

MOVING ON UP!



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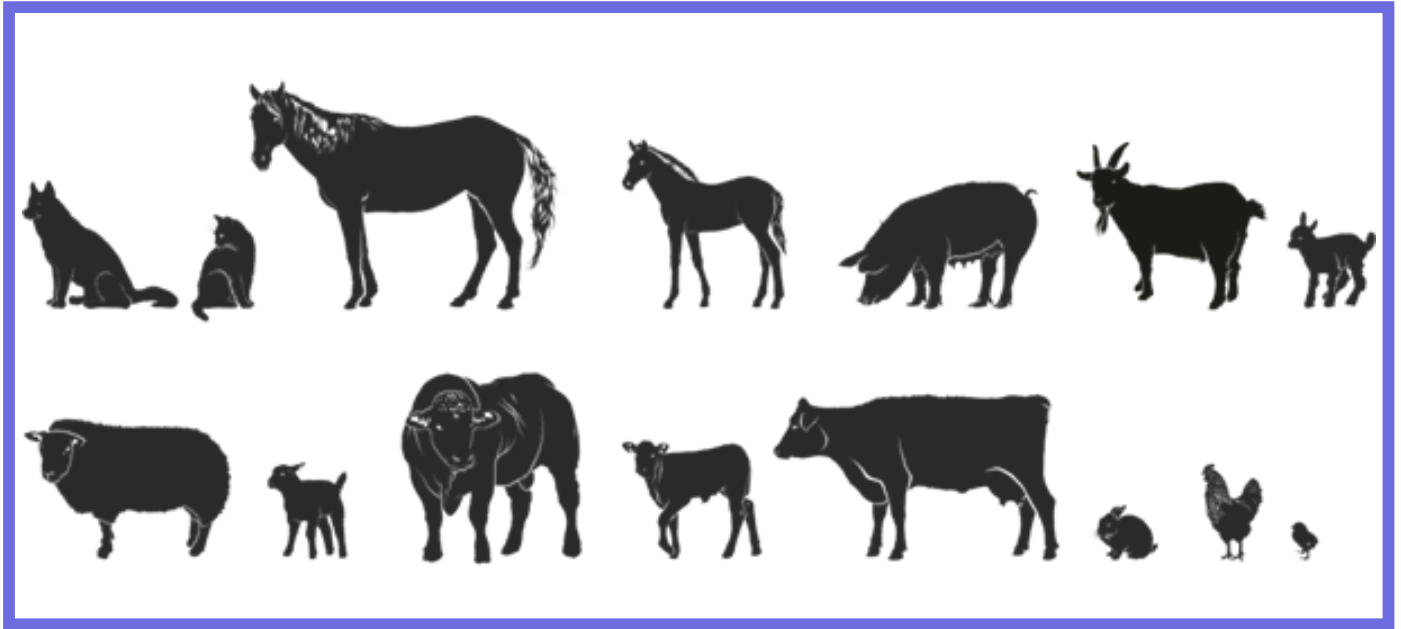
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Be a Maths Detective

- Can you think of any mathematical questions which you could ask and answer using the picture?
- Try to include questions about as many different areas of maths as you can.
- If you are stuck, have a look at the prompts below.



Here are some words which you might like to use:

altogether total more less
add subtract fewer smaller
larger smallest largest
animals legs feet ears tails
horns mammals birds pets

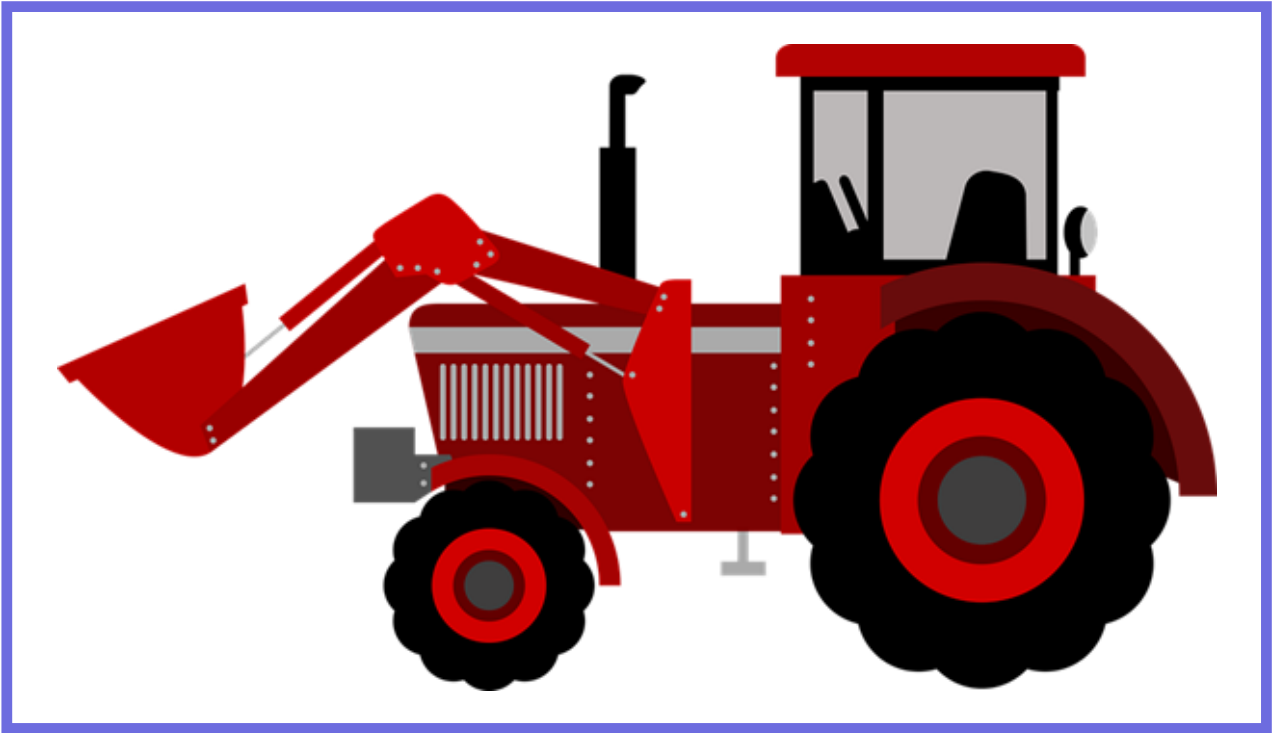
Here are some question frames which might help you:

How many are there?
How many have?
How many more than are there?
How many fewer than are there?
Which is the?

My mathematical questions:

Be a Maths Detective

- Can you think of any mathematical questions which you could ask and answer using the picture?
- Try to include questions about as many different areas of maths as you can.
- If you are stuck, have a look at the prompts below.



Here are some words which you might like to use:

square rectangle oblong circle
sides straight curved total
altogether longer shorter longest
shortest largest smallest above
below shapes same different

Here are some question frames which might help you:

How many are there?
How many different can you see?
How many more than are there?
How many fewer than are there?
What is the most common in the picture?

My mathematical questions:

Be a Maths Detective

- Can you think of any mathematical questions which you could ask and answer using the picture?
- Try to include questions about as many different areas of maths as you can.
- If you are stuck, have a look at the prompts below.



Here are some words which you might like to use:

same different altogether
total more fewer add subtract
take away iced not iced shapes
cakes double half

Here are some question frames which might help you:

How many are there altogether?
How many more than are there?
How many fewer than are there?
If I ate cakes, how many would be left?
If I made more cakes, how many would there be?

My mathematical questions:

Be a Maths Detective

- Can you think of any mathematical questions which you could ask and answer using the picture?
- Try to include questions about as many different areas of maths as you can.
- If you are stuck, have a look at the prompts below.



Here are some words which you might like to use:

same different altogether
total more fewer add subtract
take away vehicles ladders
windows wheels rows whole
part toys

Here are some question frames which might help you:

How many are there?
How many different can you see?
How many more than are there?
How many fewer than are there?

My mathematical questions:

PRACTISE

- Name of Game:** Five Special Things
- This helps with:** Numbers within 10
- You will need:** Five special things for each player
Spinner 1, 2, 3 (see page 24)
Five frames - two for each player (see page 23)
Someone to play with

How to play:

1. Each player chooses five special things from around the home and places them in front of them, for example; toy cars, shiny pebbles, pasta pieces etc. Use the five frames, if the objects are small enough to fit, to help with counting.
2. Player one spins the spinner and takes that number of special things from player two and adds them to their own collection.
3. Both players describe mathematically what has happened to the number of their special things. Player one goes first.
4. Play again to allow player two to take from player one and both describe what has happened mathematically. Player two goes first.
5. Repeat until one player has all ten special things. Return all special things to their original players and play again, with different special things if you wish.

I had 5 special things. Now I have 2 more.
Now I have 7 special things altogether.

I had 5 special things. 2 have been taken away.
Now I have 3 special things.

The winner is: The player who has all of the special things!

Variations:

- Arrange the special things in a line to make counting easier or separate into two groups to see how many have been added.
- Stop play after a given time and count who has the most special things.

