

ACTIVITY 06 | PRIMARY



# Artist's apprentice

**KS2**

Art and Design, Design and Technology, History, Maths

**Second level**

Expressive arts, Numeracy and Mathematics, Social Studies,  
Technologies



# Artist's apprentice

Much of Leonardo's work was unfinished due to political unrest of warfare. In 1499, Leonardo's clay model horse was used by French soldiers as target practice and destroyed. He knew his work was at risk and that the bronze would be used elsewhere:

*'Of the horse I will say nothing, for I know the times'*

One of Leonardo's uncompleted works was his bronze horse sculpture, the Sforza monument, intended for the Duke of Milan.

For this activity, invite your students to act as Leonardo's apprentices and complete the horse sculpture.



## IN THIS ACTIVITY PUPILS WILL:

**USE** ratios to scale up a horse drawing to finish Leonardo's work.

**UNDERSTAND** why his work was often unfinished and the context in which he worked as a Master artist.

**WORK** from 2D to 3D.

Focus image: [Studies of a horse, c.1490 \(RCIN 912321\)](#) 



## WATCH A SHORT FILM

To find out more about Leonardo's reputation as a 'polymath' watch the Martin Clayton interview ['Leonardo is often described as a polymath. What is a polymath?'](#)

## STEP 01

### Plan a sculpture

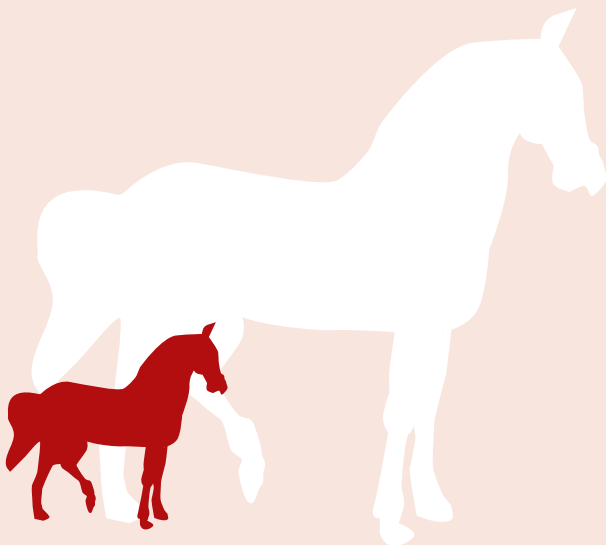
To prepare, print the drawings [\*Studies of a horse, c. 1490 \(RCIN 912321\)\*](#) to the same size as the original: 21.4 x 16 cm.

Look at Leonardo's drawing of the horse that he did in preparation for his sculpture. Let's build a model sculpture using his drawing.

#### DON'T FORGET

Your model will be 10 times the size of the drawing, so you will have to multiply all of your measurements from the drawing by 10.

Go to the ['Sforza horse challenge'](#) activity sheet.



## STEP 02

### Build a sculpture

Tell the class Leonardo made a full-size clay model and he was making sectional moulds to construct a matrix for casting.

You could now use air-drying clay, real clay like Leonardo or plasticine on an armature (a framework/structure under the clay or material possibly made with chicken wire).

Give pupils a range of tools to add, shape and take away material.

They can design through making and by getting hands-on with the materials straight away. This can be refined later.

#### IF YOU ARE USING AN ARMATURE

Use your drawings and measurements from Step 01 to sketch out the shapes of each part of the horse. Alternatively, scale-up on a photocopier.

Lay out enough material to get started. Why not use aluminium wire starting from the head, across the spine and back to the breastplate, down the legs?

Then add chicken wire or foil to build up body mass.

Shape the modelling material on top and finish through sanding.

## STEP 03

### Add the finishing touches

When the model is dry, paint or spray your final piece with metallic spray paint to make it look like it was made from bronze.

#### LOST LEONARDO FACTS



- The 65 tonnes of bronze meant for this Sforza sculpture was melted down to make cannon.
- He was a sculptor and architect, but no sculpture or buildings by him survive!
- One of his most famous paintings, the *Mona Lisa* was stolen in 1911 and lost for 2 years.
- His grave was destroyed when the chapel in which he was buried was damaged during the French revolution.

# Resources



## EQUIPMENT

- Leonardo drawings
- Print-outs of the Sforza sculpture
- Calculators
- Modelling materials e.g air-drying clay, plasticine and tools
- Chicken-wire (optional)
- 'Sforza Horse challenge' sheet
- Bronze or another metallic paint

## RESOURCE IMAGES



[A horse in left profile, with measurements, c.1490 \(RCIN 912319\)](#)



[A horse's left foreleg, with measurements c.1490–92 \(RCIN 912294\)](#)

## More activity ideas



- In this [Birmingham Museum and Art Gallery's family labels guide](#) there is a child-friendly sheet about horse-drawing and why Leonardo wanted to get the proportions right (there is also a magnified photograph of air bubbles in the paper, which you could compare to today's paper).
- Design your own creature, see [Cats, lion and a dragon, c.1517–18 \(RCIN 912363\)](#).
- Sketch some live horses or perhaps watch a film and sketch them moving.

## FANTASTIC FINISH



Celebrate bringing Leonardo's work to completion with an exhibition or display.

See Section 7 for more ideas!





Studies of a horse, c.1490 (RCIN 912321)



# Sforza Horse challenge

Work out how much larger a real horse is in comparison to Leonardo's drawing, *Studies of a horse*.

You will need to divide the measurement of a real horse by the measurements that you took from his drawing.

Horses are measured in hands (1 hand = 10.16 cm), with heavy or draft horses usually at least 16 hands (163 cm) high at the shoulder and sometimes as tall as 18 hands (183 cm).

Leonardo's Sforza sculpture was well over life-size, some say it was planned to be an enormous 7 m high. This is as tall as an average adult giraffe! Your model will be approximately 1/10 of life-size.

Complete this table to plan your model:

	Measure on Leonardo's drawing	Measurement on your model (multiply by 10)	Size of my model is first column x 3 cm
Length of leg (example)	5	50	15
Length of tail			
Length of body			
Width of body			
Length of neck			
Length of head			

Unit of measurement is centimetres.



**QUESTION** Look at the number of calculations Leonardo made when drawing [A horse in left profile, with measurements \(RCIN 912319\)](#).

Why did he take so many more measurements than you did?