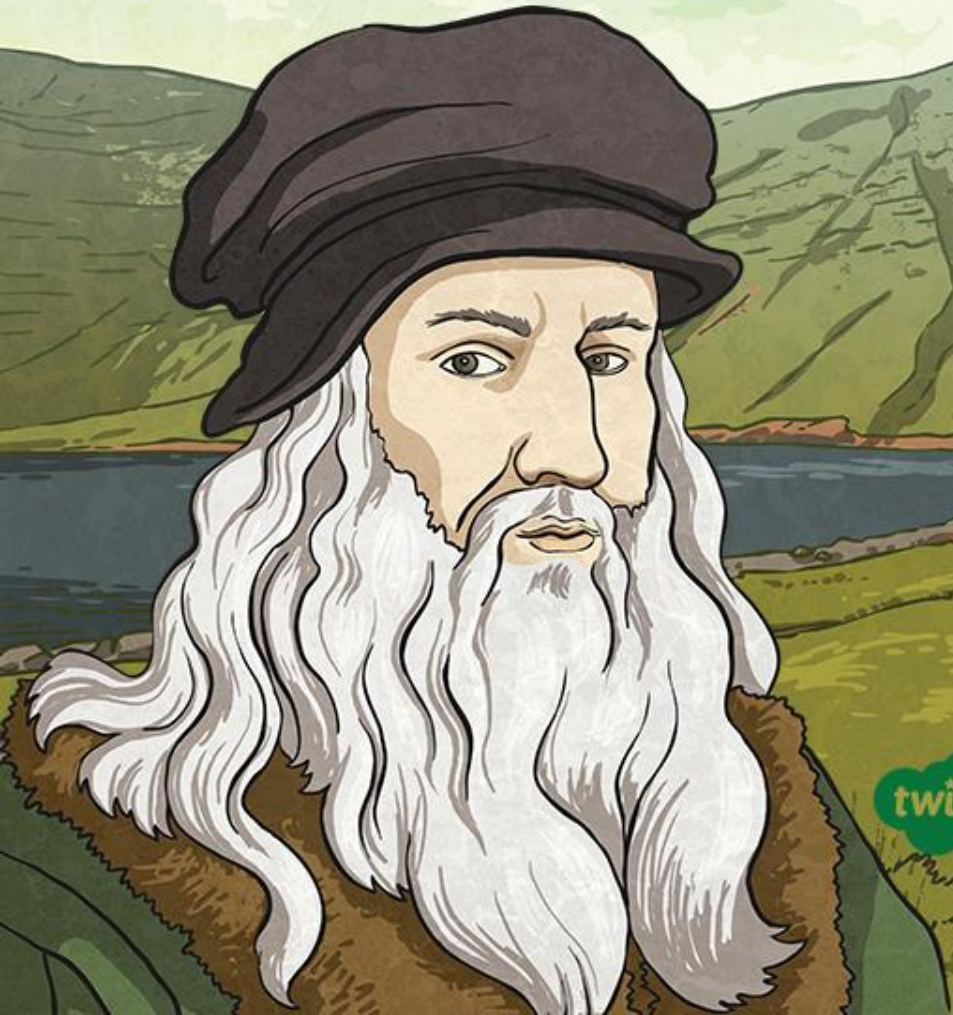




Science

Scientists and Inventors

Leonardo da Vinci



twinkl

Aim

- To carry out an inquiry to answer a question.
- To use my results to make new predictions.

Success Criteria

- I can describe Leonardo da Vinci's inventions.
- I can describe what da Vinci's Vitruvian Man shows us about the human body.
- I can carry out an inquiry to test the accuracy of the Vitruvian Man.
- I can record my results accurately.
- I can explain what my results show.
- I can predict information by looking for patterns in my results.

Who Was Leonardo da Vinci?



You may have heard of Leonardo da Vinci or his works.
Tell your partner any facts you already know about him.



Leonardo da Vinci?

Leonardo da Vinci was an artist, scientist and inventor who lived in Italy. He was born in 1452 and died in 1519.

This time period in Europe is known as the Renaissance. It was a time when many advances were made in education, science, art, literature and music.

Da Vinci is sometimes called a 'Renaissance Man'. This is because he was a master of many different areas. He was an expert painter, sculptor, architect, engineer, scientist, inventor and writer!

Leonardo da Vinci is considered by many people to be one of the most intelligent people of all time.



What Is da Vinci Famous For?

This may be da Vinci's most famous painting. Do you recognise it?
Does anybody know what is called?