PRACTISE

Name of Game: Finders Keepers

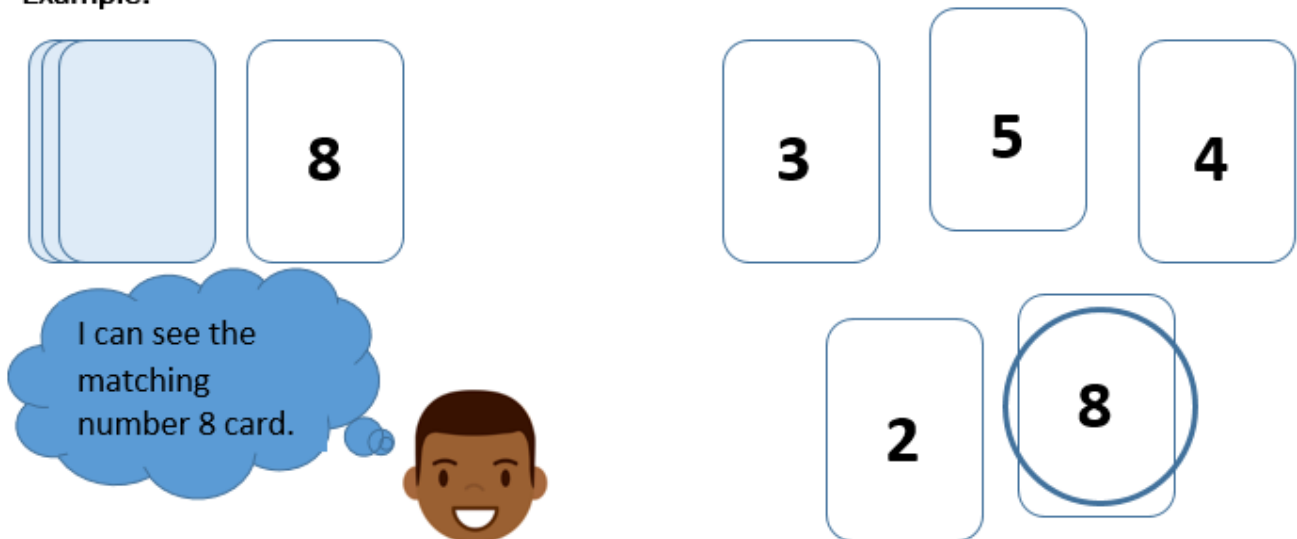
This helps with: Recognising numbers 0 to 10

You will need: Two sets of number cards 0 to 10 (from pages 25 & 26)
Someone to play with

How to play:

1. Use two sets of number cards 0 to 10. Shuffle one set and place face down in a pile. Shuffle the other set and spread the cards out, face up, on a flat surface. Allow both players a few moments to look at where the cards are before starting the game.
2. Player 1 turns over the top card from the pile and places it face up next to the pile. Both players look for the matching card, showing the same number, from those spread out in front of them.
3. The first person to find and pick up the matching number card keeps it.
4. Player two turns over the next top card from the pile and places it face up on top of the first card that was turned over. Both players again look for the matching same number. The first person to find it and pick it up, keeps it.
5. Repeat until all of the cards have been turned over.

Example:



The winner is: The player with the most cards at the end of the game!

Variations:

- Use two sets of number cards 0 to 20 (from pages 25 & 26) and take the cards from a smaller or larger range, for example 0 to 5 or 0 to 20.
- Rotate or randomly place the cards so that players view the numbers in a range of orientations and positions.

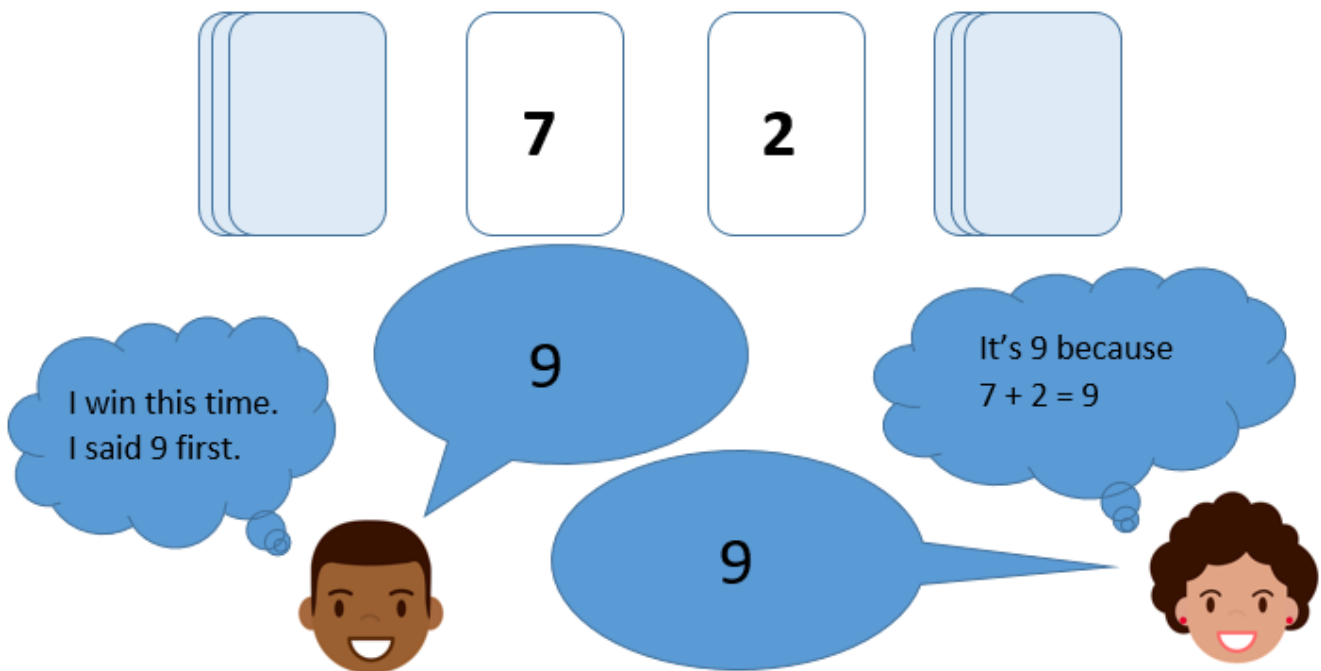
PRACTISE

- Name of Game:** Add to Win
- This helps with:** Adding two single digit numbers
- You will need:** Two sets of digit cards 0 to 9 (see page 22)
Someone to play with

How to play:

1. Use two sets of digit cards 0 to 9. Shuffle each set and place face down, keeping in two separate piles.
2. Turn over both top cards at the same time - each person can turn over the card closest to them.
3. The first person to call out the total keeps both cards.
4. If both players call the correct answer at the same time, keep the cards to one side and the winner of the next round keeps all of the cards.
5. Repeat until all of the cards have been turned over.

Example:



The winner is: The player with the most cards at the end of the game!

Variations:

- Use the 0 to 5 digit cards to practise within a lower number range and use everyday objects, such as pasta pieces, to support counting with players taking turns to have a go first.
- If the answer is correct, they keep the card. If the answer is incorrect, the other player gets a chance and keeps the card if they are correct.

PRACTISE

Name of Game: Place Your Orders Please

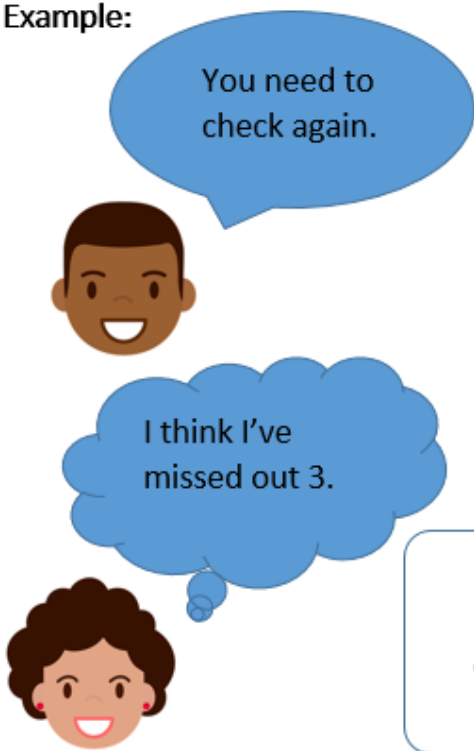
This helps with: Ordering numbers from 0 to 20

You will need: Two sets of number cards 0 to 20 (see pages 25 & 26)
Someone to play with

How to play:

1. Use two sets of number cards 0 to 20, one for each player.
2. Each player shuffles, or mixes up, their set of number cards.
3. Both players then place their own set of number cards in order from 0 to 20.
4. Each player checks the other player's set of number cards to make sure they are in the correct order. If a mistake is spotted, and the cards are not in order, the players have another chance to change the order of the cards.
5. If requested, the player with the incorrect order can be told which number cards are not in the correct order.

Example:



You need to check again.

2 3 4 5

I think I've missed out 3.

2 4 5 6

The winner is: The player who puts their cards in the correct order first!

Variations:

- Use a smaller range of number cards, for example 0 to 10.
- Select a given number of cards to put in order, for example, take any five cards from the 0 to 20 number cards.

PRACTISE

Name of Game: Spin to Win

This helps with: Finding 1 more and 1 less of a number from 1 to 10

You will need: One set of digit cards 0 to 9 (see page 22)

One spinner (1 more, 1 less) (see page 24)

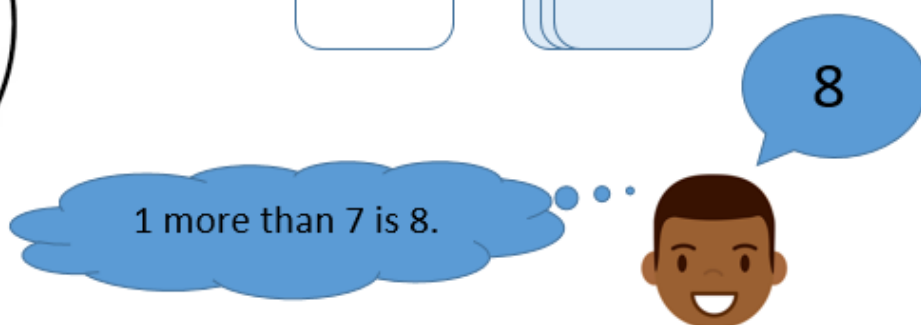
Pencil and paper clip for spinner

Someone to play with

How to play:

1. Use the digit cards 1 to 9, shuffle and place face down. Player one turns over the top card to find which number to start with.
2. Player one spins the spinner to show whether they will need to find one more or one less than the number on the card.
3. Player one keeps the digit card if they can correctly say the number that is either one more or one less (as shown on the spinner).
4. Player one puts the digit card at the bottom of the pile, to be used again, if they are not correct.
5. Repeat for player two and then take turns until all of the cards have been turned over. Play again, this time starting with player two.

