

Data Sculptures: Visually Representing Data

**SUBJECT:** Science

**GRADE LEVEL:** 7

**LESSON PLAN:** Six 50-minute classes

  

Students will explore 7th grade science concepts by studying weather data and learning how to translate that data into a three-dimensional sculpture. Different data sets include snow fall, river levels, fire data, etc. Students will assign a color and a shape or form to each different piece of data. They will then sculpt each type of data using paper sculpture techniques. When finished, students will have a sculpture that communicates their chosen weather data visually.

**OBJECTIVES:**

* Students will explore a variety of weather-related data sets.
* Students will identify color, shape and form as elements of art.
* Students will translate their chosen weather data into visual representations of color, shape and form.
* Students will demonstrate a variety of paper sculpting techniques.
* Students will write a three-to-four sentence statement about their artwork

**BASIC OUTLINE OF THE LESSON:**

* Introduce the Project and share slideshow.
* Students will review and select their data set.
* Students finalize their data translation plan on brainstorming worksheet.
* Students are introduced to a variety of paper sculpting techniques and begin sculpting.
* Students will be introduced to a variety of attachment techniques and continue sculpting.
* Students display their work and artist statement, give feedback and discuss.

**ART SUPPLIES:**

* Pencils and erasers
* colored pencils
* paper in various colors
* grocery bags to hold sculpted pieces in between days
* scissors
* glue sticks
* heavy paper to mount sculpture (cardstock)

**OTHER RESOURCES:**

* PowerPoint slideshow
* Brainstorming worksheet

**IDAHO STATE LEARNING STANDARDS:**

* **Arts and Humanities: Anchor Standard 2:** Organize and develop artistic ideas and work.
	+ VA:Cr2.1.7a: Demonstrate persistence in developing skills with various materials, methods, and approaches in creating works of art or design.
	+ VA:Cr2.3.7a: Apply visual organizational strategies to design and produce a work of art, design, or media that clearly communicates information or ideas.
* **Arts and Humanities: Anchor Standard 3:** Refine and complete artistic work.
	+ VA:Cr3.1.7a: Reflect on and explain important information about personal artwork in an artist statement or another format.

**Science Objective:** Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.

**ACADEMIC LANGUAGE:**

* Subject area language: data, data set, weather, observation, translation, variables
* Art Language: Sculpture, form, shape, color, 2D, 3D

**STUDENT USE OF VOCABULARY:**

Students will use the words when creating their sculptures, when writing about their work, and when discussing their projects.

**STUDENT GROUPING:**

Students could work in pairs or independently.

**INSTRUCTION:**

**DAY 1 — INTRODUCTION**

Introduce the project through the slide show.

* Show students the work of artists who use data as the inspiration for their artwork
* Engage students by encouraging them to critically think and ask:
	+ How could you translate numbers into art?
	+ What might that look like?
* Introduce the project goal of creating a sculpture that visually communicates their weather data. Finally, begin brainstorming and go over expectations.

**DAY 2 — ARTMAKING**

* Students will finalize their data translation plan.
* They will be introduced to various paper sculpting techniques and begin to sculpt pieces of data.

**DAY 3 — ARTMAKING**

* Students given tips for attaching sculpted papers to paper base.
* Students continue sculpting.

**DAY 4 — ARTMAKING**

* Students continue working on their sculptures.

**DAY 5 — ARTMAKING**

* Students continue working on and finish their sculptures.

**DAY 6 — PRESENTATIONS**

* Students will title their work and write artist statement paragraph.
* Students will display their artwork and artist statement and participate in a gallery walk where they will observe each other’s works and give feedback to at least two of their peer’s work. Class discusses what they observed in their peer’s work.

**SLIDE SHOW OUTLINE:**

* Share the work of data artists
* Show a brief history of paper art around the world & other paper artists
* Introduce planning/sorting data
* Share data sets
* Brainstorming
* Composition tips
* Paper sculpture techniques
* Composition review
* Attachment techniques
* Project check-In
* Artist statement question prompts to help students write their own artist statement
* Resources

**END OF PROJECT ARTIST REFLECTION AND PRESENTATION:**

* What is your sculpture called?
* What colors did you use in your sculpture? Why, what do they represent?
* What do the different shapes and forms represent in your sculpture?
* How does the arrangement of your sculpture (the composition) help to communicate your data?