



FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

**2023**  
**2024**

Ideas with

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STEAM

**S.T.E.A.M.'ed Fish –  
a 3D Art project**

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# S.T.E.A.M.ed Fish 3D Art project



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## Goals and Objectives

Totally Tubular provides the elementary student with an easy way to explore the transition from 2D studio skills like drawing and painting to 3D mixed media and its form using recycled materials (Paper towel tubes, tape, and plastic bags).

Using the Florida standards listed below the student is exposed to an interdisciplinary lesson of visual arts education and science, life science, engineering, and the technology design components of the curriculum. Investigate how common materials can be recycled reduced, reused, or recovered and how a population is dependent upon the available resources within its community.



## Florida Standards

(VA.4.S) Creates two-dimensional and three-dimensional works of art using mixed media.

Describe different ways of constructing Sculpture (examples may include, but are not limited to assemblage, (additive and subtractive methods). Design a solution or product. Communicates ideas with drawings and **simple models**.

- A. Uses and organizes two –dimensional and three-dimensional processes to produce works of art that are derived from personal experience, observation, or imagination.

**SC.4.L.16.2:** Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment.

**VA.4.S.2:** [Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. read](#)

**VA.5.S.1:** [The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. read more.](#)

## **Course Outline and Overview**

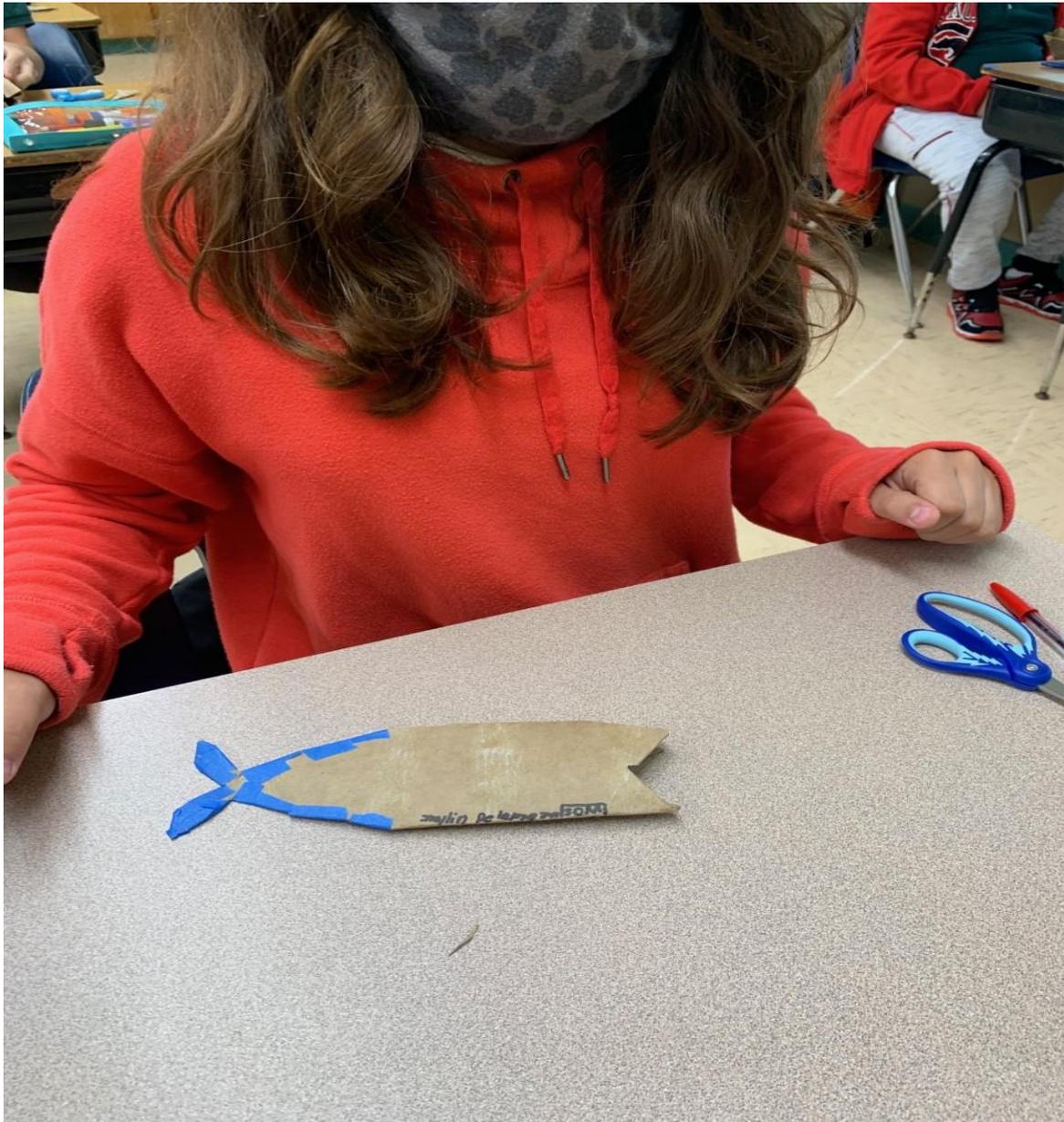
Working in groups or as individuals the student will explore shape versus form, additive versus subtractive as they construct their mixed media sculpture. Using recycled materials, the first lessons review fish anatomy and the importance of detail; including a discussion on the importance of recycling and personal and collective environmental responsibility.

