

LEONARDO DA VINCI

LESSON 1

4. Introduction

Leonardo da Vinci – The man who wore more hats than any other in history was known as an architect, musician, artist, engineer, scientist and inventor. Many of his paintings were never finished, or have been lost over the years, however, those that survive are some of the most well known works of art in the world.

Father of Modern Science – Inventor with hundreds of ideas

Da Vinci filled dozens of notebooks and sketchbooks with ideas and inventions that were far ahead of his time. Some of his sketches illustrated a helicopter based on using a large screw for propulsion, an armored car, scissors, a cannon, machine gun, glider, moveable bridge, parachute, ladder, inflatable tube for floating in water and well water pump. He drew the human anatomy, maps of Europe and equestrian statues. He invented the bicycle 300 years before a bicycle was built.

Leonardo da Vinci was an architect, musician, artist, engineer, scientist and inventor

As an engineer, da Vinci designed many of the structures and public works in Milan, Italy. His scientific studies included research and discoveries in the fields of dynamics, anatomy, physics, optics, biology, hydraulics and aeronautics.

Leonardo da Vinci typically wrote backwards (to keep his ideas secret?)

In all of his notebooks and person writings, Leonardo wrote backwards. His writings could easily be read by placing the manuscripts in front of a mirror. It is recorded that da Vinci was left handed, which was unusual and frowned upon in his time because of superstitions against left-handed persons. Some people believe he wrote from right to left because he did not want people to be able to read his notes and take his inventions and ideas from him. Others believe he was hiding his scientific ideas from the Catholic faith, which might have frowned upon some of his teachings and findings. Another theory is that Leonardo wrote this way because he was left handed, and writing from left to right with the left hand would create smudges on the paper.

5. Leonardo da Vinci (Story)

6. VIDS:

- a. Art Videos for Kids Da Vinci Getting to Know... Da Vinci (SD)
- b. Leonardo da Vinci Works (SD)

7. Biography

- a. Read a biography (Read "Getting to Know the World's Greatest Artists" by Mike Venezia)
- b. Narrate a biography (Add Famous Artist of the Month)
- c. Add a timeline entry
- d. Add to Famous Artists Lapbook
- e. Complete an *Artist of Influence* Sheet

8. Art Activity

Time Warp Trio Lesson (Writing like Da Vinci)

LESSON 2

1. VIDS:

- a. The Best of Leonardo da Vinci (SD)
- b. Animated Bible Story of Leonardo da Vinci On DVD (SD)

2. Give a brief overview of and demonstration about how to show *perspective* in drawing.

In drawing and painting, perspective is a method of creating the illusion of depth by means of converging lines. In simple terms that means that by taking and arranging your lines on a piece of paper, you can make your image appear as though it is three dimensional. Visualize standing at the side of the road. OK, good. Now visualize a car driving towards you way in the distance. As that car gets closer, you will see more of it... you will see the color of the car, the shape, the person driving it and so on. The same goes in a drawing. The farther away something is, the smaller and less detailed it is, the closer that something is, the more detailed it is. Whew.

3. Art Activity:

Leonardo da Vinci & Perspective Lesson

LESSON 3

1. Look at a picture of the Mona Lisa

Use *How to look at art Sheet*

2. Mona Lisa - Introduction

The Mona Lisa is a half-length portrait of a woman by the Italian artist Leonardo da Vinci, which has been acclaimed as "the best known, the most visited, the most written about, the most sung about, the most parodied work of art in the world."

It is believed that the Mona Lisa was named after Lisa del Giocondo, a woman from Florence that was married to a wealthy merchant in the area. This was not discovered until 2005 when a librarian at the University of Heidelberg discovered a note written by Agostino Vespucci, identifying the woman in the painting as Lisa del Giocondo. After his death, Leonardo left the painting to his assistant. It was never claimed by the family of Lisa del Giocondo, who originally commissioned the painting to hang in their new home. The painting now belongs to the French government and resides at the Louvre Museum

3. Compare the Mona Lisa with another portrait from that time period (Renaissance Period – maybe Michelangelo).

4. Discuss how Leonardo da Vinci was one of the first artists of his time who drew *perspective* into his art. (Review *perspective*)

5. VIDS:

- Mona Lisa – Why so famous?
Mona Lisa Leonardo da Vinci Louvre (SD)

6. Art Activity:

Mona Lisa Lesson

LESSON 4

1. **Introduction** to Leonardo's Horses
(Read Leonardo's Horses, and View his sketches)
2. **VIDS:** Leonardo DaVinci Perfected Word s Largest Horse Statue (SD)
3. **Art Activity:**
Sculpture: Leonardo's Horse