Example:



The winner is: The player with the most cards at the end of the game!

Variations:

- Reduce range of digit cards from 1 to 5 or include 11 to 19 (from page 25 or 26) to practise finding 1 more and 1 less of different number ranges.



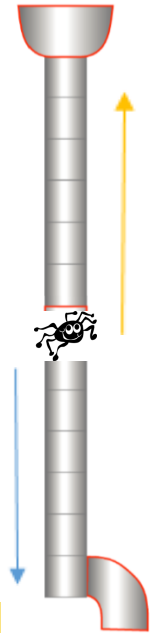
Investigate

Incey Wincey

(from: <https://nrich.maths.org/8863>)

This is a game for one or two players. To play, you'll need a dice, a paper version of the drainpipe and a counter to be the spider. If you are playing on your own, you'll also need the weather cards. This game is based on the 'Incey Wincey Spider' rhyme.

**Incey Wincey Spider
Climbed up the water spout;
Down came the rain
And washed the spider out.
Out came the sunshine
And dried up all the rain;
So Incey Wincey spider
Climbed up the spout again.**



2 player version:

Put the spider in the middle of the drainpipe.

One of you is the sunshine and the other is the rain.

Take turns to roll the dice. The sunshine player moves the spider up the drainpipe according to the number they throw and the rain player moves the spider down.

If the spider reaches the top of the drainpipe, the sunshine player wins, and if it reaches the bottom, the rain player wins.

1 player version:

1. Shuffle the weather cards and place in a pile face down.

2. Place the spider in the middle of the drainpipe.

3. Turn over a weather card. (Sunshine moves up the drainpipe, rain moves down the drainpipe.)

4. Roll the dice and either move up or down the drainpipe the number of places shown by the dice.

5. Keep playing until all the weather cards have been used or until the counter reaches the top or bottom of the drainpipe.

Questions to ask:

1. You threw a ? what do you need to do next?

2. How many more steps will you need to reach the top/bottom?

3. You've thrown a ? how many more to get to the top/bottom?

4. How many turns do you think you will need to get to the top/bottom?

Adults/older brothers and sisters, please play the game a few times before letting the child play on their own. Extra materials are on pages 27 - 29.

Investigate

The Box Game

(from: <https://nrich.maths.org/12745>)



Instructions

1. Put toys one at a time into a box, so they cannot be seen inside, counting out loud with your child as each one is added.
2. Ask: "Can you show me on your fingers, how many toys are in the box?" After your child has shown the answer, show the number using one of the number cards from the back of this pack.
3. Add one more toy to the box, without showing the toys inside, and ask your child to show on their fingers the number of toys now inside the box. Again show the answer using one of the number cards.
4. Then show how many toys are in the box and count to check.
5. Repeat this a number of times.

Possible questions to use if your child is ready for a further challenge:

1. What if we were to add two more?
2. What if we were to take one out? Two out?
3. Imagine there are ten toys in the box and I take six out. How would you know how many were left?

You could also try counting in twos when adding toys to the box.

Investigate

Two Dice

(from: <https://nrich.maths.org/150>)

Here are two dice:



If you add up the dots on the top you'll get 4.

Instructions

1. Find two dice to roll yourself.
2. Add the numbers that are on the top.
3. Write down the total.
4. Do this six times.

Possible questions to ask:

1. Did a total come up more than once?
2. How many ways are there of getting 5 as a total?
(Repeat with other numbers.)
3. Can you say a total you will not be able to get? Why not?

Parents/older brothers and sisters, children may need support in understanding and/or completing this activity. If you don't have two dice, use the templates on page 28.

Investigate

Always, Sometimes or Never?

(Adapted from: <https://nrich.maths.org/12671>)

Are the following statements about shapes always true, sometimes true or never true?

How do you know?

If you put two squares together you get a rectangle.

All 3D shapes have more than four faces.

Four sided shapes are called squares.

When you cut a square in half you get a triangle.

Three sided shapes are called triangles.

There are some shapes and questions on page 30 which might help you to investigate some of the statements.

Can you write a statement for someone else at home to investigate?



PLAY



SNAP

(for 2 or more players)

You will need:

- A deck of cards (or the playing cards from pages 31 - 34)

Shuffle the deck then deal out all cards face down, one at a time. It does not matter if some players have more cards than others.

Each player puts their cards in a pile, face down in front of them. The player on the dealer's left turns over the top card of their pile and puts it face up starting a pile in the middle of the table. The next player to the left does the same and so on around the table.

When someone turns up a card that matches the value on the previous card on the pile, the first person to notice the two matched cards calls out "Snap!" and wins the pile. This player adds the cards to the bottom of their face-down pile.

Play continues where it left off with the player to the left of the last player who turned over a card.

If a player runs out of cards, they are out.

The winner is the only player left with cards in their pile.





PLAY



NUMBER BOND SNAP

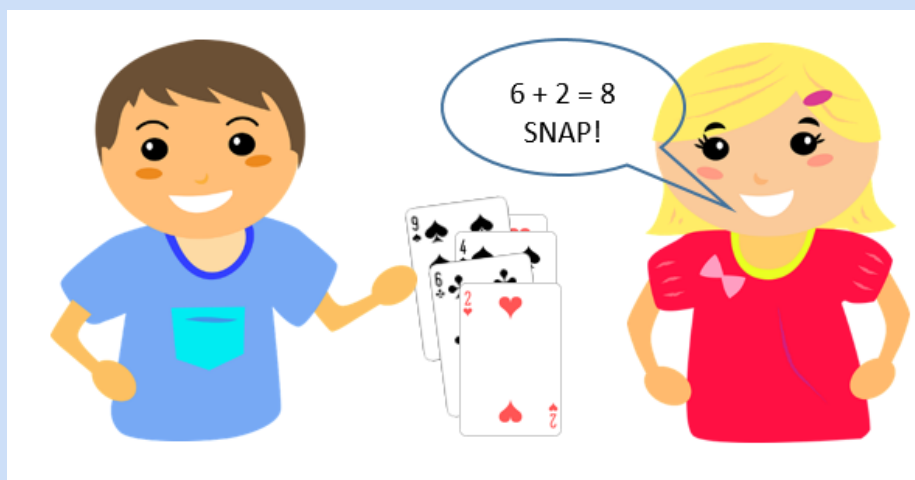
(for 2 or more players)

This game is like snap, but players look for number bonds to a target number rather than the same number (e.g. – If you are looking for number bonds to 8, the pairs: 1 and 7, 2 and 6, 3 and 5 or 4 and 4 would be 'snap').

Remove the picture cards (K, Q & J) to play.

Ace (A) = 1.

Try choosing a different target number for each round and repeat any that are tricky.





PLAY



NUMBER MEMORY

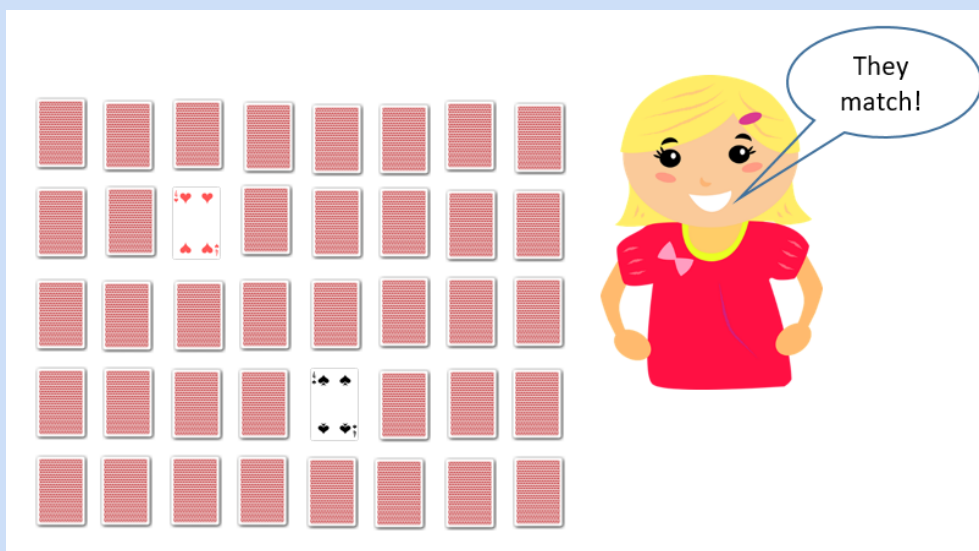
(for 1 or more player)

Remove the picture cards (K, Q & J) and arrange the 40 remaining cards face down into 5 rows of 8.

Players take turns turning over a pair of cards. If the numbers match, the player wins the two cards and takes another turn. If the cards do not match, they are put back in their places face down and the next player has a turn.

Play continues until all number matches are found.

At first, using fewer cards to start with might be helpful.





PLAY



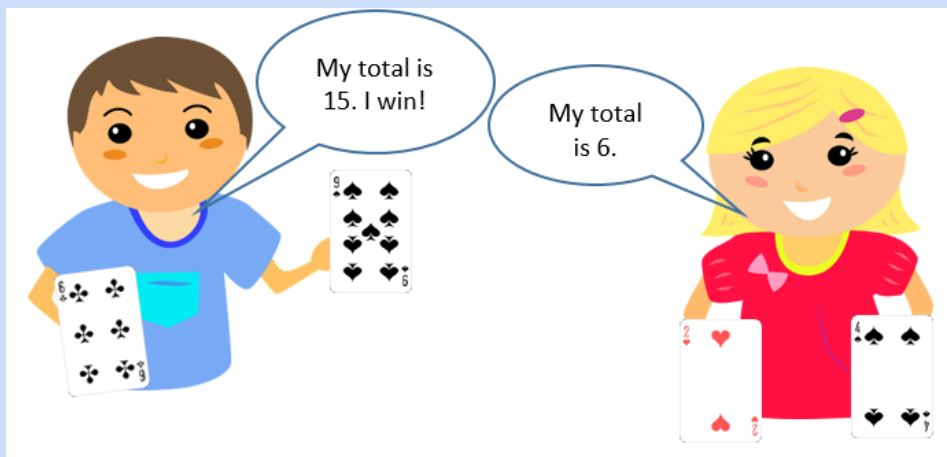
TAKE 2 (for 2 or more players)

Remove the picture cards (K, Q & J) and shuffle the deck.

