

Year 6

Select from the list below and complete one each day. Whilst completing each activity look for patterns and connections. Make sure you enjoy the activity and share it with your parents. Complete as much as you can but each activity should take no longer than an hour.

| | Activity | Parent Comment |
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| 1 | <p>Roll a dice to create a 4-digit number multiplied by 2-digit multiplication question. Work out the calculation. Repeat 6 times.</p> <p>Can you use the digits 1-9 to create a four-digit multiplied by a 2-digit question that will give you an answer nearest to 10 000? You can use the digits more than once. How close can you get if you can only use each digit once?</p> | |
| 2 | <p>Roll a dice to create a 5-digit add a 5-digit addition question. Work out the calculation. Repeat 6 times.</p> <p>Can you use the digits 1-9 to create a 5-digit add a 5-digit addition question that will give you an answer nearest to 10000? You can use the digits more than once. How close can you get if you can only use each digit once?</p> | |

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| 3 | <p>Roll a dice to create a 5-digit subtract a 5-digit addition question. Workout the calculation. Repeat 6 times.</p> <p>Can you use the digits 1-9 to create a 5-digit subtract a 5-digit addition question that will give you an answer nearest to 10 000? You can use the digits more than once.</p> <p>How close can you get if you can only use each digit once?</p> | |
| 4 | <p>Select a recipe for 4 people. Change the recipe to make enough for 24 people.</p> <p>Use the internet to find out the price per ingredient. How much will you need? Do you need more than one packet? What will be the price per head?</p> <p>What percentage of the whole recipe is each ingredient?</p> <p>Choose a recipe using imperial measures. Can you convert them to metric?</p> <p>Can you scale up the recipe for 20 people?</p> | |

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| <p>5</p> | <p>Plan a trip to a city in the UK from your home.</p> <p>Is there more than one option to get there? Are you going to get the train or drive? How much will it cost to get there? How much petrol will you use?</p> <p>Which takes the least amount of time?</p> <p>What will be your accommodation costs?</p> <p>How much will you budget for meals? What will be the price per head be if 4 people came with you?</p> | |
| <p>6</p> | <p>If you travelled 1000km on a tour of the UK, where could you travel to from your home? Can you record your distance for each stage of the journey in Km and miles?</p> <p>Can you work out the cost of your travel and accommodation?</p> <p>How long will you be away on your trip and how long will you spend at each destination? Will you take part in any activities at each destination? How much will this cost?</p> <p>What is the total cost of your trip?</p> | |











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Look at the boxes you have in your house.

Disassemble a selection of boxes and look at the net of the box. What do you notice about the nets?

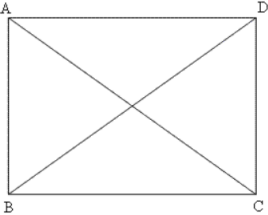
What is the same and what's different about the nets? Is there a relationship between the rectangular faces and the face at the end of cuboid?

Is there a relationship between the number of triangular faces and the base of a pyramid?

| | | |
|----------------------|---|---|
| Cube |  |  |
| Cuboid |  |  |
| Triangular Prism |  |  |
| Cylinder |  |  |
| Square-based pyramid |  |  |

Can you create your own net and build a 3D shape based on your findings?

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| 8 | <p>Can you work out the area of each downstairs room in your house?</p> <p>Do you think the area of upstairs will be the same as downstairs?</p> <p>Now choose one room. Can you work out the cost to redecorate the room?</p> <p>How much carpet will you need?</p> <p>What size curtains will you need?</p> <p>How much paint will you need?</p> | |
| 9 | <p>Can you create 2 mathematical statements that will always be true?</p> <p>Can you create 2 mathematical statements that will sometimes be true?</p> <p>Can you create 2 mathematical statements that will never be true?</p> <p>Can you convince me you are correct?</p> <p>Do you need to draw a picture to help you?</p> | |