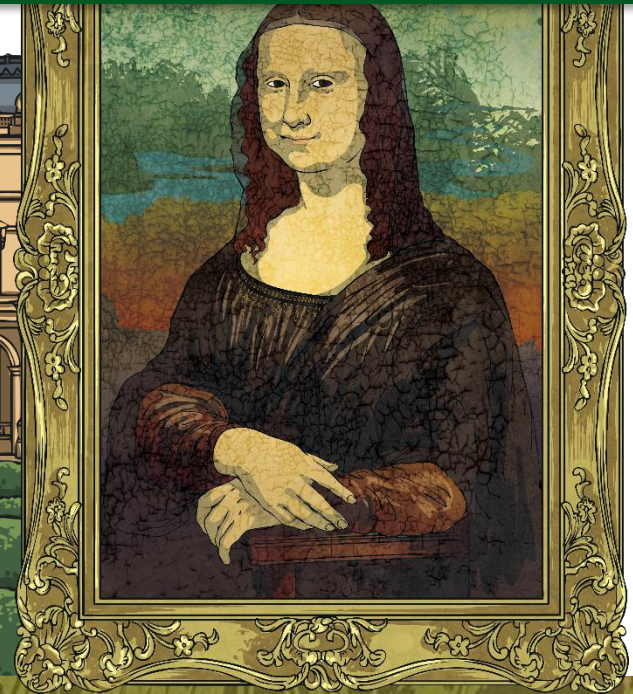
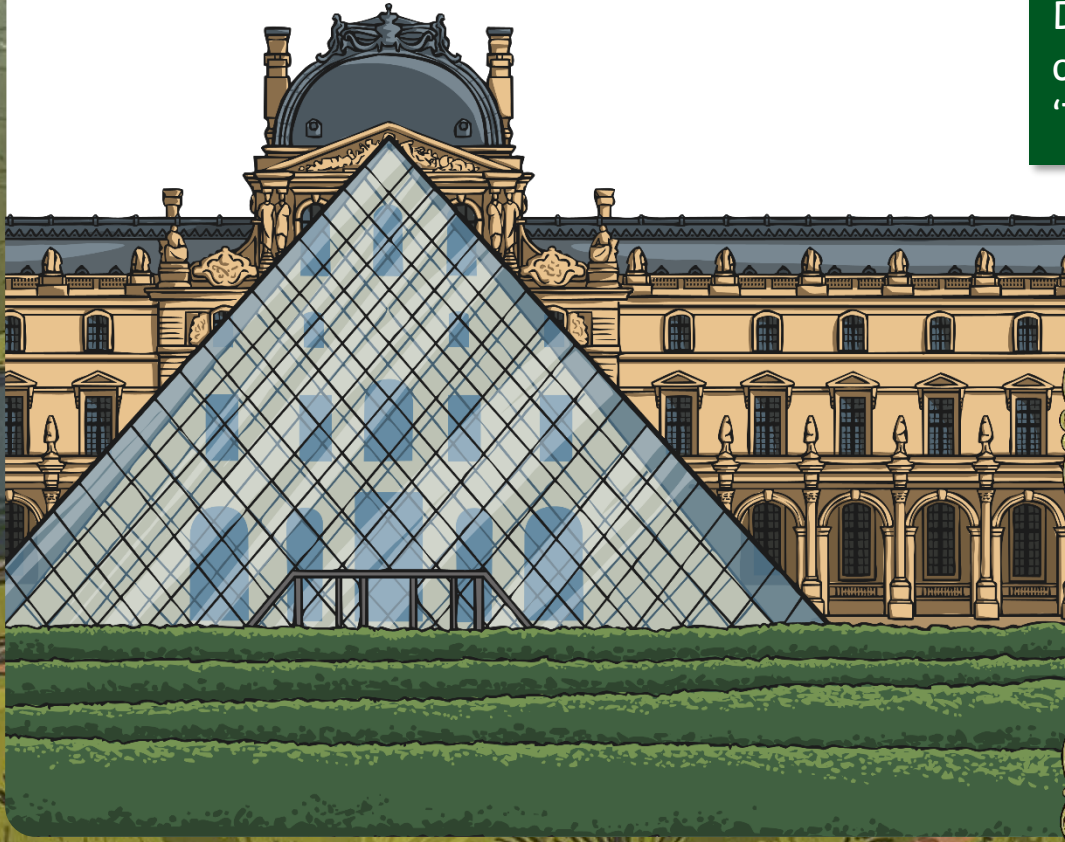
It is called **The Mona Lisa**.

Does anybody know where
it is on display?

What Is da Vinci Famous For?