Ace (A) = 1.

Each player should take two cards from the top of the pack and add the numbers together.

The player with the highest total wins a point. Record the points as you go.



Try it with subtraction as well.



Outdoor Maths Challenges

Maths activities you can do outside, in your garden, at your local park or when you are out on a walk.

1.

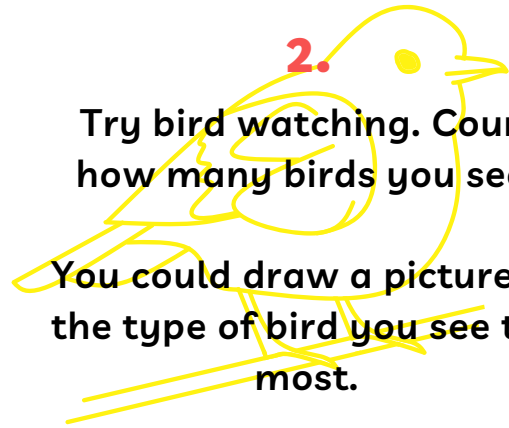
Find objects that are different lengths.

Can you lay them in order from shortest to longest?

2.

Try bird watching. Count how many birds you see.

You could draw a picture of the type of bird you see the most.



3.

Use sticks to make some 2D shapes.

Can you make a square, a triangle and another different shape?

4.

Have you ever tried making a 'mud castle'? It's like a sand castle, but with mud!

Decorate your castle with a repeating pattern made from stones, leaves and sticks.

5.

Fill ten bottles with water and make your own bowling game.

Knock down the bottles with a ball and count how many are left standing.

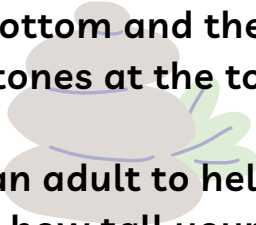




6.

Make a tower of pebbles, with the largest stones at the bottom and the smaller stones at the top.

Ask an adult to help you measure how tall your tower is.



7.

Make a repeating pattern using natural materials, such as pebbles, leaves or twigs.

8.

Go on a number hunt around your local area with an adult. Look for different digits.

Can you find all of the digits from 0 to 9?

9.

Try growing a sunflower or a tomato plant.

Every week you can measure it and work out how much it has grown in the last 7 days.

10.

How many times can you bounce a ball in one minute?

Challenge other people you live with to see if they can beat your score.



Always take care when learning outside. Some of these activities are easier and safer to do with an adult to help you. Share your learning together and have fun!

Indoor Maths Challenges

Maths activities you can do at home when the weather isn't very nice outside.

1.

Collect objects that are different weights and order them from lightest to heaviest.

Ask an adult to help you measure them using kitchen scales.

2.

Sing a counting song.

Or count to twenty, forwards and backwards, using silly voices.

3.

Find different coins. Look at their colour, shape, size and number.

What's the same about them and what's different?

4.

Draw a 'maths monster' using shapes and your imagination.

Can you use a square, circle, triangle and another shape of your choice?

5.

Make a tower that is taller than a teddy bear.

Ask an adult to help you to measure it to find out how tall it is.



6.

Read a book with an adult.

See if you can find any numbers in the text or shapes in the illustrations.

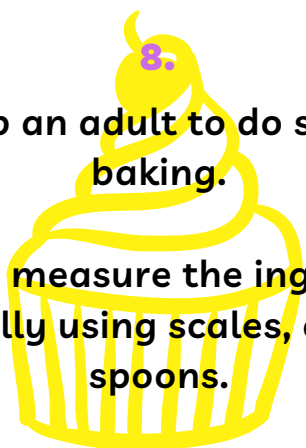
7.

Make a repeating pattern with shapes or objects that you can find around your home.

8.

Help an adult to do some baking.

You can measure the ingredients carefully using scales, cups or spoons.



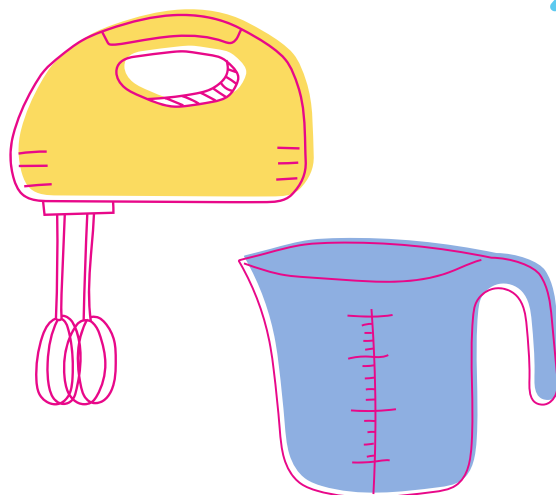
9.

Go on a shape hunt around your home.

Look for different shapes and draw a picture or tell an adult which ones you find.

10.

Collect twenty small things and practise counting them, forwards from 1 to 20 and backwards from 20 to 1. Then try sharing the twenty objects into two equal groups.



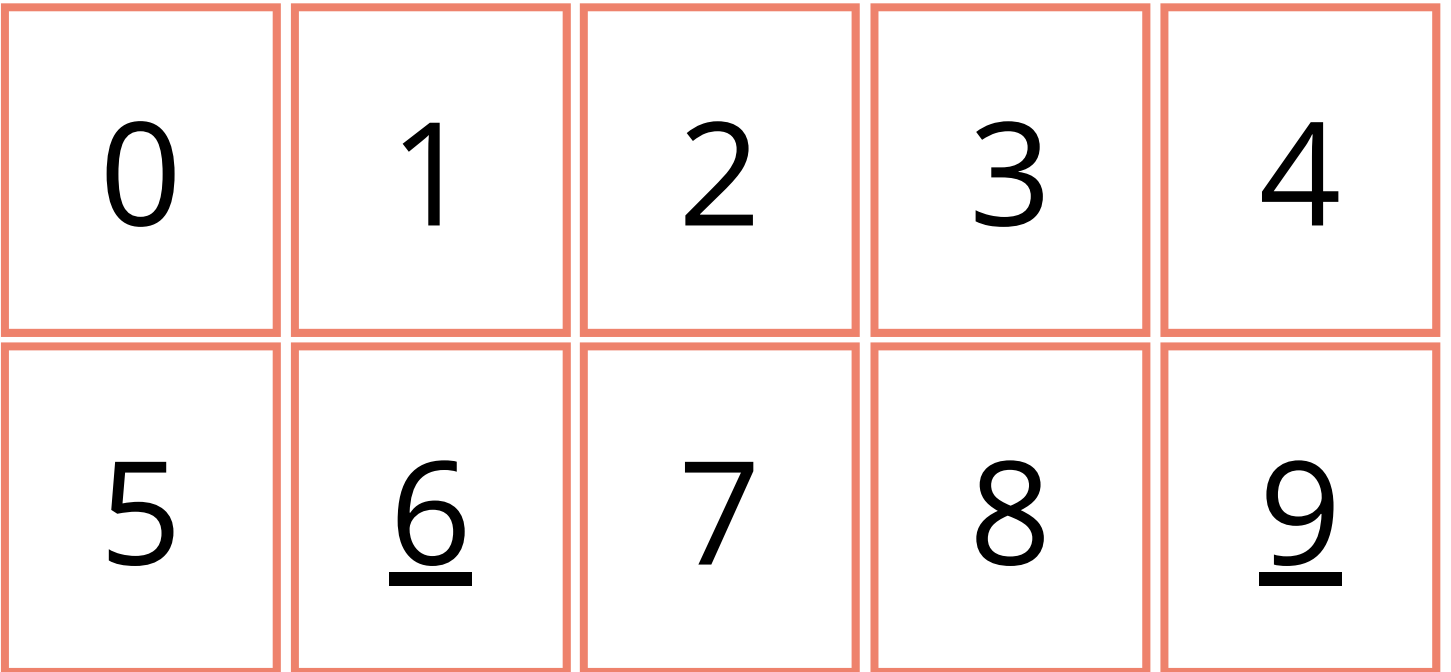
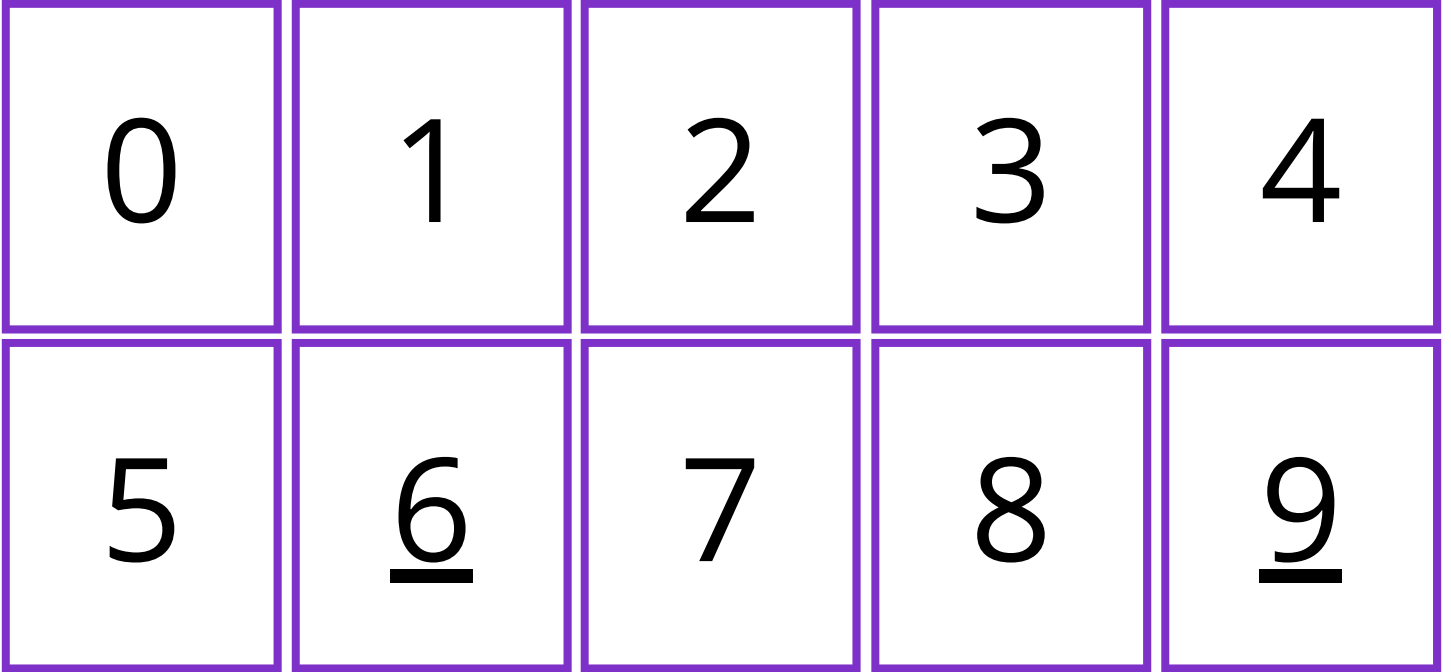
Some of these activities are easier and safer to do with an adult to help you.