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| 10 | <p>Download Nine pin Triangles from nRich</p> <p>https://nrich.maths.org/2852</p> <p>Create as many different triangles as you can on the nine pins. Can you classify them? Can you identify the angles in the triangles? If you have a protractor can you measure them?</p> | |
| 11 | <p>Draw a rectangle and divide it into quarters diagonally. Cut the shape up into 4 triangles. Rearrange the triangles to make other shapes. How many different shapes can you make? Can you classify them? Can you describe them?</p>  | |
| 12 | <p>Download Factors and Multiples puzzle from nRich</p> <p>https://nrich.maths.org/factorpuzzle</p> <p>Can you solve the problem?</p> | |

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| 13 | <p>Research the populations of 10 countries. Order the populations from largest to smallest.</p> <p>Find the difference between the populations.</p> <p>Round the populations to the nearest 100 000, 1 000 000 and 10 000 000</p> <p>Construct a table to record your results.</p> | |
| 14 | <p>Download a 100 square.</p> <p>What percentage of numbers are even? What percentages of numbers are both multiples of 3 and 6? What percentage of numbers are prime numbers? What percentage of numbers are factors of 72?</p> <p>Create your own number fact and work out the percentage? Can you create a number fact that is 25% of the 100 squares? Can you create a number fact that is 10% of the 100 squares?</p> | |

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| 15 | <p>Download a 100 square.</p> <p>Roll a dice to create the denominator of a fraction.</p> <p>Choose a number on the 100 square and find the fraction you made of the number. E.g. if you rolled a 5 and choose 25, you would need to find $\frac{1}{5}$ of 25.</p> <p>If you get it correct, colour the square.</p> <p>Try to get 5 squares in a row.</p> <p>Record your moves in a table.</p> <p>Play with a parent if possible. Can you block each other?</p> | |
| 16 | <p>Who is the tallest person in your family? Who is the shortest? What is the average height of the people in your family?</p> <p>What is the average age of your family?</p> | |
| 17 | <p>Create a revision poster for your class.</p> <p>What language will you include?</p> <p>What images can you put on your poster to help others?</p> <p>Can you include some reasoning questions on your poster?</p> | |
| 18 | <p>Work out who in your family is nearest in age to 14 052 days old. Can you use approximation to help you? Can you use a written or mental method to help you calculate the answer?</p> | |

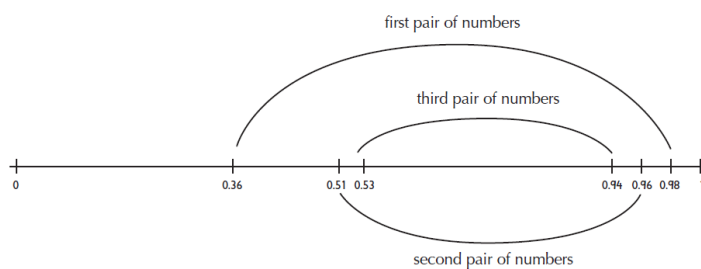
19 Roll the dice four times to get four digits. Arrange the digits to make two decimal numbers to 2 decimal places between 0 and 1.0.

Place the numbers on a 0 to 1 number line. These are now your new limits.

Now roll the dice four more times and make two more decimal numbers. Try to make your numbers fit between the two limits. If you succeed, these are your new limits.

Continue like this until you can't go on. How many times can you fit a new pair of numbers between the previous limits?

Sample game



Can you teach your parent how to play this game?

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| 20 | <p>Measure your heart rate when resting. Walk to the kitchen and back. What is your heart rate now? What's the difference?</p> <p>Jog on the spot for 1 minute. What is your rate now? What is the difference between resting, walking and jogging?</p> <p>Are you using a mental or written method to calculate the answer?</p> <p>Create your own exercise session to last 20 minutes?</p> <p>Which bits of the session do you think will raise your heart rate the most? In order to exercise safely, your session should start and finish gently with the maximum heart rate in the middle of the session.</p> <p>Do you need to make any changes?</p> <p>Ask a parent to take part in your exercise session and take their heart rate at different stages. What is the same and different about your heart rates and your parent's during your exercise session?</p> | |
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