

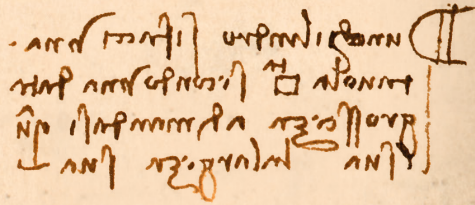
Activities

FOR A GENIUS

Codices and Alphabet

Leonardo da Vinci was always studying the world around him and would make notes and sketches of his inventions, which were later compiled into small notebooks called Codices.

Leonardo was self-educated and taught himself to read and write. He often wrote in mirror script (back to front and from right to left on the page) and used codes or shorthand in his notes as a way of protecting his ideas.



Can you write your name in mirror script, like this?

David | bɪvɔɪ

Life and times

Leonardo was born in Anciano, just outside Vinci, Italy, in 1452. Do you know how many years ago that was?

.....

Leonardo was commissioned by Ludovico Sforza to create a huge sculpture of which animal?

LEONARDO'S CODE: CLUE 1

.....

The father of flight

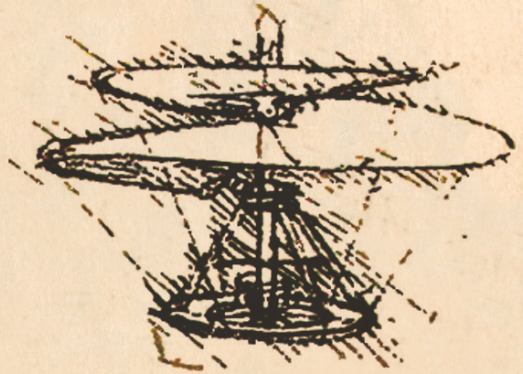
The Vite Aerea or Aerial Screw was one of Leonardo da Vinci's most ambitious inventions. Which modern flying machine does it remind you of?

LEONARDO'S CODE: CLUE 2

Leonardo studied the flight of birds and the way their wings moved. Can you identify how many of Leonardo's flying machines use flapping wings?

How many use rotating wings?

Or use wings that don't move at all?



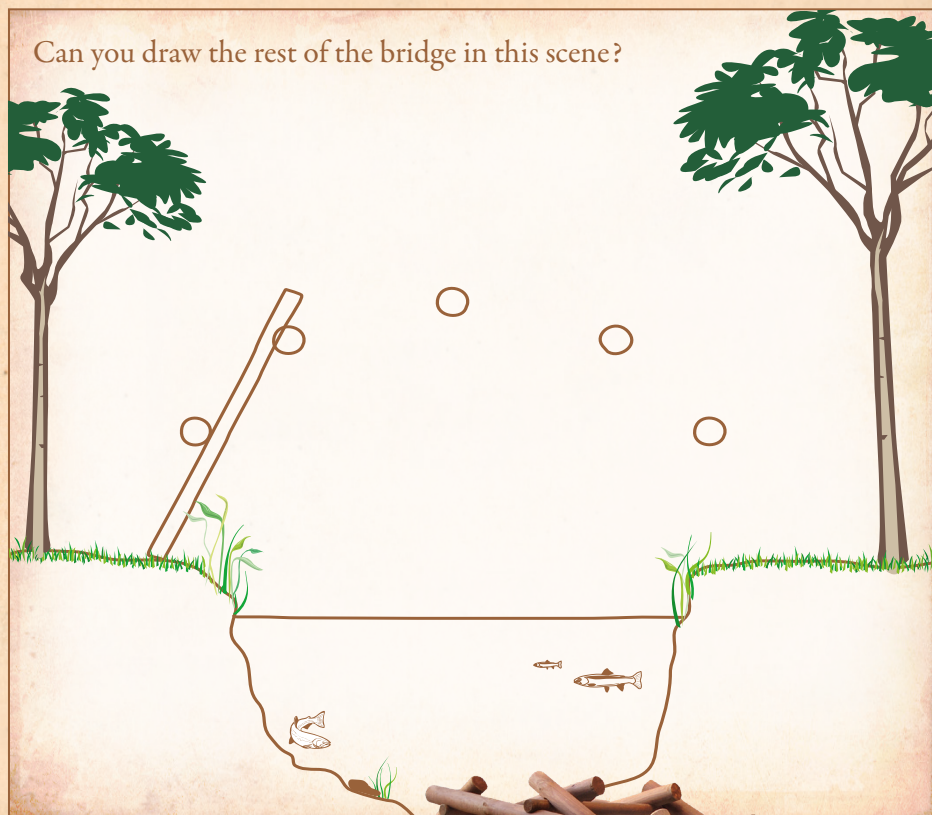
Leonardo's Anemoscope looks just like the weather vanes we sometimes see on the roof of buildings today.