LESSON 5

1. **Introduction:**
2. **VIDS:**
LEONARDO DA VINCI Parte 1- (SD)
Painting of the Week The Last Supper (SD)
3. **Art Activity**
Make your own fresco Lesson

LESSON 6

1. **Introduction:**
The Da Vinci Glider
2. **View** a picture of Da Vinci's *Birds in flight*
3. **VIDS**
 - a. Leonardo da Vinci, His Contributions to Modern-Day Flight (SD)
 - b. Leonardo da Vinci Glider - reality test, Rate My Science (SD)
4. **Art Activity**
 - a. Leonardo's bird

LEONARDO DA VINCI & PERSPECTIVE

PERSPECTIVE DRAWING - TREES

Activity Summary:

Students will be able to understand what is near and far in respect to the horizon line on a 2-d surface, as they draw trees.



Objectives:

- Students will be able to understand what is near and far in respect to the horizon line on a 2-d surface.
- Students will be able to blend and use oil pastels correctly.
- Students will understand the concept of a horizon line.

What You Need:

- white drawing paper
- oil pastels

What You Do:

1. Introduce the horizon line [the line where the sky meets the land].
2. Refer to images of landscapes for reference.
3. Discuss foreground, background, and middle ground.
4. Students can use view from class window to identify trees that are near to us and far to us.
5. Explain rules of thumb: closer objects are darker and lower on paper (the foreground), distant objects are lighter and placed toward top of paper (the background).
6. Demonstrate on board.
7. Have students try a thumbnail sketch.
8. Then use oil pastels to draw final composition.
9. Show students how to blend and use oil pastels

MONA LISA

Materials:

- Photocopies or black-lined copies of the painting
- 12"x18" (30.5 x 46 cm) heavy weight drawing paper
- Pencils, Erasers
- Tempera Paint - Brushes - Mixing Trays
- Mona Lisa art print
- Examples of Fauves



Objectives:

1. To become more aware of Expressive color in painting
2. To become more aware of values in painting
3. To strive to paint with a monochromatic color scheme
4. To become familiar with Leonardo's work of the Mona Lisa
5. To strive to paint with bold color scheme

Procedure:

- Discuss a little history concerning Leonardo da Vinci.
- Ask the children what they think of the Mona Lisa, why did he paint her?
- Show work of the Fauves.
- Discuss and explain various color plans.
- Review shading and tinting techniques.
- The final product will be a Mona Lisa painted in bold/subjective colors.
- Develop contrasts with warm and cool colors.
- If time allows you may wish to have them paint a value chart using their desired color they have chosen.
- The final product will be a monochromatic Mona Lisa that students will be astonished when they complete.

Optional:

Materials: Pencil and ruler

Have students draw a one inch grid on the photocopies. Draw a grid on the drawing paper (using the same number of squares as on the photocopy). Transfer the image of Mona square by square. Renaissance artists were known to use a grid.

Optional:

Change surroundings - Give Mona a new look - new fashion for 21st century.

Alternate: Have students draw their own Mona Lisa. Put her in new surrounding - add local landscape/buildings etc (bring her portrait to the 21st century). Example: have McDonald's in background - have her holding a Big Mac. Mona Lisa parody.

LEONARDO'S HORSES

Leonardo Da Vinci Sculptures

When you think of Leonardo da Vinci, certain images automatically come to mind, such as the Mona Lisa, The Vitruvian Man, and The Last Supper, just to name a few. These are some of da Vinci's famous art pieces. However, not only did Da Vinci have a talent for art, but he also had a flare for sculpture. Leonardo da Vinci sculptures may not be as easily identifiable as his artwork, but you may be surprised to find that you are actually familiar with the sculptures described below.

Da Vinci's Horse in Bronze

In 1482, the Duke of Milan commissioned Da Vinci to build the world's biggest horse sculpture in honour of his father and to stand guard over the Duke's castle. Once completed, the horse was to stand 24 feet high. Da Vinci, a consummate perfectionist, spent a number of years making sketches to get the details just right. Eventually, he sculpted a full-size clay model which was to be later cast in bronze.

During this particular period in time, the French army was a threat, and bronze was needed to build canons in order to protect the city. Hence, Da Vinci's bronze horse would be put on hold. French soldiers used the clay model as target practice!