This is an introductory 3-D mixed media studio art class for the elementary level of grades 4,5,6-12 with cross-curriculum connections to science and environmental issues. The timeline is approximately four weeks for one hour a week. The student lectures are short and to the point and involve visuals of a variety of fish species of the salt and freshwater variety.

### **WEEK 1 (60 minutes)**

The students review a simple visual of the basic anatomy of a fish with emphasis on tail types, dorsal and pectoral fins, and their varied shapes. Students should do a pencil sketch of the basics – tail, dorsal, pectoral and label them for future use in the construction of their piece. The instructor will demonstrate how the student will begin to modify the paper tube. The instructor should have available a finished exemplar to discuss how to begin reverse engineering the build. The instructor will discuss the term - reverse engineer, cylinder, tube, measurement, paper manipulation, tuck, and basic fish anatomy.

During the first session the instructor should demonstrate how to cut the tail section and manipulate the tube to make the head of the fish. The emphasis is on measurement. Student will measure and mark the tube; instructor should review and approve before students cut. The student will make the desired cut and save the pieces of the tube that have been removed and tape the tail section (see visual).



## **WEEK 2 (60 minutes)**

Reviewing their sketches and basic anatomy, students begin their build if they did not begin the build in the first class. The instructor reviews all cut and manipulated forms before student continue working on the extremities. This second week is dedicated to demonstrating how to cut out the fins and tail and how to do an “**insert**”. The teacher demonstrates how, discussing fin, and tail types. Students should cut out a **dorsal, two pectorals** that are identical (cut on a fold technique). The application of the fins and tail may require several reviews especially with the 4/5 grade students. The instructor should review the technique and assist individual students as necessary.

Materials per student:

- 2 paper towel rolls of 1.5”
- Scissors/tape
- Templates with fins and tail types
- Ruler