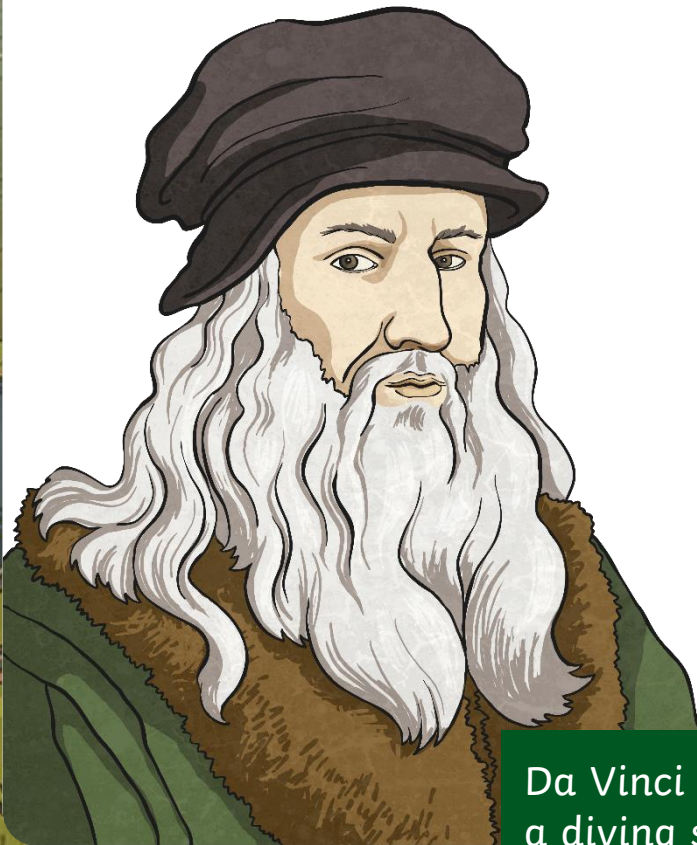
The Mona Lisa is on display in the Louvre Museum in France. Some consider it to be the best known and most visited work of art in the world.

Da Vinci created many more works of art, including the painting of 'The Last Supper' in Milan.



What Is da Vinci Famous For?

Da Vinci is also famous for his sketches of his inventions. This sketch is of his 'Helical Air Screw', which was a flying machine. It was designed to work in a similar way to modern-day helicopters.

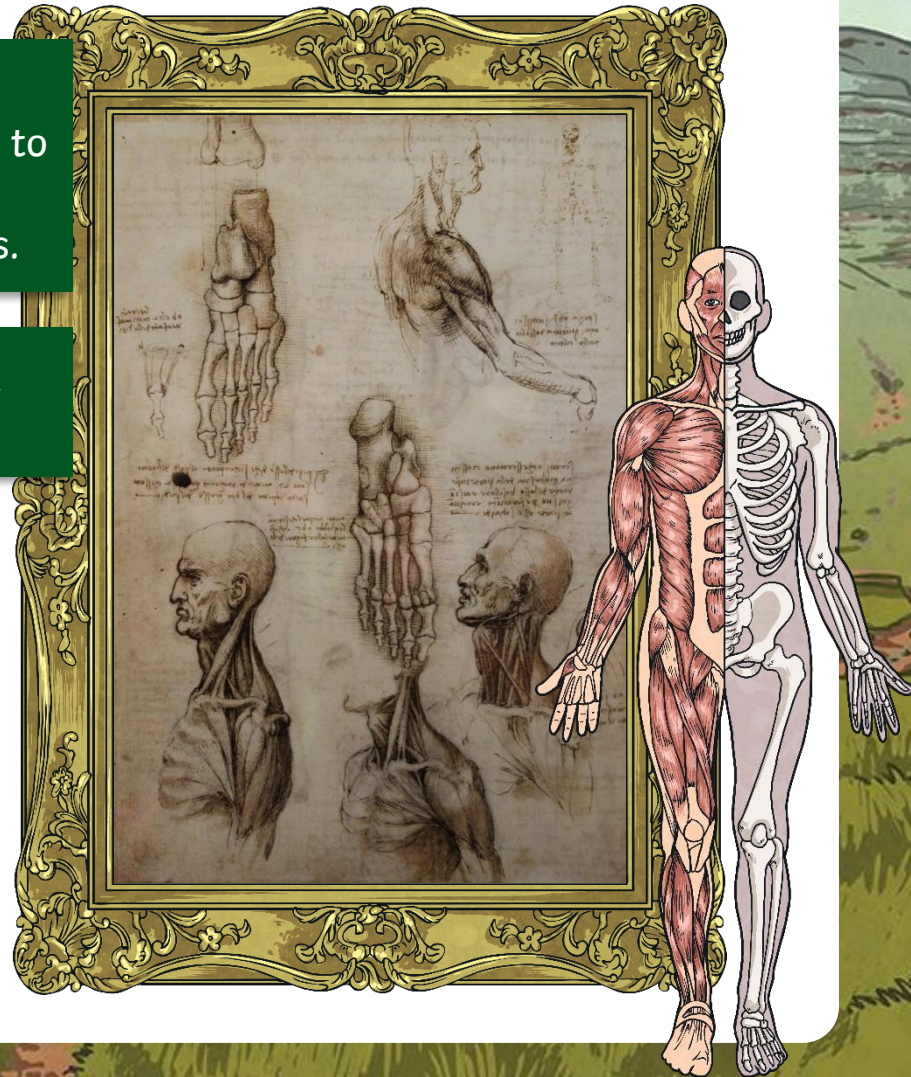


Da Vinci sketched many other designs for inventions, including a diving suit, a machine gun and an armoured chariot.

What Is da Vinci Famous For?

