**Title:** The Flying Machine

**Sequence Theme/Big Idea:** Leonardo da Vinci’s Flying Machine

**Grade Level:** 3

**Time Frame:** 3 40 minute classes

[Link to presentation](https://docs.google.com/presentation/d/1548XL-I5d9IOydDkfD3v_fHJThPIlrlL_gWJnZPrM1Y/edit#slide=id.p)

**Lesson Narrative:** This lesson is based off of Leonardo da Vinci’s Flying Machine design found in one of his notebooks. The students will create a colorful replica and learn about form, pattern, symmetry, sculpture and making an object aerodynamic.

**Standards:**

*3PE Use historical and cultural artworks to answer questions about daily life.*

*5PR Show increasing attention to the nuances of elements and principles*

*of design when creating personal works of art.*

*1RE Examine and describe how art and design principles are used by artists to create visual effects.*

**Objectives:**

Students will…

* Learn about Leonardo da Vinci as a “Renaissance Man,” and his flying machine invention
* Combine elements and principles in an artwork to create individualized flying machines
* Discuss the elements an principles used in the project, especially form

**Materials:**

* Styrofoam cups
* Small tissue paper squares
* Glue and water mix
* Paint brushes
* Large popsicle sticks
* Coffee filters
* Washable markers
* Colored sharpies

**Vocabulary:**

Form- an object that is 3 dimensional

Pattern- a repeating design

Symmetry- even on both sides

Sculpture- an artwork that is 3 dimensional

Aerodynamic- able to fly quickly; air goes around the object easily when in motion

**Procedure:**

Day 1:

* Put your name on the inside of the cup with sharpie. Layer the tissue paper squares onto the Styrofoam cup by gluing each shape down using a paintbrush and the glue and water mix. Cover the entire outside and bottom of the cup. Encourage a harmonious color palette. Use enough glue to keep the tissue flush with the surface, but not too much that the glue drips. Discuss form and sculpture.

Day 2:

* Use the colored sharpies to create patterns on both sides of the large popsicle stick. Encourage a diversity of patterns and a harmonious color palette. Have students use the washable markers to color on a coffee filter and then spray it with a water spray bottle. Water should reach the whole surface, but should not be consistently sprayed in the same area. Let filters dry. Discuss pattern.

Day 3:

* Talk about creating a flying machine that is aerodynamic and symmetrical. Then demonstrate how to put the flying machine together using a document camera: Fold the filter in half and draw two smile lines on the upper edge of the filter. Cut those out to have 4 tail feathers. Open the filter and cut down the centerline. Fold each half in half again and glue the pointed edges facing in on the top of their cup to create wings. Glue the 4 tail feathers on the back edge of their popsicle stick fanning outward. The teacher will glue the popsicle stick on the bottom inside of the cup to create a tail. Poke a whole in the front of flying machine with a pencil and feed a string through the whole. Tie the string above the flying machine and add a paper clip to hang.

**Assessment:**

**O**- Flying machine tissue paper was flush with the surface, there is a well thought out color scheme on all elements, and pieces are attached correctly

**S**- Students are successful in all but 1-2 requirements

**N**- Students are unsuccessful in construction and design or did not finish all pieces to the flying machine

**U**- Student did not create a flying machine

