

Target

I can count backwards in steps of powers of 10 for any given number to 1,000,000

Activity Card 1: The Power of Ten

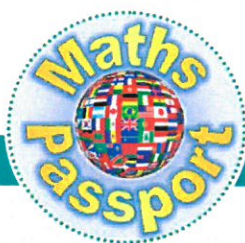
Atlantis

You will need

- A partner
- 0-9 digit cards
- A 1-6 dice

What to do

- Shuffle the digit cards and turn over the top six. Lay these digits next to each other to make a 6-digit number.
- Roll the dice. The number the dice lands on is the power of 10 you are counting back in. For example, if you roll a 3 then you will be counting back in steps of 10^3 (1000).
- If you roll a six, take another digit card to make a 7-digit number to start from!
- Time yourself – you have one minute to count back from the number you made with the digit cards, taking it in turns to say the next number.
- When one minute is up – stop! How many numbers were you able to count back?
- When you have finished, create a new 6-digit number, roll the dice and start again. Try to beat your last score!



Target

I can count backwards in steps of powers of 10 for any given number up to 1,000,000

Activity Card 2: Count Down

Atlantis

You will need:

- A partner
- A 1-6 dice

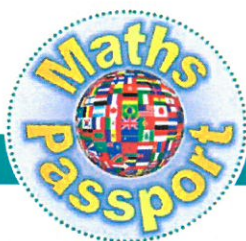
What to do

- The aim of the game is to be the player to say, "Zero."
- Roll the dice. The number shown on the dice is the power of ten you start from. For example, if you roll 6, you start from 10^6 (1 000 000).
- You are counting down to zero in steps of powers of ten one less than the number on the dice. In the example above, you would be counting back in steps of 10^5 (100 000).
- The oldest player starts and is Player 1.
- Player 1 chooses to count back one or two steps from the starting number. In the example above, Player 1 could say 900 000 or 900 000, 800 000.
- Player 2 starts from Player 1's last number and also chooses to count back one or two steps.
- Player 1 now chooses to count back one or two steps.
- Play continues in this way, with each player starting from the number their partner said and choosing to count back one or two steps.
- The player who says, "Zero," is the winner.
- When you have played one game, start again. This time the youngest player starts.

Example of how a game might look:

Player 1	900 000, 800 000
Player 2	700 000
Player 1	600 000, 500 000
Player 2	400 000
Player 1	300 000, 200 000
Player 2	100 000, 0

Player 2 is the winner!



Target

I can count forward in steps of powers of 10 for any given number up to 1,000,000

Activity Card 2: Count Up

Atlantis

You will need:

- A partner
- A 1-6 dice

What to do

- The aim of the game is to be the player to say the tenth multiple of the number you are counting in.
- Roll the dice. The number shown on the dice is the power of ten you are counting in. For example, if you roll 5, you are counting in 10^5 (100 000).
- You are counting up to the next boundary. In the example above, you would be counting up to 10^6 (1 000 000). This is the target number.
- The youngest player starts and is Player 1.
- Player 1 chooses to say the first multiple or the first and second multiples. In the example above, Player 1 could say 100 000 or 100 000, 200 000.
- Player 2 starts from Player 1's last number and also chooses to say the next multiple or the two multiples.
- Player 1 now chooses to say the next multiple or the next two multiples.
- Play continues in this way, with each player starting from the number their partner said and choosing to say either the next multiple or the next two multiples.
- The player who says the target number is the winner.
- When you have played one game, start again. This time the oldest player starts.

Example of how a game might look:

Player 1	100 000, 200 000
Player 2	300 000
Player 1	400 000, 500 000
Player 2	600 000
Player 1	700 000, 800 000
Player 2	900 000, 1 000 000

Player 2 is the winner!



Target

I can count forward in steps of powers of 10 for any given number up to 1,000,000

Activity Card 1: Number Runner

Atlantis

You will need

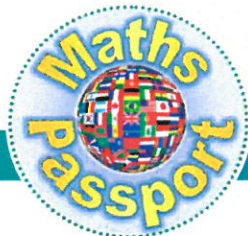
- A partner
- 1-6 dice
- A pack of 1-9 digit cards

What to do

- Roll the dice to see which power of 10 you will count in. For example, if you roll a 4 you will be counting up in 10^4 (steps of 10000).
- Now turn over the number of digit cards that is shown on the dice. In the example above you would turn over four cards to make a 4-digit number. This is your starting number.
- With your partner, take turns to say the next number when counting up from your starting number in powers of 10.
- Time yourself – you have one minute to count up as far as you can from your starting number. For example, in the example above if you turned over a 7, 3, 9 and 5 then the starting number would be 7395.

