictures of pillars or columns in buildings? Which one do you like and how tall do you think it is?

To find out more, look at: http://resources.woodlands-junior.kent.sch.uk/customs/questions/calendar/

Challenge –
The Pillars of Islam do not exist as a real building, therefore could the pillars also be made out of a different shape?

ISLAM

WITNESS PRAYERS FASTING CHARITY PILGRIMAGE

Family comments:

Child comments:

Curriculum Link

Handle a variety of common shapes and be able to talk about their properties; using measurements.

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Handshakes

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If everyone in your family shakes hands with everyone else – once and only once – how many handshakes would there be?

If there are not many people in your home, maybe let a teddy bear (or two) join in?

How could you show this?

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Child comments:

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Y2/Ages 6-7 Activities answers

Puppy multiplication

- 40 legs
- 10 noses
- 20 ears
- 5 tails
- 20 legs
- 10 eyes
- 40 claws

At the pet shop

- £80
- yes - £105
- options
- £200

Animal tablets

- 17 tablets
- No
- 3 tablets
- 60 tablets

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