Anatomy, or the structure of the human body, was another of da Vinci's interests. He wanted to understand how the human body worked, and made thousands of pages of notes and sketches.

Scientists today recognise that da Vinci's work was hundreds of years ahead of its time.



True or False



Read these statements about Leonard da Vinci's life and work. Two of the statements are true and one is false! Click on the questions to reveal the answers.

Leonardo da Vinci's painting 'The Last Supper' is on display in the Louvre in France.

False

'The Last Supper' is in its original spot, covering an end wall of the dining hall at the monastery of Santa Maria delle Grazie in Milan, Italy.

It is actually Leonardo da Vinci's painting, 'The Mona Lisa' which is on display in the Louvre.

Da Vinci was a master of many different things, including painting, sculpture and engineering.

True

Da Vinci lived in Italy.

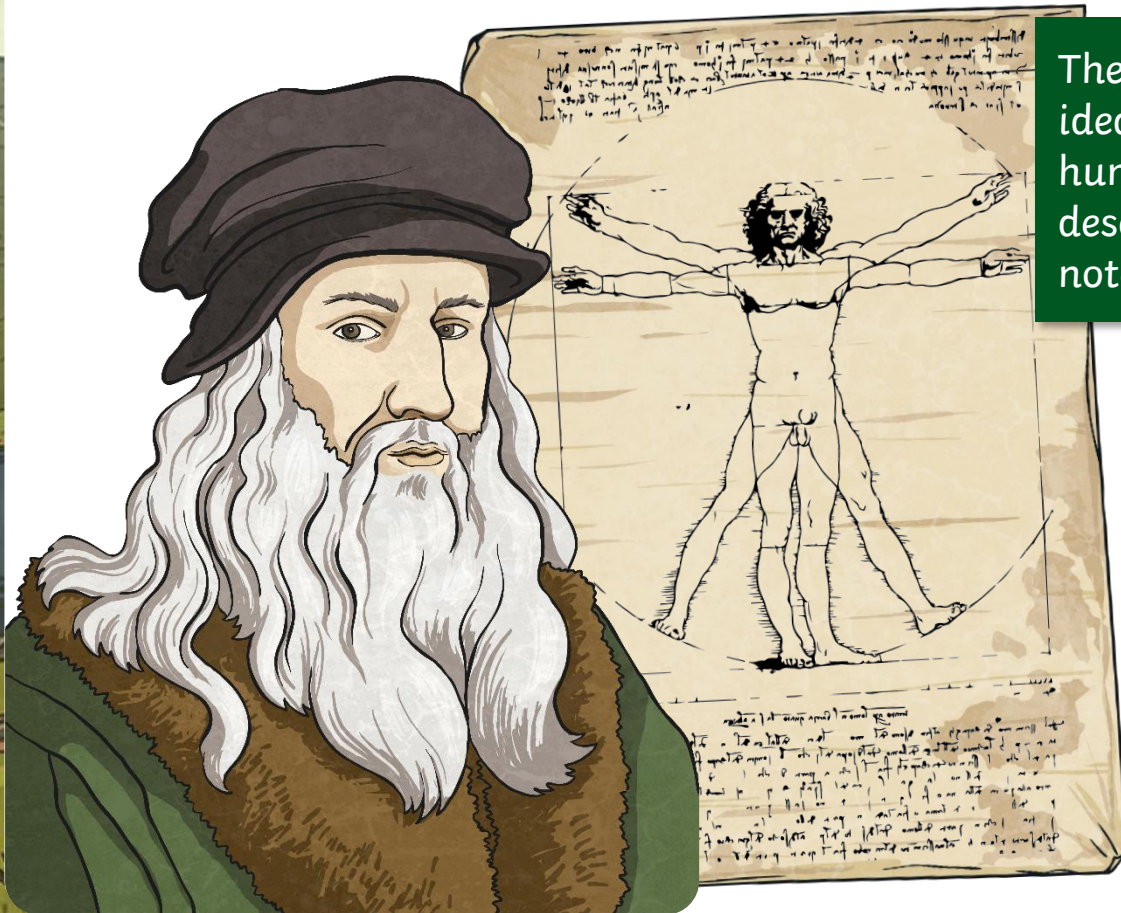
True

Make up your own true or false statements about Leonardo da Vinci and challenge your partner to spot the false one.



The Vitruvian Man

'The Vitruvian Man' is an ink drawing by Leonardo da Vinci. It shows a man in two superimposed positions.



The drawing is based on da Vinci's ideas about the proportions of the human body, and da Vinci describes these proportions in his notes around the drawing.