Starting number	7395
Player 1	17395
Player 2	27395
Player 1	37395
Player 2	47395
Player 1	57395

- Keep going until your time runs out.
- Record how many numbers were said. This is your team score.
- Roll the dice again, make a new starting number with the digit cards and try to beat your score!



Target

I can recognise and use cube numbers, and the notation for cubed (3)

Activity Card 2: The Cube

Atlantis

You will need

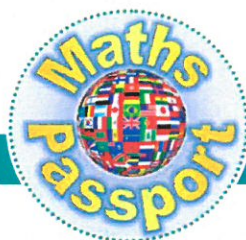
- Some paper and a pencil
- A pair of scissors
- A partner

What to do

- Cut the paper into ten roughly equal-sized pieces.
- Write out one cube number from 1 to 1000 on each piece of paper.
- On the back of each piece of paper write which number cubed equals the number on the back. For example,

64 would have 4^3 on the reverse

- When you have finished, put all the pieces of paper together and give them a shuffle.
- Player 1 takes the pieces of paper and spaces them out in front of Player 2, placing them either way up.
- Player 2 now needs to clear the cards by saying what number is on the back. Player 1 should time their partner and check their answers.
- When Player 2 has said what is on the back of each card, Player 1 records the time it took them.
- Player 2 now shuffles the cards and spaces them out in front of Player 1. This time Player 1 tries to clear the cards whilst Player 2 records their time.
- The player with the fastest time is the winner!
- Play again and try to beat your time.



Target

I can recognise and use cube numbers, and the notation for cubed (3)

Activity Card 1: Cube Race

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You will need

- A whiteboard and pen or paper and pencil
- Digit cards from 1 to 10
- A partner

What to do

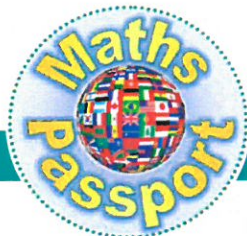
- Both players copy the grid below.

	X		X		=	
	X		X		=	
	X		X		=	
	X		X		=	
	X		X		=	

- Shuffle the digit cards and place them face down in a pile.
- Each player takes a card from the top of the pile and writes it in the yellow boxes on their grid. For example, if you turned over the 6 digit card, you would write

6	X	6	X	6	=	
---	---	---	---	---	---	--

- Now each player takes another digit card and writes it in the green boxes on their grid.
- Keep taking cards until the purple boxes are complete.
- As soon as both players are ready, complete each cube number in the pink boxes.
- The first player to finish scores one point.
- When both players have finished, check each other's cube numbers.
- If an answer is correct, the player scores one point.
- If an answer is incorrect, the player loses one point.
- When you have checked each other's work, play again!



Target

I can halve any number with up to 1 decimal place

Activity Card 2: Card Race

Atlantis

You will need

- A pack of cards
- A whiteboard and pen or paper and pencil
- A partner

What to do

- Take the 10s, jacks, queens and kings out of the pack.
- Shuffle the rest of the cards and place them in a pile face down.
- Both players draw three large boxes and a decimal point on their whiteboards or paper like this



- Both players pick two cards from the pile to create a 2-digit number whole number.
- Now both players pick a third card to go after the decimal point.
- Write the number on your whiteboard and halve it. Write the answer.
- As soon as you are ready (do not wait for your partner!), choose three new cards and halve your next number.
- When there are no more cards left, the race is over! The first player to finish gets one point.
- Check each other's work.
- Players score one point for every correct answer.
- Players lose one point for every incorrect answer.
- When you have checked each other's answers, play again!



Target

I know by heart all squares of multiples of 10 up to 100

Activity Card 2: Totally Square!

Atlantis

You will need

- Two 1-6 dice
- A whiteboard and pen or paper and pencil

What to do

- Copy the table below onto your whiteboard or paper.

- Roll two dice and add them together.
- Multiply this number by 10 and write the answer in the yellow and white boxes. For example, if you rolled a 1 and a 4, then $1 + 4 = 5$. 5×10 is 50, so you would write 50 in the yellow and white boxes.

50	50	
----	----	--

- Now multiply these numbers together to make a square number. Write the square number in the blue box.