Can you explain what it measures and how?

LEONARDO'S CODE: CLUE 3

Hydraulics and aquatic machines

Leonardo designed an emergency bridge that could be assembled out of poles and take the weight of a group of soldiers without using any rope or nails to hold it together.



Physics and mechanical principles

Have a look at the Physics machines and test the machines with this green label, then find all the words in the puzzle below.



Leonardo's code: clue 4

PHYSICS FIND A WORD PUZZLE

R O T A T I N G B E A R I N G S A T R J
B A L L N L I C I R K I T O W R O L O A
F E L F I R K T C R A N K C A S E C L C
C H A I N M E C H A N I S M L O O M L K
A R W I M T I O R U I R A R S A M U I W
C R A N K C A S E A U T O M A T I C N E
C O N T I N U O U S S P R I N G E I G I
M O T I O N A L T E R N A T I N G N S G
C O I L H E L I C O I D A L H O I S T H
T R A N S F O R M A T I O N S T U D Y T

Crankcase

Hoist

Automatic

Loom

Spring

Helicoidal

Chain

Rotating

Motion

Transformation

Rolling

Mechanism

Jack

Bearings

Alternating

Ball

Crankcase

Continuous

Coil

Weight

Study

Music, optics and time

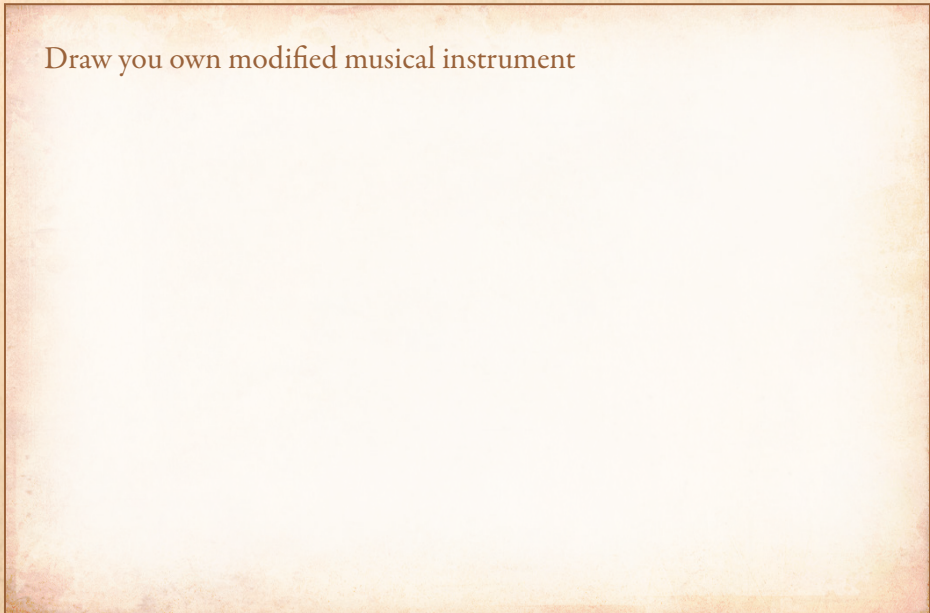
The Mechanical Drum was invented to be used by the military as soldiers marched to battle. How many drumsticks does it have?