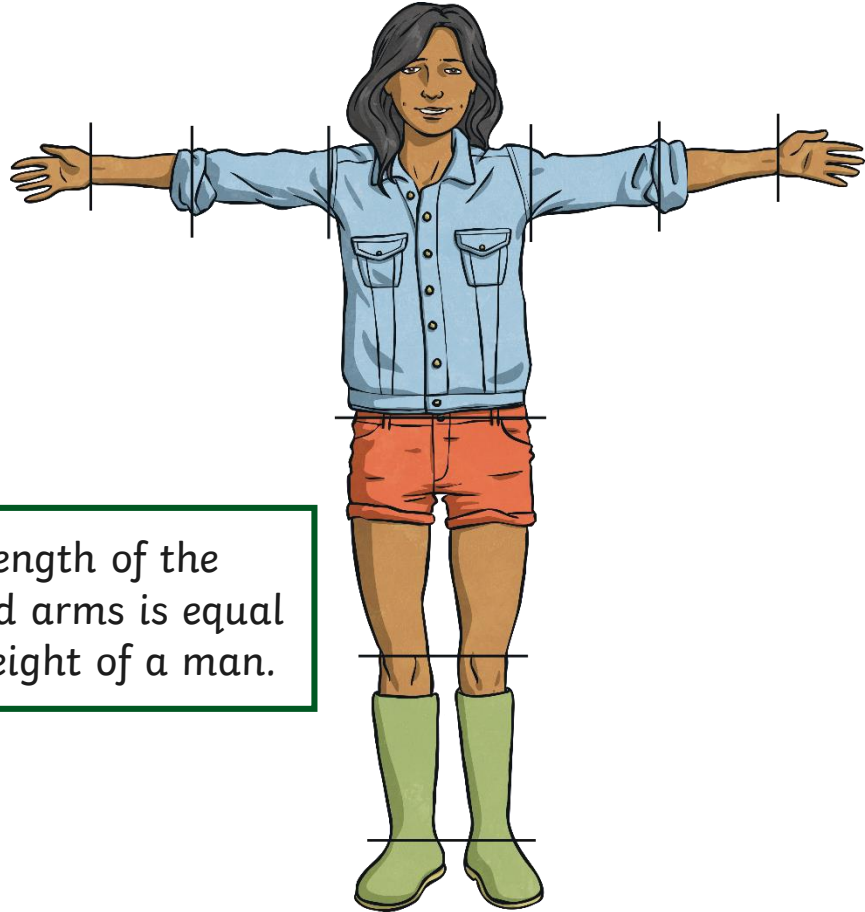
Interestingly, da Vinci always wrote his notes in mirror writing!

The Vitruvian Man

Da Vinci's notes state that:



The length of the outspread arms is equal to the height of a man.

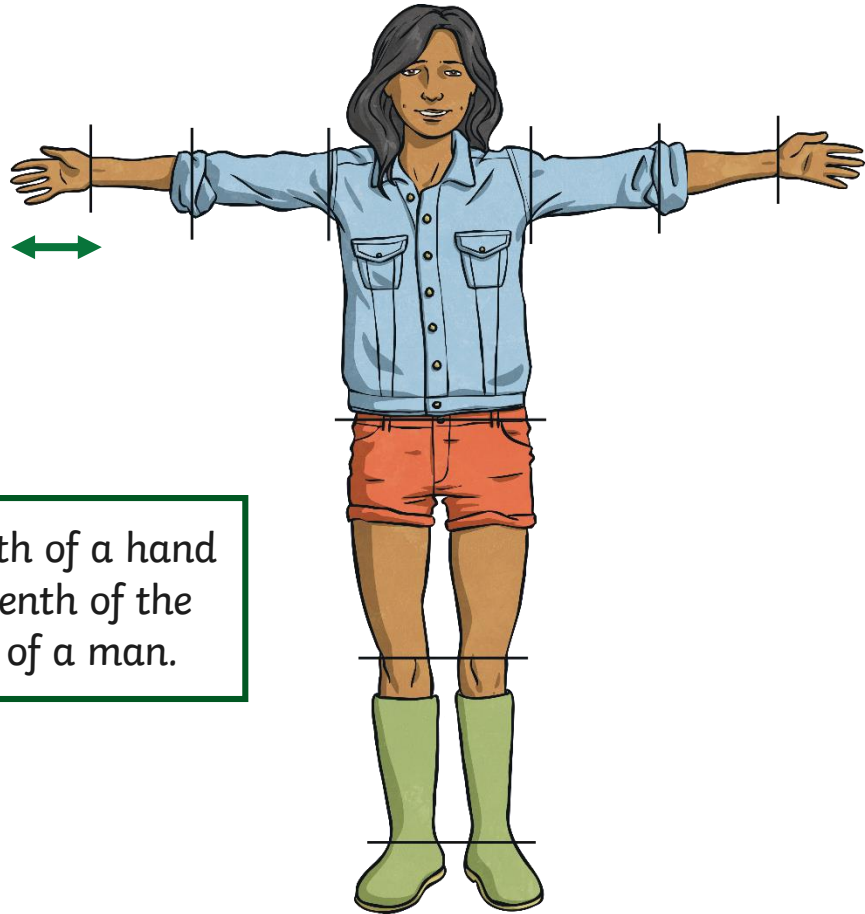


The Vitruvian Man

Da Vinci's notes state that:

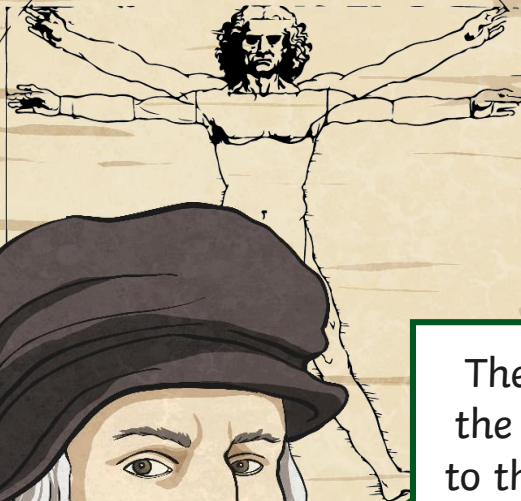


The length of a hand is one tenth of the height of a man.

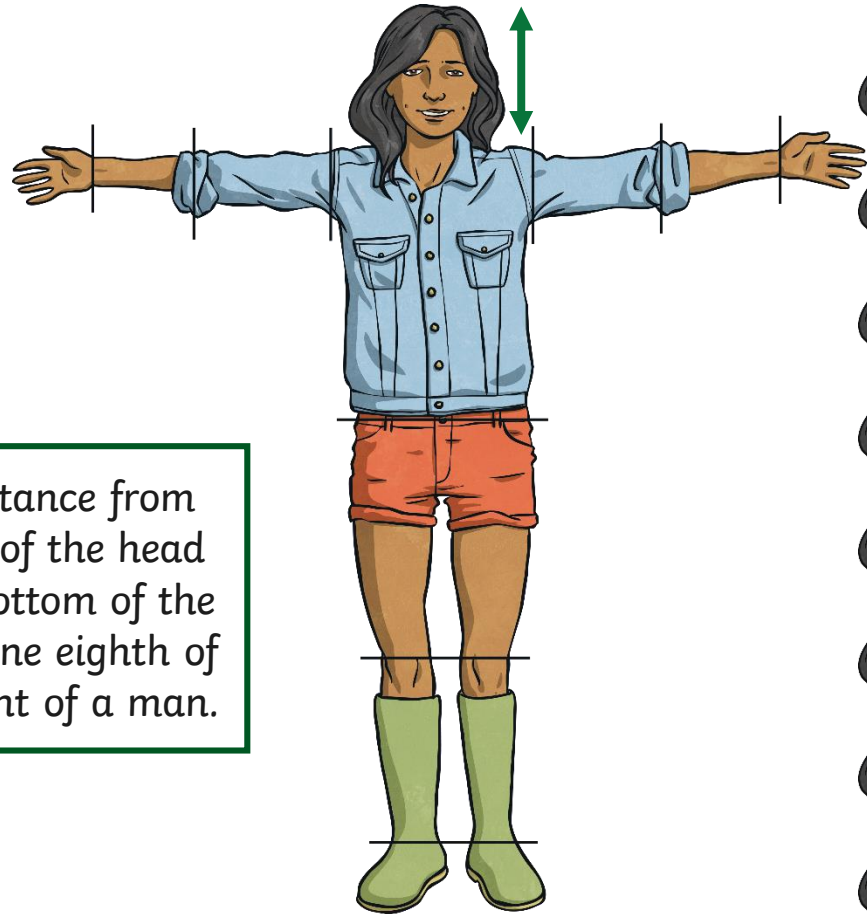


The Vitruvian Man

Da Vinci's notes state that:



The distance from the top of the head to the bottom of the chin is one eighth of the height of a man.