Share your learning together and have fun!



Digit Cards

Cut these cards out and use them for activities and games.





Five Frames

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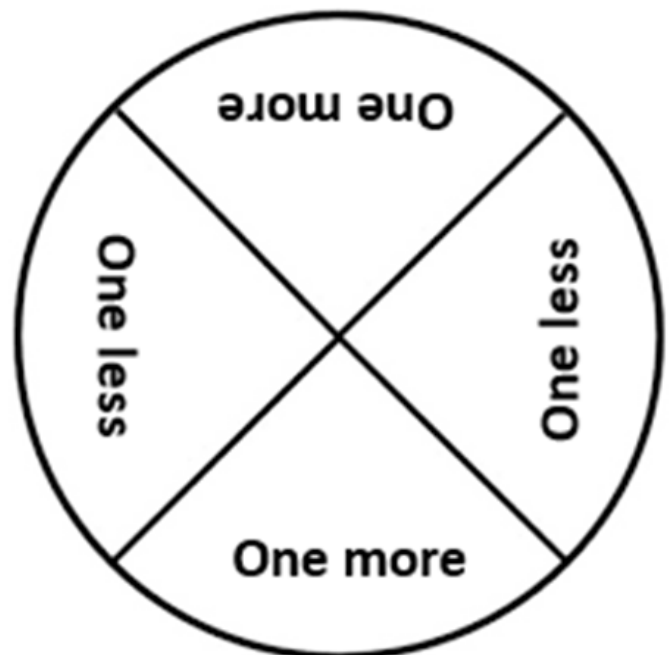
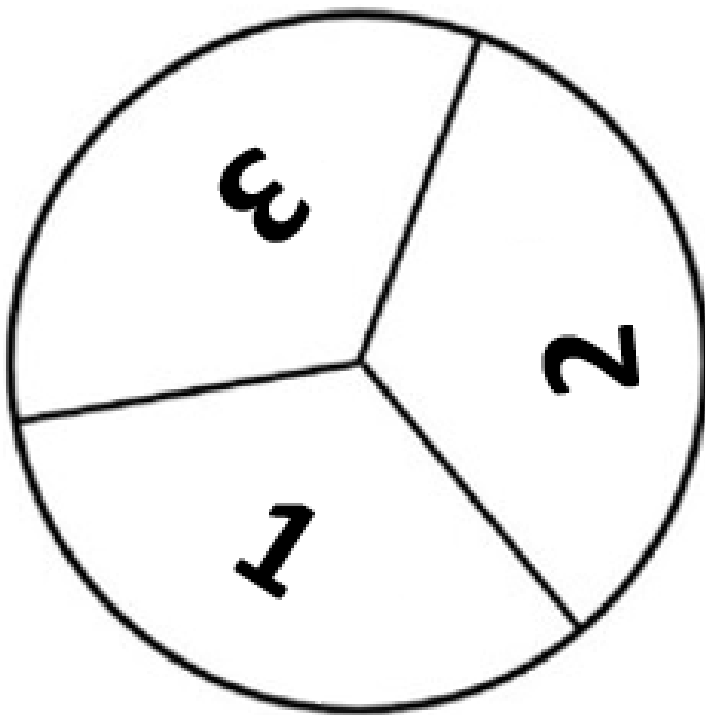
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Spinners: 1,2,3 and One More, One Less

1. Lay the paperclip at the centre of the spinner.
2. Hold your pencil with the point inside the paper clip, at the centre of the spinner.
3. Flick the paper clip to spin around the pencil.
4. Wait for the paper clip to come to rest and see which section it is in.
5. If the paper clip rests on a line, spin again.





Number Cards to 20

Cut these cards out and use them for activities and games.

0	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20



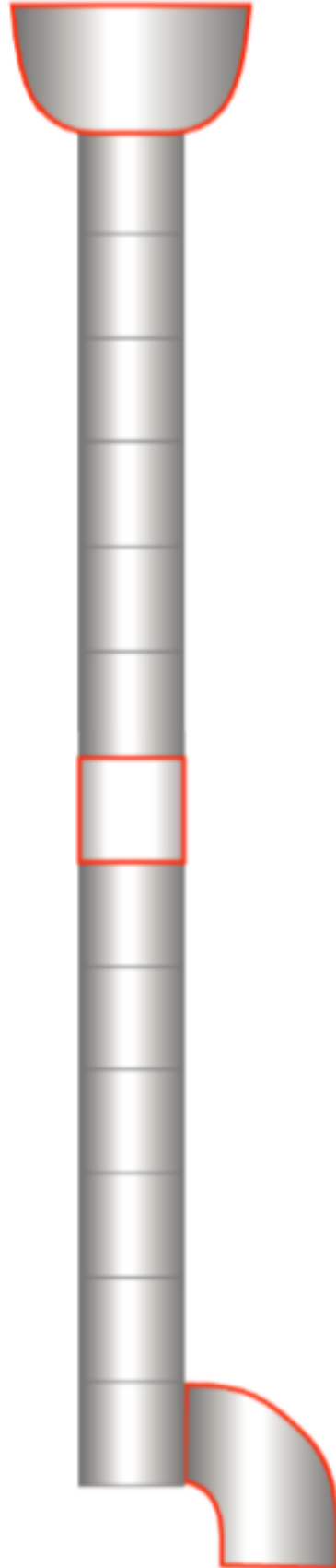
Number Cards to 20

Cut these cards out and use them for activities and games.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----



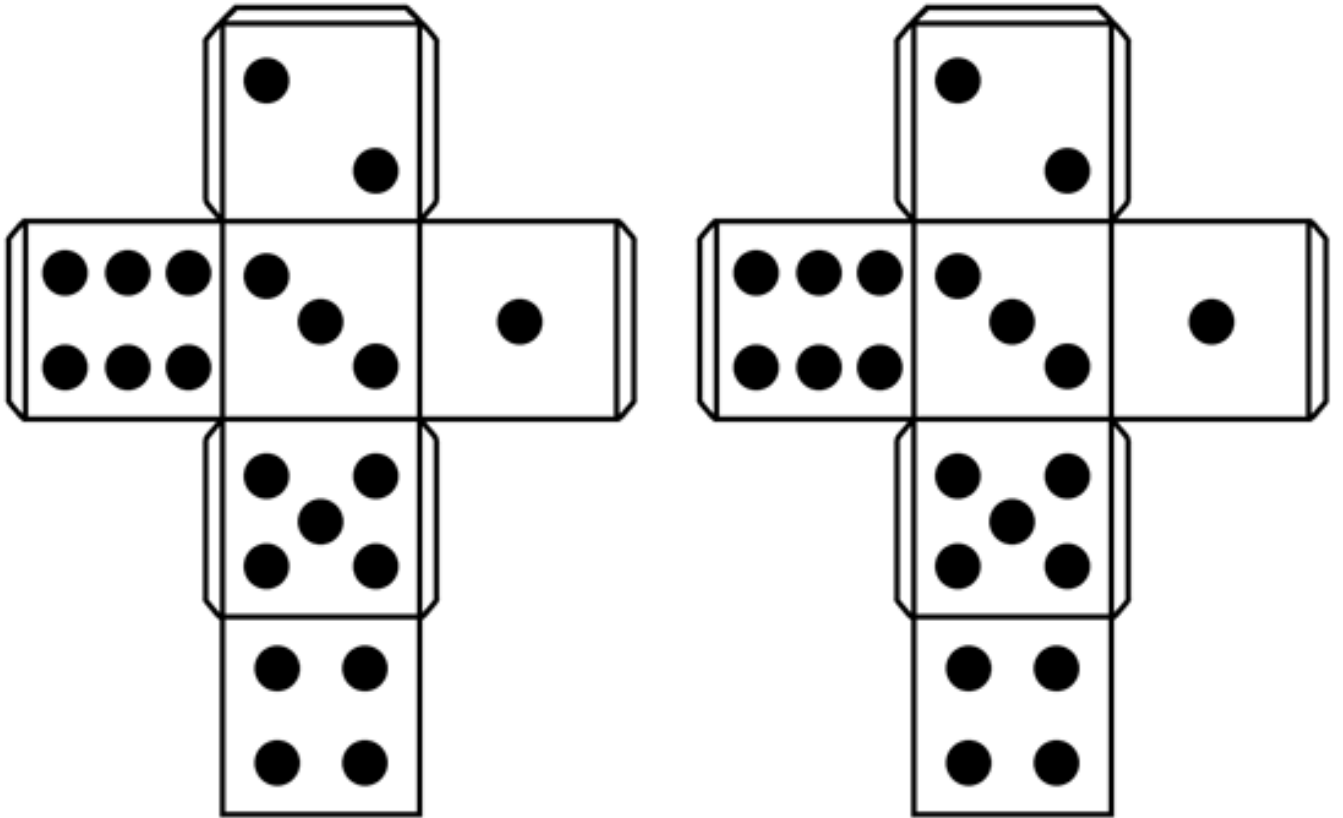
Incey Wincey Spider Resources





Incey Wincey Spider Resources

If you do not have a dice, carefully cut one of these templates out, fold along all the lines, put a little glue on the tabs and stick it together to form a cube. **You can also use these templates for the 'two dice' activity.**