LEONARDO'S CODE: CLUES

Theatres and play houses today use colored lights and digital projectors for special effects. Can you pick which invention Leonardo used in theatrical productions? Write the invention name below.

Leonardo designed improvements to a number of musical instruments to make them easier to play and create more sounds. Write the name of your favorite musical instrument below, then draw your own modified version.

Draw you own modified musical instrument



Renaissance art

Ever noticed how distant mountains look blue and hazy on a sunny day? Can you see blue or hazy mountains in any of Leonardo's paintings? If so, list the names of these paintings below.

.....

.....

.....

.....



Do you have a favorite Leonardo da Vinci painting? Which one is it and why?

.....

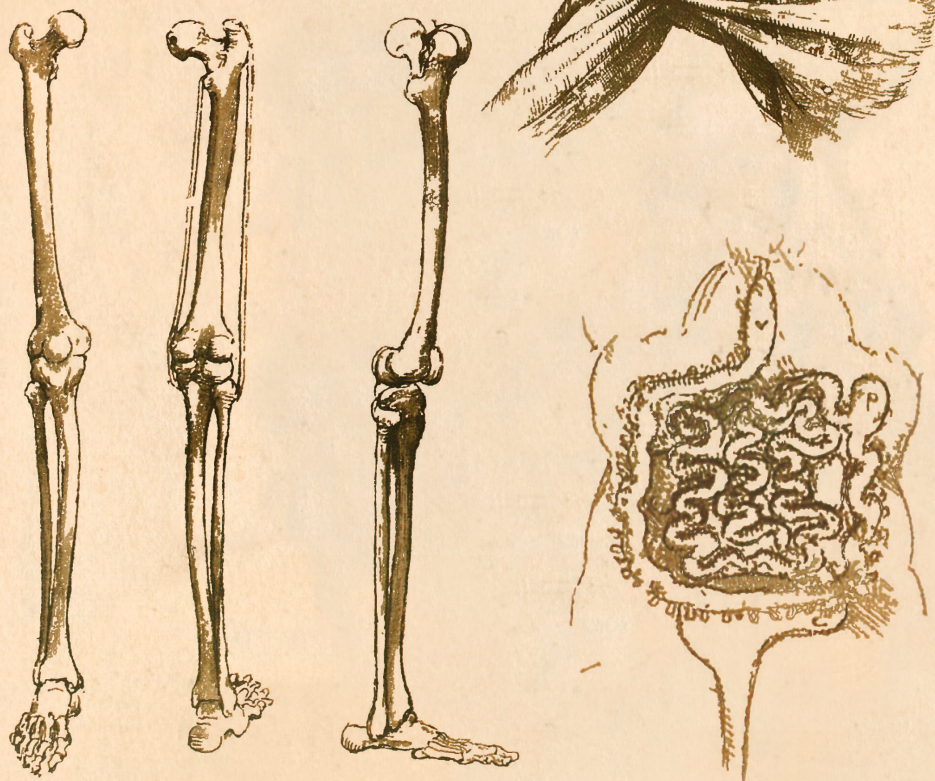
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Anatomical studies