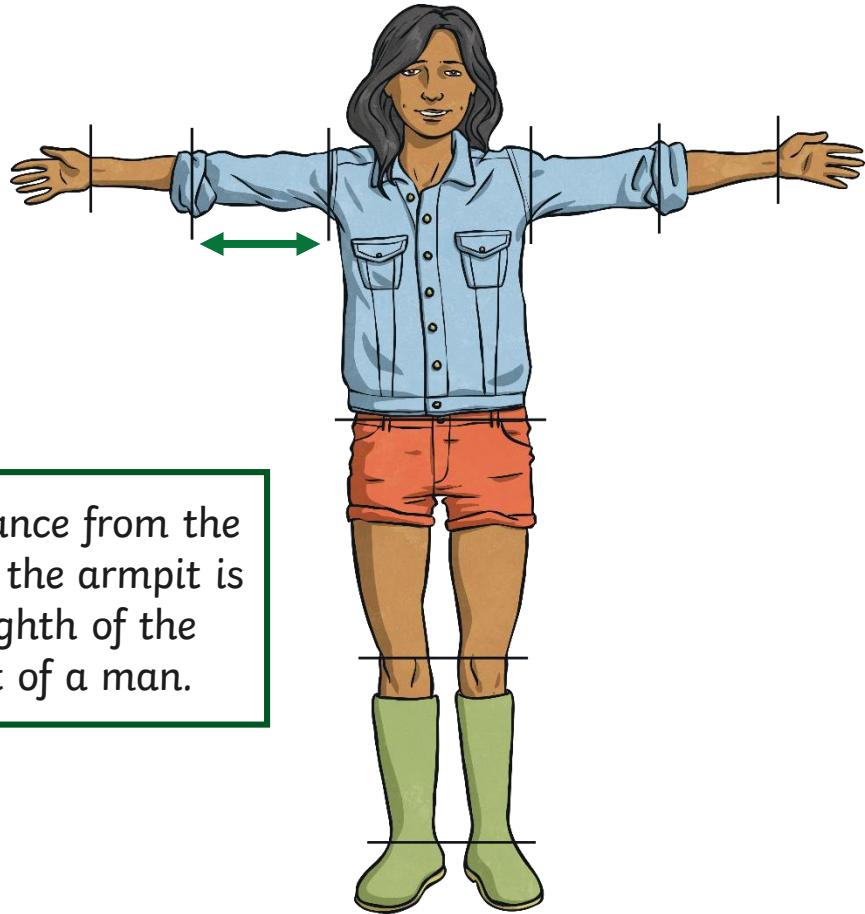


The Vitruvian Man

Da Vinci's notes state that:



The distance from the elbow to the armpit is one eighth of the height of a man.

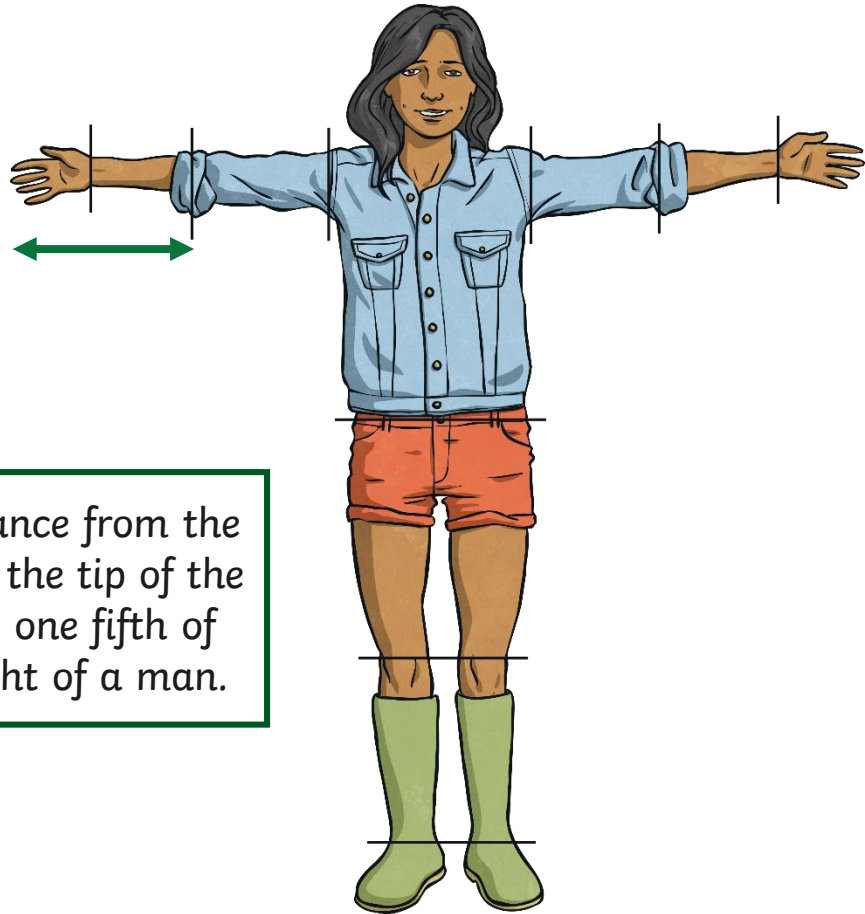


The Vitruvian Man

Da Vinci's notes state that:



The distance from the elbow to the tip of the hand is one fifth of the height of a man.



Is It Accurate?



Look again at da Vinci's ideas about the proportions of the human body.

The length of the outspread arms is equal to the height of a man.

The length of a hand is one tenth of the height of a man.

The distance from the top of the head to the bottom of the chin is one eighth of the height of a man.

The distance from the elbow to the armpit is one eighth of the height of a man.

The distance from the elbow to the tip of the hand is one fifth of the height of a man.

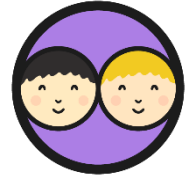
The maximum width of the shoulders is one quarter of the height of a man.

Do you think they are accurate?

Think about your height, and whether his statements might be true for you. How could you check?

Talk to your partner about what you think.

Measure and Check



You are going to find out if the proportions of the human body that da Vinci described in his Vitruvian Man are accurate for you and your class!

Da Vinci Proportions

I can plan an inquiry to test the accuracy of the Vitruvian Man.
I can record my results accurately.
I can explain what my results show.

