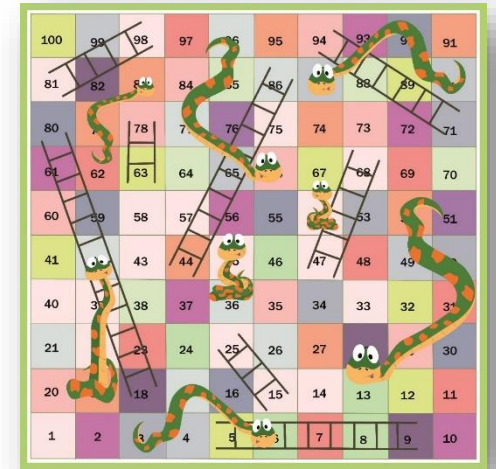
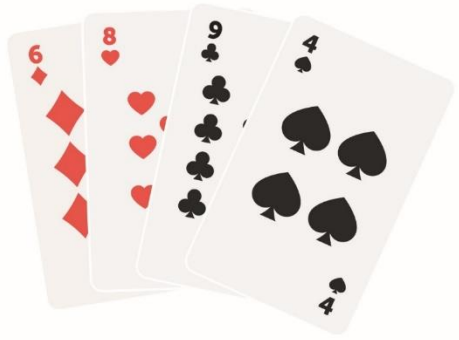


Maths Everywhere Games and Activities



Creative Shapes

Create a drawing or painting similar to the style of this piece by the Russian artist Wassily Kandinsky who lived between 1866 and 1944.

To make your creation you could use:

- Semi circles
- Squares
- Rectangles
- Triangles
- Quadrilaterals (regular or irregular)
- Lines drawn at angles including parallel lines and/or perpendicular lines.



Investigate other artists such as Piet Mondrian. What are the similarities and differences between the shapes, angles and lines used?



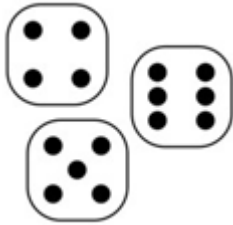
Playing with numbers



- Draw a 8 x 8 grid and fill it with random 2 digit numbers.
- Use a dice or spinner to generate three, single digit numbers.
- Use these three numbers and any of the four operations to make the total equal one of the 2 digit numbers displayed on the grid.

For example, after rolling 4, 5 and 6 with the dice you could make:

- $4 \times 5 - 6 = 14$
- $(4 + 5) \times 6 = 54$
- $54 \div 6 = 9$



21	3	62	37	11	29	51	70
29	12	34	20	48	43	19	38
49	52	23	75	95	78	4	65
26	36	88	13	30	6	23	24
91	65	54	7	26	56	98	16
74	18	31	49	25	99	66	45
32	14	8	27	50	17	51	84
9	60	45	57	14	2	15	72

- Colour in or cross out the numbers you are able to generate
- Try to generate as many totals on the grid as you can.
- When you have got all of the options then the dice are thrown again.
- If playing against a partner, then the first player to get four in a row wins.





Mean Activities



Keep a record of the activities that you do every day. This could be sleeping, eating, watching TV, using the computer, playing or anything that you do in a day.



Record the amount of time that each activity takes every day during a week. This could be recorded in a list, a table, a chart or a graph, including pie charts.



Calculate the daily average (mean) for each activity during the week.

Do any of the data surprise you?





Food for thought



How much does your favourite lunch cost?

Find out from someone at home or look out for the various prices when you go shopping.

If the food comes in packs of six, for example, this means that you would have to calculate the cost of one.

How much would your favourite sandwich cost if you made it yourself?

Calculate how much of your favourite food you would eat during a day, week, month or year.

How much would that cost?





Fruit Smoothies

Here is a recipe for a smoothie.

For every 4 cups of juice, you need 10 spoonfuls of yogurt and 2 cups of bananas.

Scale up the recipe for more people starting with 6 cups of juice.

**Decide how many spoonfuls of yogurt and cups of bananas will you need for the ingredients.
Make sure you keep the same ratio.**

What would the recipe be if we had only half a cup of bananas and we kept the ratio of ingredients the same?

Make up your own smoothie recipe and then work out how to scale if for more or fewer people.



Source: Herts for Learning





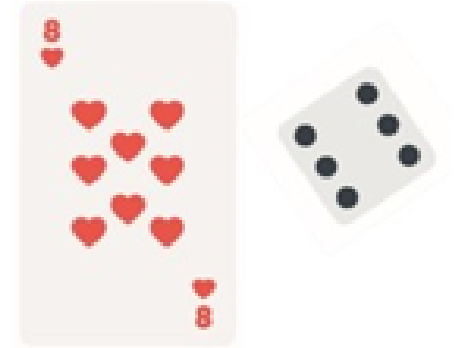
Massive Multiplication



Use a pack of playing cards and a dice. In each game, the highest score wins.

Game One

- Discard all of the 'picture' cards i.e. Jacks, Queens, Kings.
- Throw a dice and take one card from the top of the pack.
- Multiply the two amounts together to find the product.
- The player with the highest total score after three rounds wins.



Game Two

- Discard all of the 'picture' cards i.e. Jacks, Queens, Kings.
- Take four cards from the top of the pack. Make two, 2 digit numbers (e.g. 26 and 53) and multiply them together. For each turn, select four new cards.
- The player with the highest total score after three rounds wins.

Game Three

- Assign the values: Jacks = 10, Queens = 100 and Kings = 1000.
- Each player takes two cards from the pack. Multiply the amounts.
- The highest scorer in each round gets a point.
- The first to five points wins.





Travel Times

Use a road atlas or an online route planner. Find the distances of journeys to your favourite destinations. This could be places of interest or where members of your family live.

Calculate how long each journey would take if you travelled at an average of 60 miles per hour (mph) i.e. you would travel 60 miles in one hour and one mile in one minute.

For example:

Journey	Distance	Travel Time
North London to Brighton	90 miles or 144 km	1 hour 30 minutes
South London to Manchester	280 miles or 448 km	4 hours 40 minutes

Convert the miles to kilometres.

Since there are approximately 1.6 kilometres in a mile, you would need to multiply the number of miles by 1.6.

So for example, 20 miles = 32 kilometres because $20 \times 1.6 = 32$ kilometres.

How long would each journey take if you travelled at an average speed of 40mph?





Generous Donations!



£10,000

You have been given £10,000 to donate to local charities. Consider gifts including buying property, vehicles, food, clothes etc. Everything that you donate needs to be calculated, even down to the last penny.

This might mean looking on the internet or in newspapers and magazines to find exact prices.

Check your totals by using the inverse operation. For example, if you have subtracted you could check for accuracy using addition.

Work out how much you would donate exactly.

Record to whom you would donate and create a table or a spreadsheet.





Algebraic Collections



Make a collection of three types of objects. For example, pebbles, sticks and shells. Give each type of object a secret value. For example, pebble = 3, stick = 4 and shell = 16. Create a pair of algebraic equations using the objects in which 1 object is different like below.

$$\begin{array}{ccccccc} \text{stick} & + & \text{stick} & + & \text{pebble} & + & \text{shell} & = & 27 \\ \text{stick} & + & \text{pebble} & + & \text{shell} & = & 23 \end{array}$$

Challenge someone to discover what the secret values of the items are. Ask them to provide different secret values and the sums for you to solve.

Make up some more secret values and place them in a grid with the sums on each row.
Make sure it can be solved!
Challenge someone to solve the problem.
Ask them to create one for you.

			=
			=
			= 31
=	=	= 45	