LEONARDO'S CODE: CLUE 6



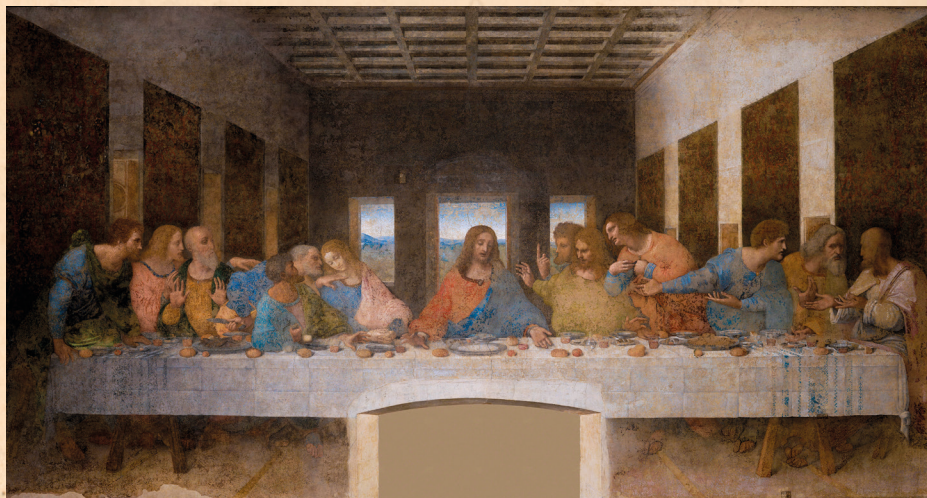
Leonardo studied the human body very closely and produced many anatomical sketches. These sketches show muscles, bones, and internal organs and explain how different parts of the body work.

How many sketches can you find that show:

Bones Muscles Internal organs

The Last Supper

LEONARDO'S CODE: CLUE 1



Leonardo was commissioned by Duke Ludovico Sforza to paint the Last Supper for the wall of the dining hall of the convent of Santa Maria delle Grazie in Milan.

What year did he start the painting?

What year did he finish?

How many people are in the painting?

Look at The Last Supper projected at actual size. Do you know what the width and height of the painting are?

Width

Height

Military engineering

The Three-Registered Gun Machine is the ancestor of the modern machine gun.

How many barrels does it have in total?

The Tank is one of Leonardo's more ambitious military inventions.
Have a look inside and underneath the machine.

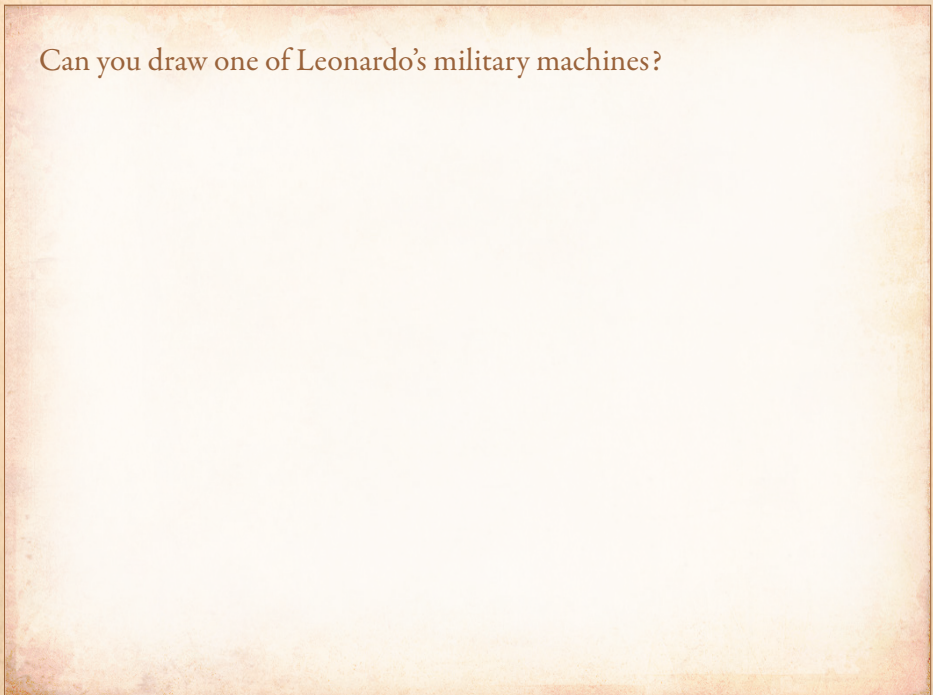
How many wheels does it have?

How many barrels?

LEONARDO'S CODE: CLUE 8

How many soldiers did it take to operate the Tank?

Can you draw one of Leonardo's military machines?