Find out whether Leonardo da Vinci's ideas about the proportions of the human body were accurate.

The length of the outspread arms is equal to the height of a man.	The distance from the elbow to the armpit is one eighth of the height of a man.
The length of a hand is one tenth of the height of a man.	The distance from the elbow to the tip of the hand is one fifth of the height of a man.
The distance from the top of the head to the bottom of the chin is one eighth of the height of a man.	The maximum width of the shoulders is one quarter of the height of a man.

Complete this table with your measurements to find out.

Height (cm)	Da Vinci proportion to check	Measurement	Calculations: Is da Vinci's proportion accurate or not?
	Length of outspread arms is equal to height	Length of outspread arms (cm)	See if this measurement is the same as your height.
	Width of shoulders is one quarter of the height	Width of shoulders (cm)	Multiply the width of your shoulders by $\frac{4}{1}$ to see if it equals your height.

Use your Da Vinci Proportions Activity Sheet to record your measurements and follow the instructions to work out whether da Vinci's ideas are accurate for you.

Explain Your Results



Look at your results. What did you discover?
Were da Vinci's ideas about proportion accurate for you?



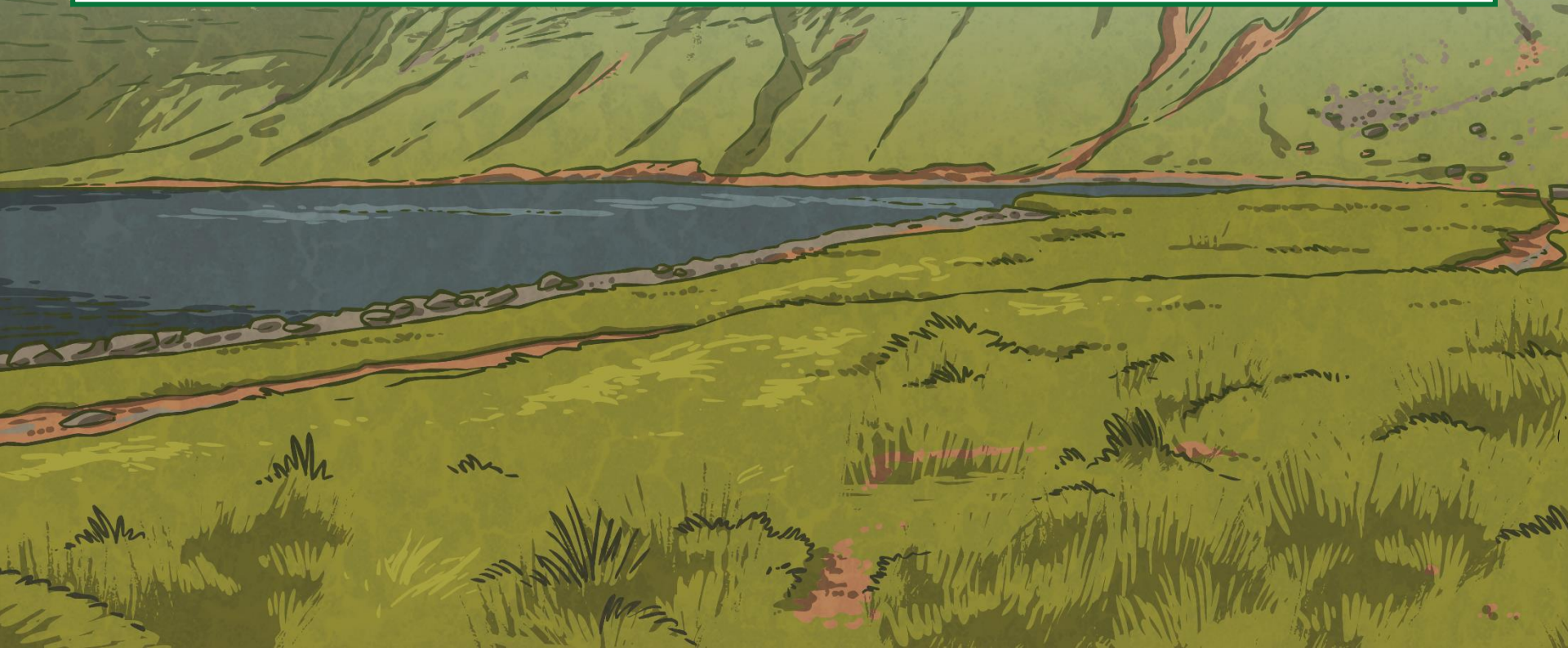
Talk to your partner about what you found out.

Making New Predictions



Did you find that da Vinci's ideas about the proportions of the human body were almost accurate for you? There will be some differences for everyone, because each person is unique! Da Vinci's proportions are just an approximate guide.

Can you predict the approximate height of these children using the measurement of their body parts and da Vinci's proportions?



Making New Predictions



What did you predict?

Height: 141cm

Height: 141cm