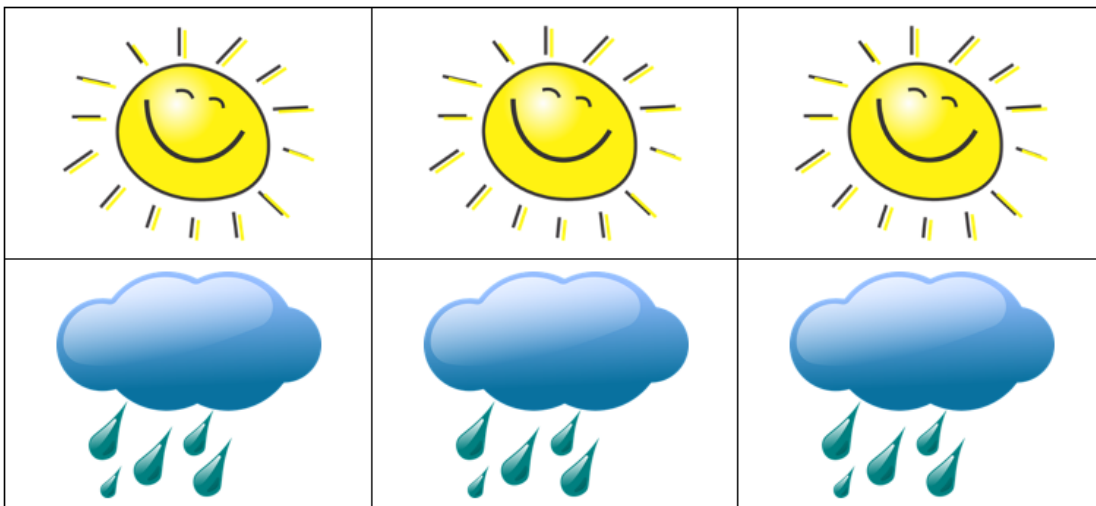
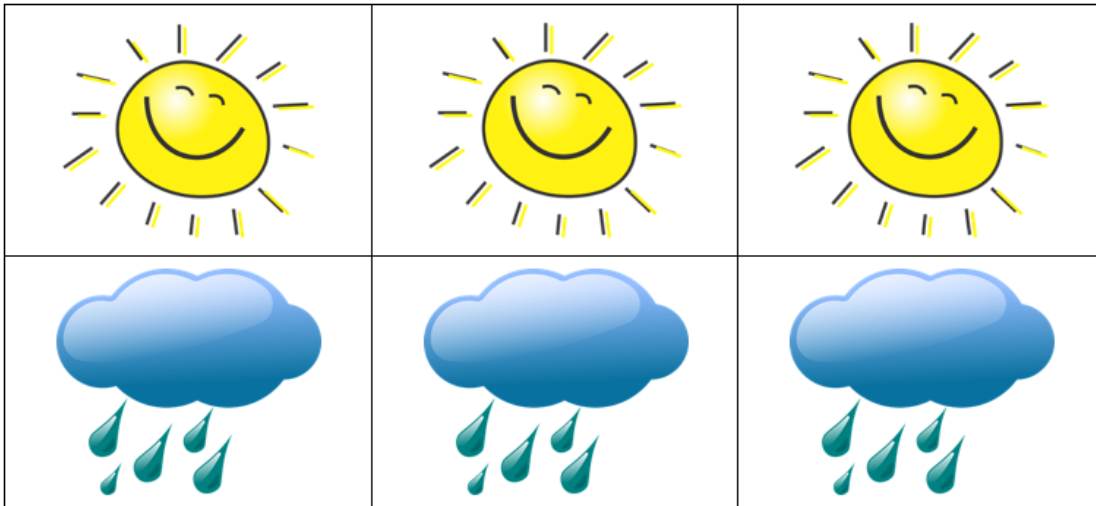
If you do not have something to use as a counter, carefully cut this spider out.





Incey Wincey Spider Resources

If you are playing the game on your own, you can use these weather cards. Cut them out carefully and then shuffle them before use.





Always, Sometimes or Never Resources

These shapes and questions might help you to investigate some of the statements in the activity. You may like to cut the shapes out.

Can you make a rectangle by joining these two squares together? Try joining them in different ways. Do you always get a rectangle?



What two shapes do you get if you cut a square in half? Can you make any other shapes?



Have a look around your home. Can you find any four sided shapes which are not squares?

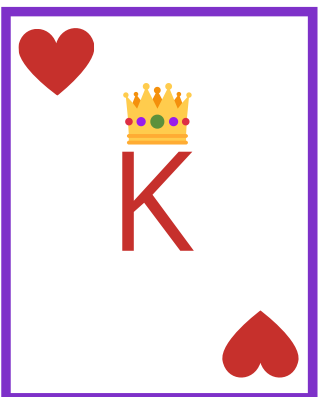
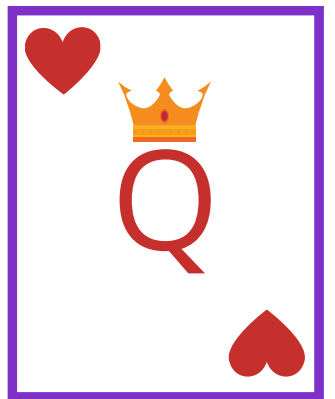
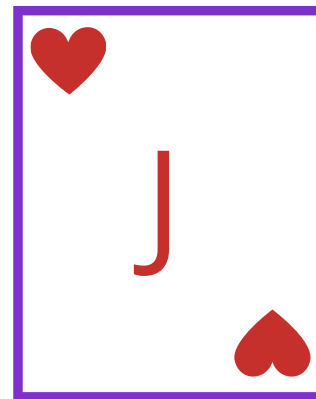
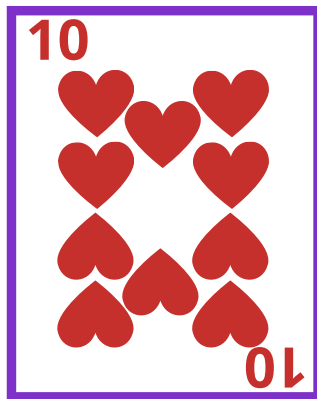
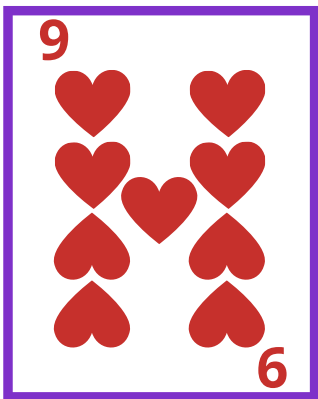
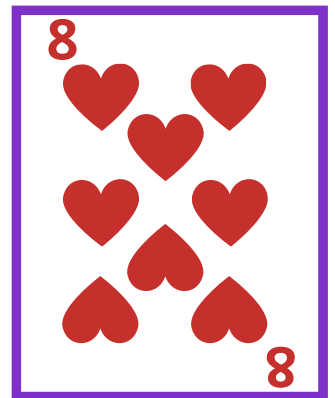
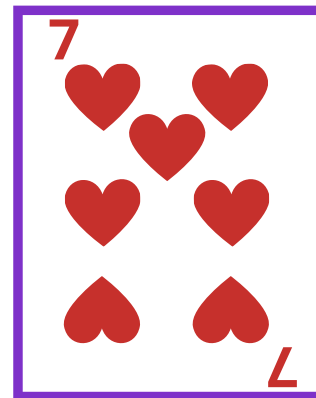
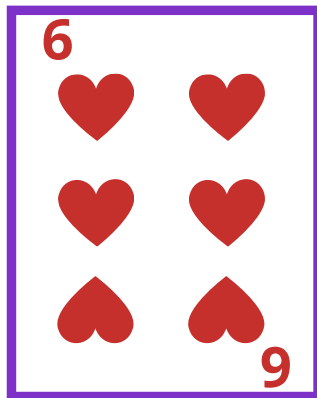
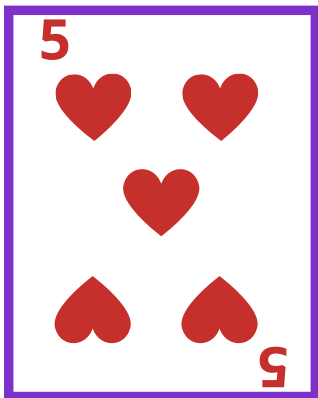
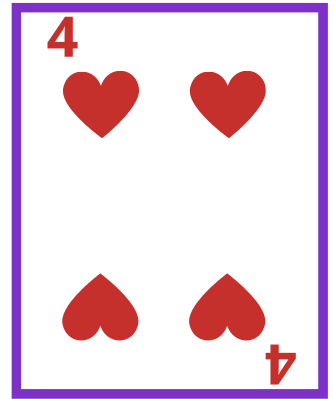
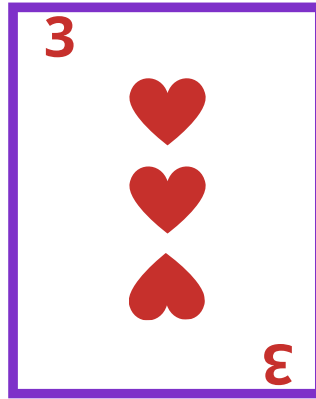
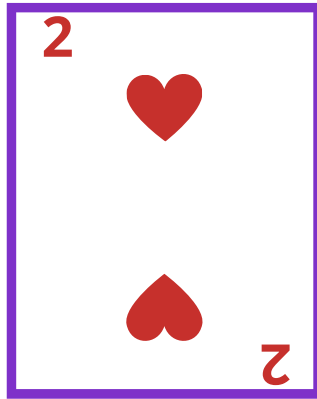
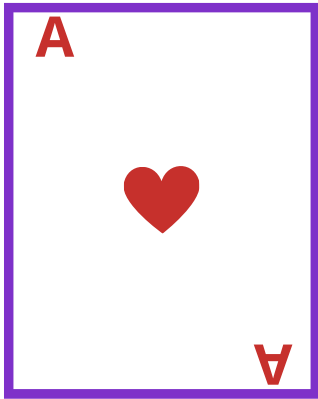
Can you find or draw a three sided shape which is not a triangle?