50	50	2500
----	----	------

- Continue until your roll makes 11 or 12 – this ends your game.
- Now add your score (the square numbers in the blue boxes).
- Play again and try to beat your score.



Target

I can halve any number with up to 1 decimal place

Activity Card 2: Card Race

Atlantis

You will need

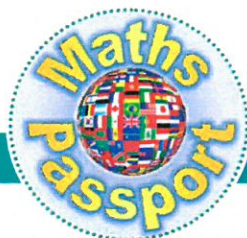
- A pack of cards
- A whiteboard and pen or paper and pencil
- A partner

What to do

- Take the 10s, jacks, queens and kings out of the pack.
- Shuffle the rest of the cards and place them in a pile face down.
- Both players draw three large boxes and a decimal point on their whiteboards or paper like this



- Both players pick two cards from the pile to create a 2-digit number whole number.
- Now both players pick a third card to go after the decimal point.
- Write the number on your whiteboard and halve it. Write the answer.
- As soon as you are ready (do not wait for your partner!), choose three new cards and halve your next number.
- When there are no more cards left, the race is over! The first player to finish gets one point.
- Check each other's work.
- Players score one point for every correct answer.
- Players lose one point for every incorrect answer.
- When you have checked each other's answers, play again!



Target

I know by heart all squares of multiples of 10 up to 100

Activity Card 1: Square Race

Atlantis

You will need

- A whiteboard and pen or paper and pencil.

What to do

- Look at these number sentences for one minute.

$$10 \times 10 = 100$$

$$20 \times 20 = 400$$

$$30 \times 30 = 900$$

$$40 \times 40 = 1600$$

$$50 \times 50 = 2500$$

$$60 \times 60 = 3600$$

$$70 \times 70 = 4900$$

$$80 \times 80 = 6400$$

$$90 \times 90 = 8100$$

$$100 \times 100 = 10000$$

- Cover the number sentences up.
- Write the list from memory.
- Check how many you got right.
- If you got them all correct, well done! Now look at the number sentences again, but this time only for 30 seconds!
- Cover the number sentences up and write the list from memory again.
- Check your answers.
- If you got them all correct again, ask a friend to hold the card and ask you the questions in any order.



Target

I can halve any number with up to one decimal place

Activity Card 1: Halving Race

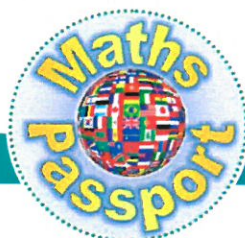
Atlantis

You will need

- A partner

What to do

- Each player writes any five numbers between 50 and 200 on their whiteboards or paper.
- Now swap your whiteboards or paper with each other.
- After each of your partner's numbers, put a decimal point and then write an extra digit from 1-9 to create numbers with one decimal place.
- When both players are ready, swap back whiteboards and paper.
- Each player now tries to be the first to halve their five numbers.
- The first player to finish gets one point.
- When both players have finished, check each other's calculations by doubling their answers. If the answer is correct then doubling it will make the first number they wrote down.
- If an answer is correct, the player scores one point.
- If an answer is incorrect, the player loses one point.
- When you have checked each other's work, play again!



Target

I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 and explain the effect

Activity Card 2: Grid Time

You will need

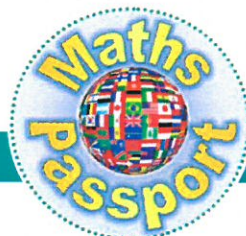
- A whiteboard and pen or paper and pencil

What to do

- Copy the grids below on to your whiteboard or paper.
- In each yellow box, put a digit from 1 to 9.

- In the first row below each number you made, write the answer when you multiply your number by 10.
- In the second row below each number you made, write the answer when you multiply your number by 100.
- In the third row below each number you made, write the answer when you multiply your number by 1000.
- Now create new grids and do the same for dividing by 10, 100 or 1000

Atlantis



Target

I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 and explain the effect

Activity Card 1: Party Time!

Atlantis

I'm having a party! I am not sure how many people to invite and what the cost would be. What will be the cost for each item if I invite 10 people, 100 people or 1000 people?



12p



43p



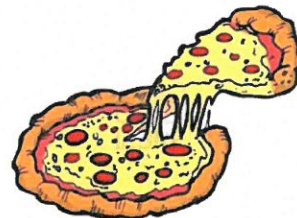
72p



132p



97p



£2.35