The sketches that da Vinci left behind eventually turned up centuries after the artist's death. A retired American pilot was fascinated by the story of the bronze horse, and founded a non-profit organization that would finish the Leonardo da Vinci sculpture. In 1999, the organization unveiled the 24 foot tall bronze statue in Milan, Italy, and a month later, a second statue was unveiled in Grand Rapids, Michigan, bringing da Vinci's beloved sculpture to life.

Il Cavallo

Da Vinci had yet another horse sculpture that he would never see completed. In 1506, he began drawing sketches for a sculpture similar to his massive bronze horse commissioned by the Duke of Milan. This sculpture, which came to be known as "Il Cavallo", was meant for Giacomo Trivulzio. It garners less attention from the art world for it only exists through the multitude of drawings left behind by da Vinci.

According to da Vinci's drawings and sketches, two problems had yet to be figured out regarding "Il Cavallo". First, he needed to fill the space where the belly of the horse was to be, and second, he needed to settle on the position of the rider. Although his drawings always showed the rider on the horse's back, the rider was meant to have been cast separately from the horse. Unfortunately, this Leonardo da Vinci sculpture never came to fruition.

The Horses of Leonardo da Vinci

Leonardo da Vinci seemed to have been a big fan of horses, and even his rough sketches possess an almost magical lifelike quality, both in their detail and in their perspective.

A True Artist

Although ultimately known for his portrait painting ability, it seems he was able to capture his subjects regardless of what type of animal they were. I actually appreciate some of these informal sketches more than his popular pieces. They give us a glimpse into his character, simply because he enjoyed the challenge of drawing horses and found them subjects worthy of his doodles.



TITLE: GRAN CAVALLO.

DATE: 1495 (CLAY PRE-MODEL FINISHED, BRONZE CAST STATUE UNFINISHED)

LEONARDO'S AGE: 43

SIZE: 24 feet high (7.32 metres high)

NOTE:

The invading French armies destroyed the original clay model in 1498.

The Way Leonardo Sees Horses



The Four Horses of Apollo



Study for a Sculpture of a Horse



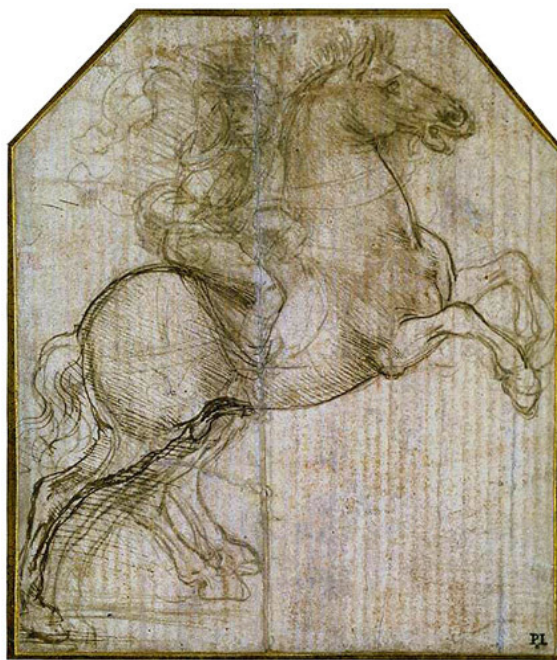
Horse Anatomy



Rider on a Rearing Horse Trampling a Fallen Foe



Sketch of a Horse



Rider on a Rearing Horse



Rearing Horse



Study of Horses



Horse and Rider



The Fall of Phaeton

SCULPTURE: LEONARDO'S HORSE

YOU WILL NEED:

play-doh or clay

1. Read *Leonardo's Horse* by Jean Fritz.
2. Explain that da Vinci loved horses and loved to draw animals and would watch them for weeks to understand how they were put together and how they moved.
3. After looking at photographs of horses, mold a horse out of play-doh or clay. The challenging part is making one that can stand up.

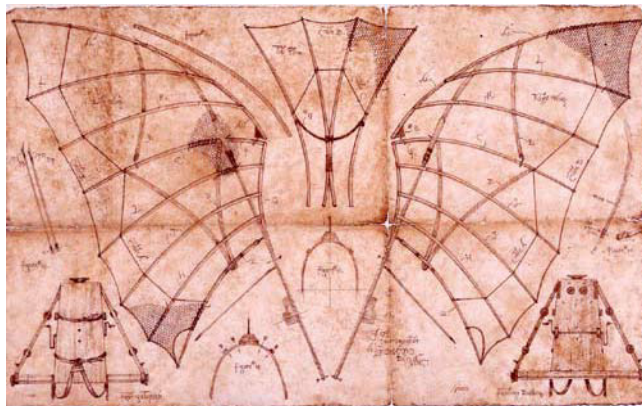


THE DA VINCI GLIDER

ca 1500

Leonardo da Vinci (1452-1519) wrote a treatise, the *Codex on the Flight of Birds*, which put forth the first scientific observations on the subject of flight. He discovered the vortices that are produced off the wings, and observed the alulae, or "thumbs" of the wings. He was concerned with the center of gravity, stability, and maneuverability.