Have a look around your home. Can you find any 3D shapes with four faces or fewer?



Playing Cards 1

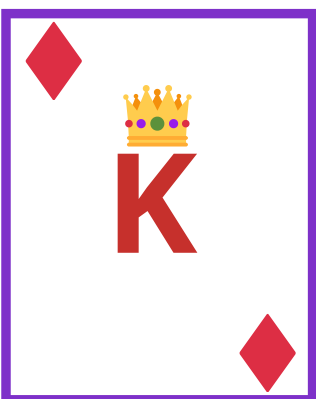
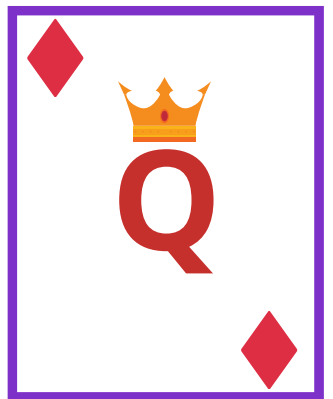
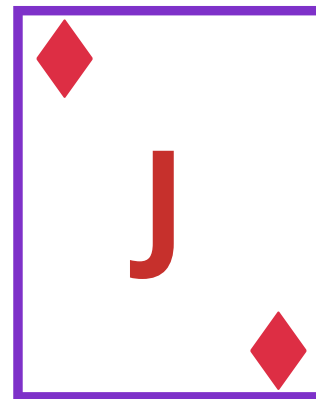
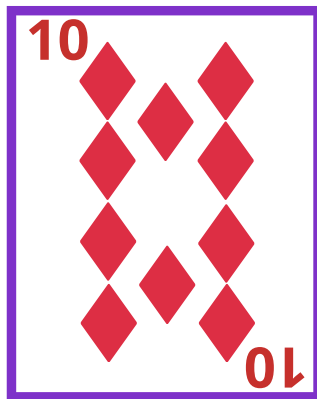
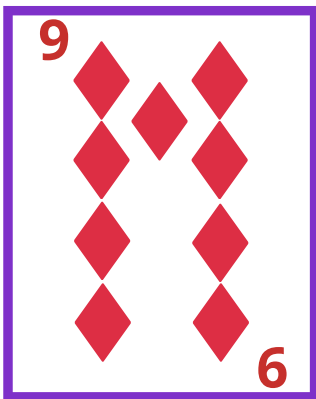
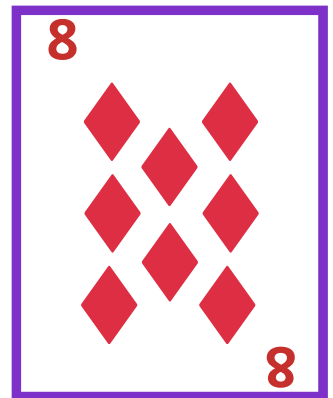
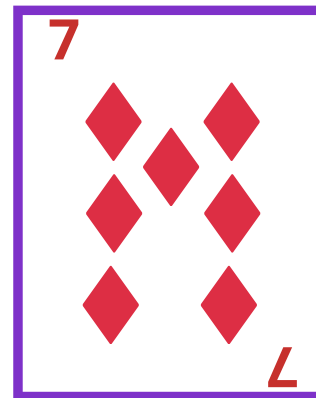
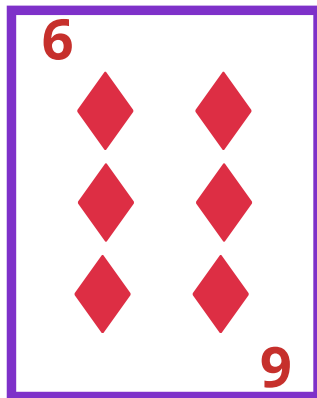
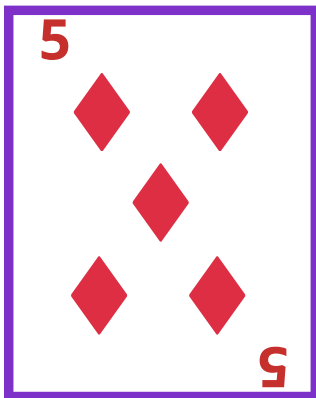
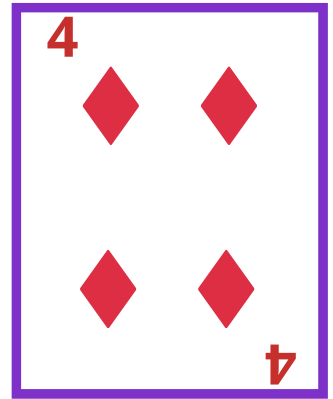
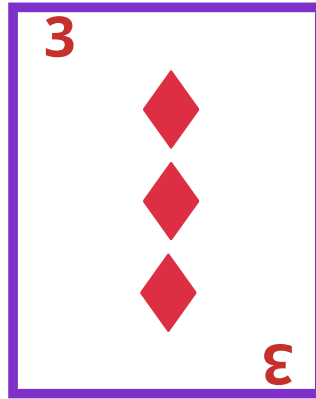
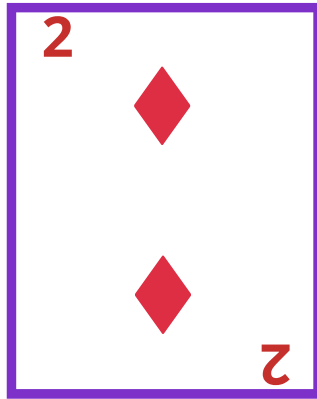
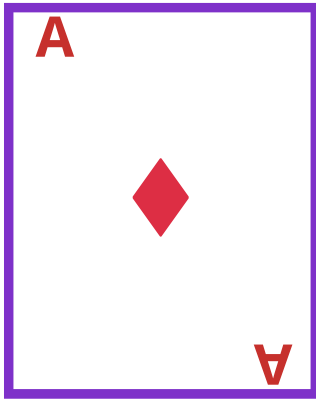
Cut these cards out and use them for activities and games.