The Vitruvian Man

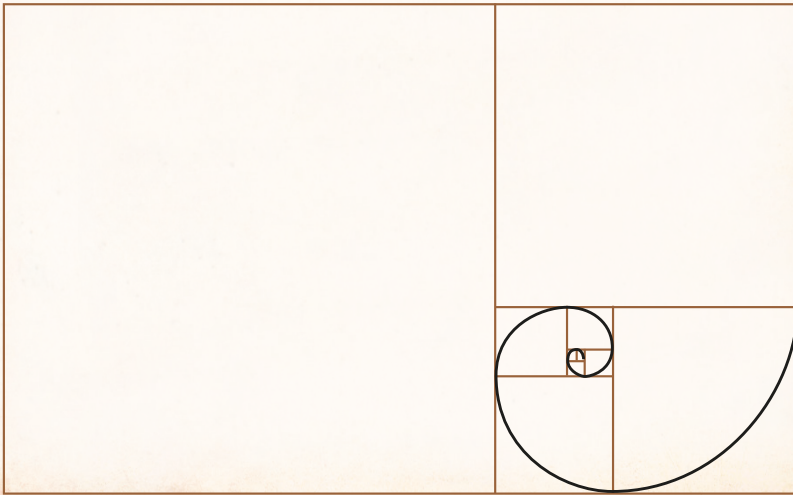
The *Vitruvian Man* is one of Leonardo's most famous drawings and shows the ideal proportions of the human body based on the findings of ancient Roman architect Marcus Vitruvius Pollio.

One of the most important aspects of the drawing is the ratio of 1:1.618 which is found in many areas of nature including the human body.

This ratio is known as the G _ _ _ _ Ratio.

LEONARDO'S CODE: CLUE 9

Can you complete this diagram illustrating the Golden Ratio?



LEONARDO'S CODE: CLUE 10

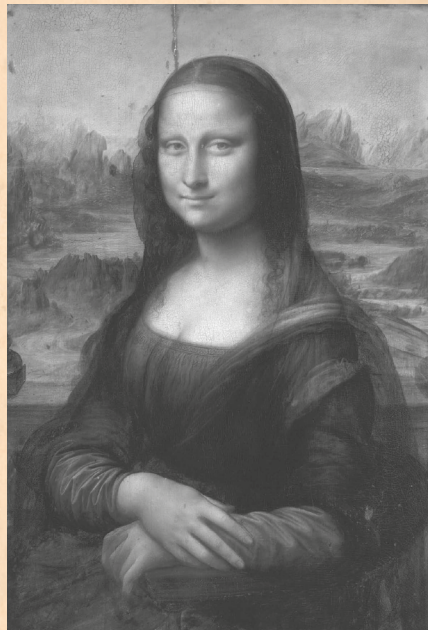
Can you think of any instances where this shape can be found in nature?

.....

Can you see this shape being used in any of Leonardo's paintings?

.....

Secrets of *Mona Lisa*



How many million pixels (megapixel) was the camera that Pascal Cotte invented to photograph the *Mona Lisa*?

LEONARDO'S CODE: CLUE 11

Mona Lisa is arguably the most famous artwork ever created, do you know how many secrets have been revealed about her by Pascal Cotte?

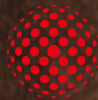
Secret number 19 reveals the year that the painting was damaged by a museum visitor who threw a rock at her. What year was it, and where was he from?

LEONARDO'S CODE

Follow the clues below to reveal Leonardo's secret word!

- clue 1 Middle letter of this animal
- clue 2 Only letter repeated in the answer
- clue 3 Second letter of this invention's title
- clue 4 Last letter of the second row
- clue 5 This letter looks like a drumstick standing upright
- clue 6 Missing letter in Anatomical _tudies
- clue 7 First letter of the last word in this painting title
- clue 8 Second letter of this machine title
- clue 9 Last letter of the ratio name
- clue 10 Which of these letters reminds you of the shape? A, B, or C
- clue 11 Last letter in Pascal's last name

Congratulations! Do you recognise the secret word?



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