Leonardo sketched several types of flying machines: helical wing, beating wings, parachute, and bat's wings. Through real life trial and error Da Vinci learned the difficulty of realizing his great dream of flying in a machine powered by human propulsion, and turned his talents toward the problem of gliding flight. In the glider drawing below, the flyer's position is studied at the point where he is balanced through movements of the lower part of the body. The wings, modeled upon those of bats and birds of large wingspans, are fixed on the inboard portion (next to the flyer), and mobile at the external portion. This part of the wing in fact can be moved by the flyer by a control cable connected to handles. Leonardo arrived at this solution by studying the wing structure of birds and observing that the inboard part of their wings move more slowly than the outboard, and that therefore serve to thus sustain themselves and produce forward thrust.

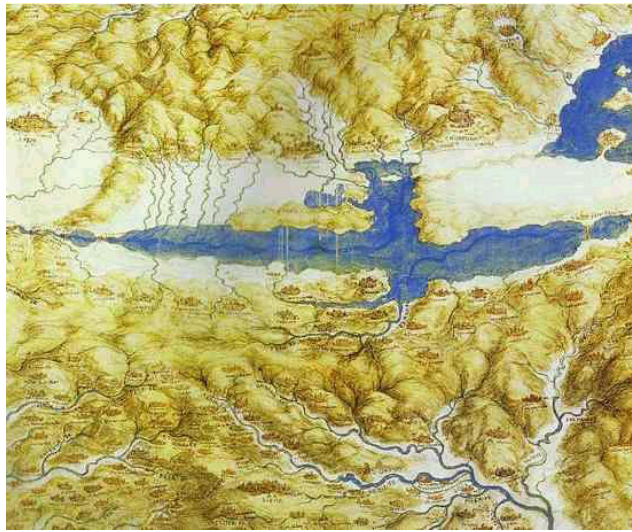


"The great bird will take flight above the ridge...filling the universe with awe, filling all writings with its fame..."

- Leonardo on manned flight

Early Da Vinci gliders had an articulated wing with a system of belts passing between the thighs and around the body of the flyer. He later reduced the structure to a simple form with wings directly attached to the human body.





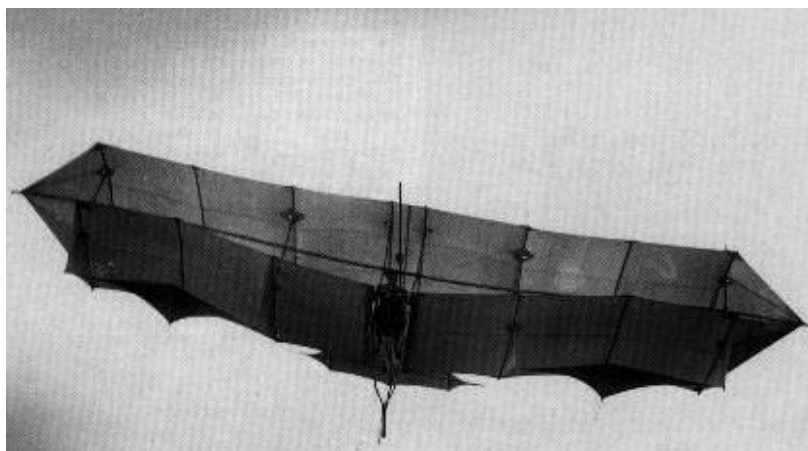
Leonardo Da Vinci: ***Bird's-Eye View of a Landscape***. 1502.
Pen, ink and watercolor on paper. Windsor Castle, Windsor, UK

The question that always comes up regarding Leonardo and his flying machines is did they actually work. I often cite the above watercolor of a birds-eye view of a landscape as an example of Leonardo's success. Even though Leonardo was an incredible artist with an incredible mind, it is difficult to believe, after seeing the watercolor and several others like it, that he did not actually see and observe the landscape from the view depicted. The following quote is from the "Did Leonardo Da Vinci Fly?" link below:

"Thus did Leonardo rise in the warm air current—his mouth open to relieve the pressure constantly building in his ears—until he could see the top of the mountain...**it was about a thousand feet below him**. The country of hills and streams and farmland and forest had diminished, had become a neatly patterned board of swirls and rectangles: proof of man's work on earth."