Playing Cards 3

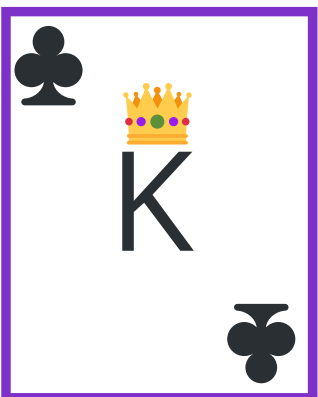
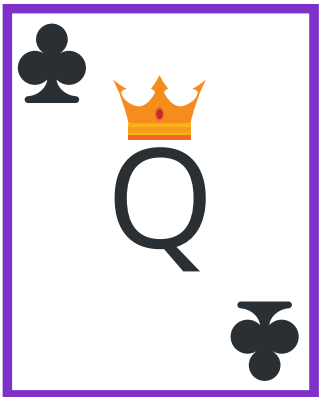
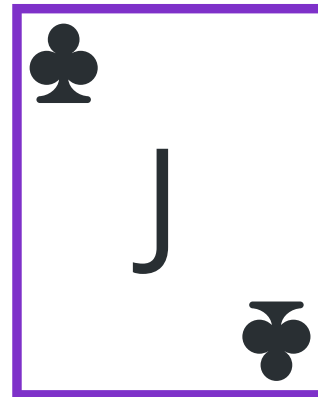
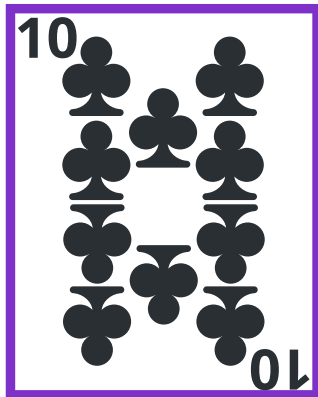
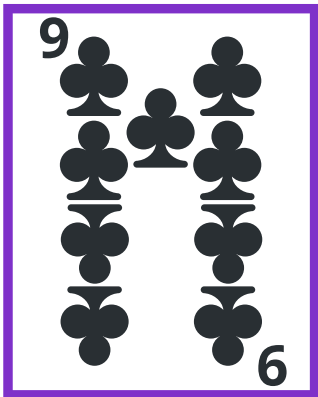
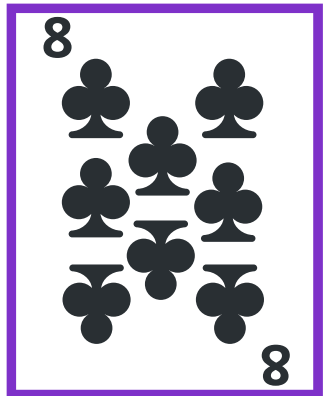
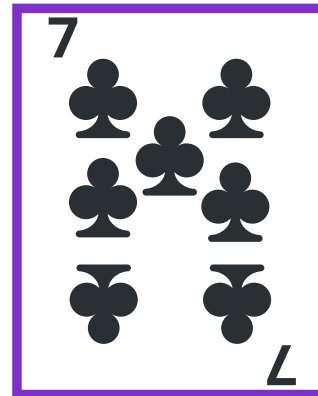
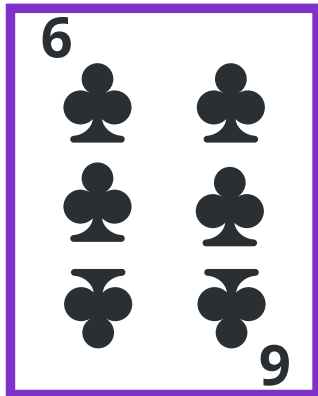
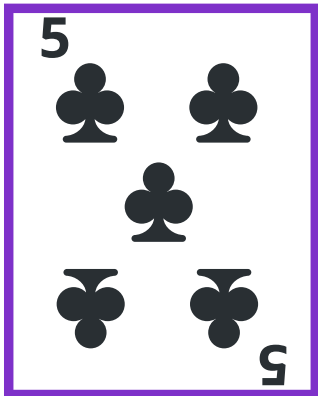
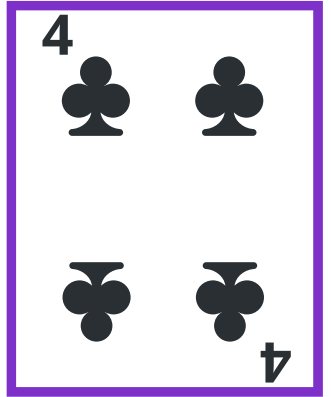
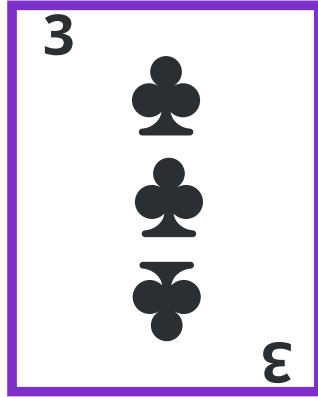
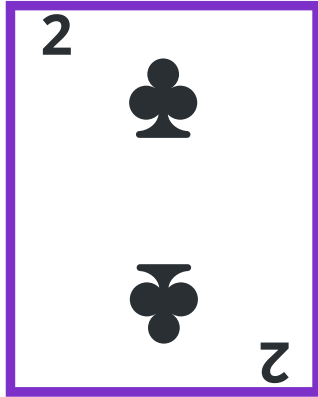
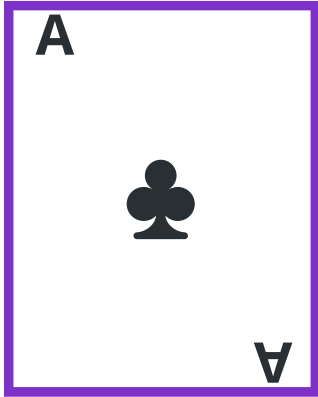
Cut these cards out and use them for activities and games.





Playing Cards 2

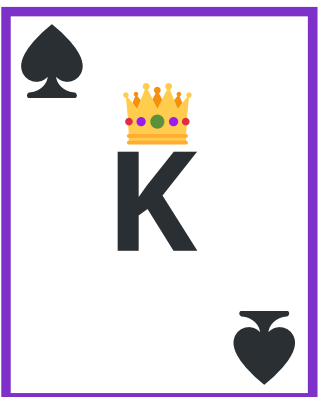
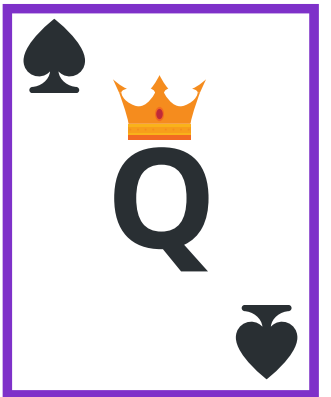
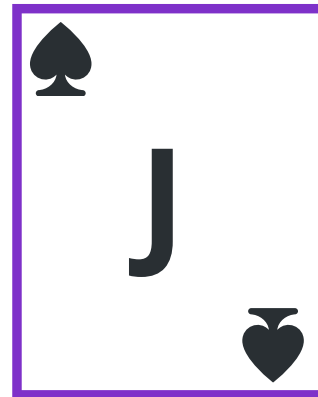
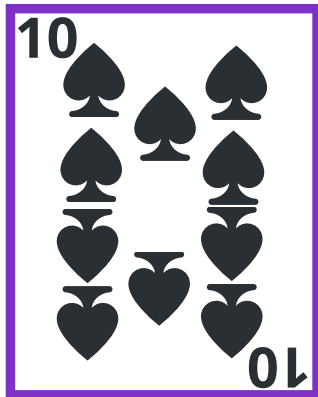
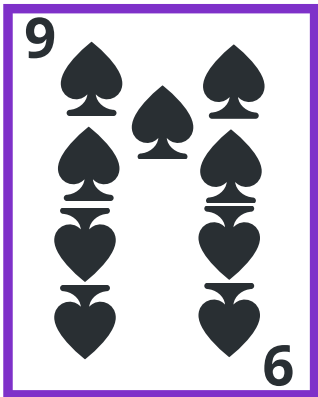
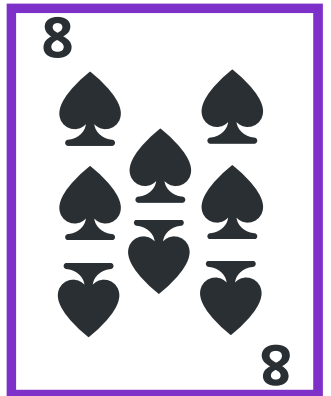
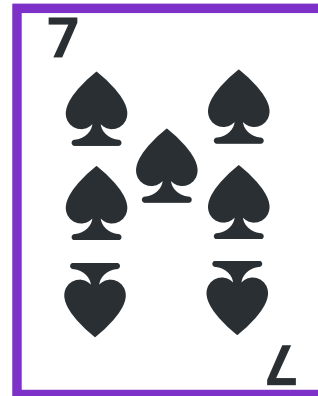
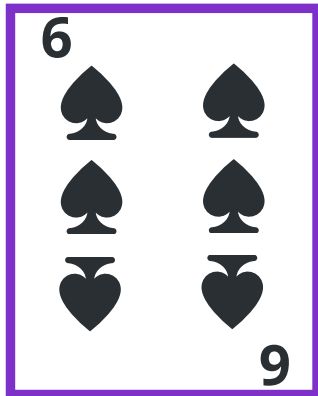
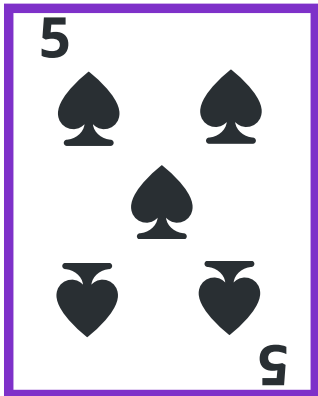
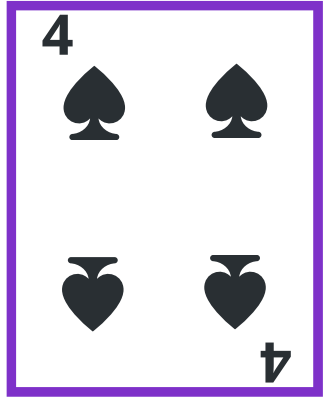
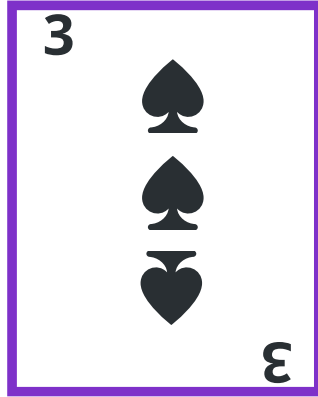
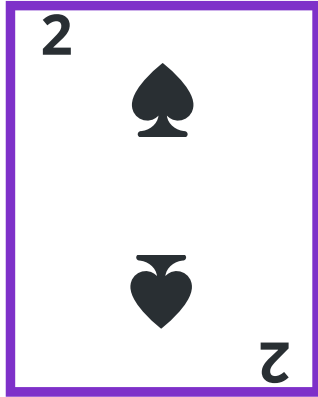
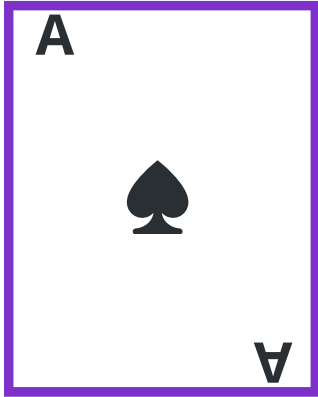
Cut these cards out and use them for activities and games.





Playing Cards 4

Cut these cards out and use them for activities and games.



This booklet was produced by the Cambridgeshire
County Council Maths Team.



If you would like more activities and ideas to try this summer, visit:
<https://www.cambslearntogether.co.uk/home-learning/summer>