Leonardo's last design had a wingspan of 24 meters, nearly 80 feet, a design like no other device he had ever sketched or built. Da Vinci reached beyond nature to conceive a free-flying craft with flat surfaces to support it and a man in the still air. It had double wings, cellular open-ended boxes that was stable as box kites of like construction.

DID LEONARDO DA VINCI FLY?



A late 19th, early 20th century flying machine, a virtual copy of the Florence Da Vinci glider.

STUDYING & SKETCHING: LEONARDO'S BIRDS

YOU WILL NEED:

- Coloring pages of various birds (*optional*)
- Paper
- Watercolors
- Paintbrushes
- Newspaper to cover the table
- Bowls for water
- Various mediums for painting (*optional*)



Briefly discuss different types of mediums used for painting pictures (watercolor, acrylic, oil). Show examples (and let children feel the textures) if possible.

Also mention how Leonardo da Vinci also loved to study birds.

Let children use watercolors to paint birds.

They can either use blank paper or printed out coloring pages.

MAKE YOUR OWN FRESCO - A TUTORIAL

Making a fresco is a fun, creative, and educational activity for ages 5 to 100: *all* art lovers should experience painting on fresco surface! It will take a couple of hours to make, and a couple of days to dry out. Be sure you have all your materials ready, because once you prepare your fresco mixture, you have to complete your project, or else the fresco will become too dry to absorb the colors.



You'll need:

- heavy cardboard (for the frame) cut into one rectangular piece $7\frac{1}{2} \times 9\frac{1}{2}$ inches, and four $\frac{3}{4}$ -inch-wide strips, two of which are 8 inches long, and the other two are $7\frac{1}{2}$.
- glue
- a transfer image drawn on a piece of paper measuring 8 x 6 inches (ie the same size as the inside of your frame)
- toothpicks
- a firm sponge
- a charcoal blotter (we put some charcoal in a little piece of fabric, tied it closed, and crushed the charcoal inside. But you can also just use a cotton swab dipped in charcoal)
- $\frac{1}{3}$ cup plaster (use regular plaster, as plaster of Paris will dry out too fast)
- 1 cup sand
- water colors (natural pigments would be the ideal thing to use)
- a mixing bowl
- a spoon for mixing
- a thin paint brush
- a little water



Step 1 - preliminaries

Make your cardboard frame by gluing the heavy cardboard strips around the rectangular base piece.

Draw a simple image on your paper. For inspiration, we looked at a detailed picture book on Leonardo's *Last Supper*, but in the end the boys went for something they knew better: a lighthouse on the coast nearby, and a vine branch.



When your frame and image are complete, you're ready to start your fresco. It will take a couple of hours to complete.

Step 2

Mix up your fresco mixture: put the plaster and the sand in a mixing bowl, and add a very small amount of water at a time, until the mixture is thick but pourable, and about the consistency of cake batter.



Step 3

Pour your mixture immediately into the cardboard frame, shake it gently from side to side to smooth out the surface, and set it aside for about an hour to dry a little. It will need to feel firm to the touch, moist but not wet.

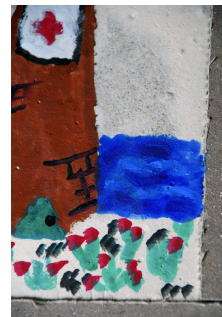
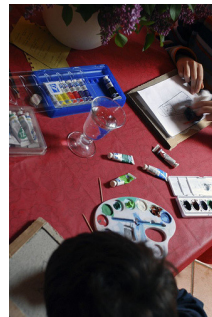
Step 4

While the fresco mixture is setting, prepare the transfer drawing. Set the piece of paper on the sponge, and punch holes in the paper with the toothpick, following the outline of your image. Push the toothpick all the way in, making the holes as large in diameter as possible (not just the tip of the toothpick). Space the holes carefully so that the paper won't tear.



Step 5 When the surface of your fresco feels just right (again, firm but slightly moist), lay the image over it, and blot it repeatedly with the charcoal blotter. When you remove the image, the dotted outline of your drawing will remain on the fresco surface.

Step 6 Now you can watercolor!



Let your fresco dry out completely for a couple of days on a flat surface, at room temperature.