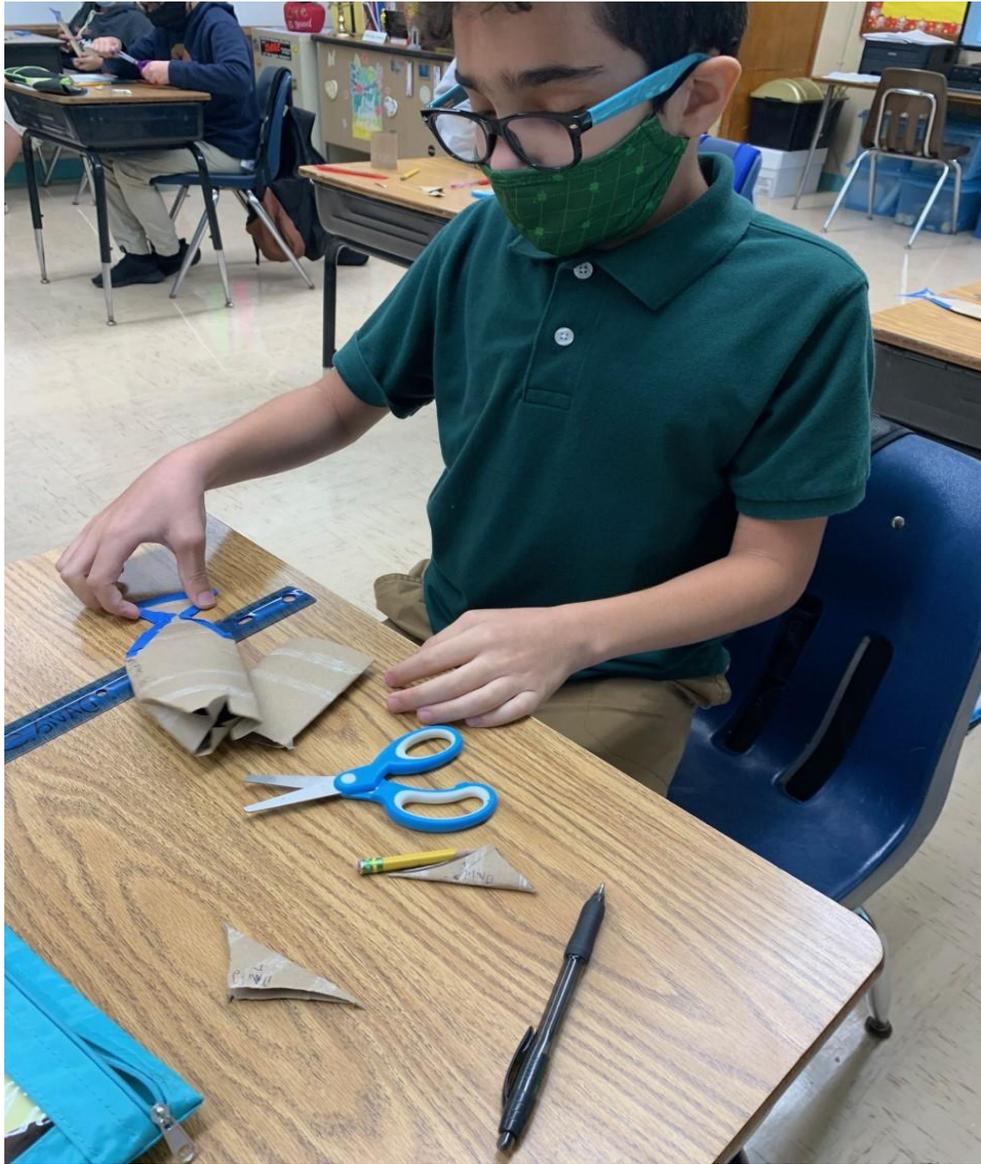
### **WEEK 3 (60 minutes)**

The students should be finishing the application of their fins and tails and check carefully for gaps in the masking tape and correct as necessary. The student can then choose the desired finish.

#### **Marker/sharpie**

#### **Torn tissue paper application**

The instructor will demonstrate applications as needed, review with students and assist as needed to complete the project. It may be necessary to go to a fourth lesson period but most of the time this can be completed in three one-hour classes.



## Visual Arts Lesson Plan Grade 4/5,6-12 Time: 3-4 hours

### Lesson: Totally tubular: The tube to fish pipeline

**Materials:** Recycled plastic bags, 1" masking/painters' tape, ruler, scissors, markers/sharpies, paper towel tubes

Teacher exemplars.

**Visual/Resources:** Teacher demonstration/ exemplars, Student exemplars, Internet resources, large visual of the basic anatomy of a fish. (See packet). Florida Standards:

**SC.4.L.16.2:** Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment.

**VA.4.S.2:** [Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.](#)

**VA.5.S.1:** [The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. read more.](#)

**Procedures:** Students review visual of basic fish anatomy. Draw a sketch of a fish for reference and label the basic parts-tail, dorsal, pectoral. Teacher demonstrates how **flattened, measure, cut and tape** the tube produce the tail section. Instructor reviews basic types of fishtails to inject variety and choice (Use the visual).

The instructor will demonstrate how to tuck and manipulate the front end of the tube/cylinder to make the shape of the head. The **angle / slope** of the head is determined by the amount of **tuck/manipulation** of the media. **The teacher should demonstrate the variety of angles/slopes that can result depending on the amount of tuck and shape desired.**

**Vocabulary:** 3-Dimensional, environmental, impact, dorsal, pectoral, lateral , 2 dimensional, form, shape, media, recycle, additive, subtractive, anatomy, native, invasive, manipulate, tuck.

### **Performance Assessment**

Observation of final product x

Group assessment (critique) x

Observation of process (student working) x

Self-assessment by student x

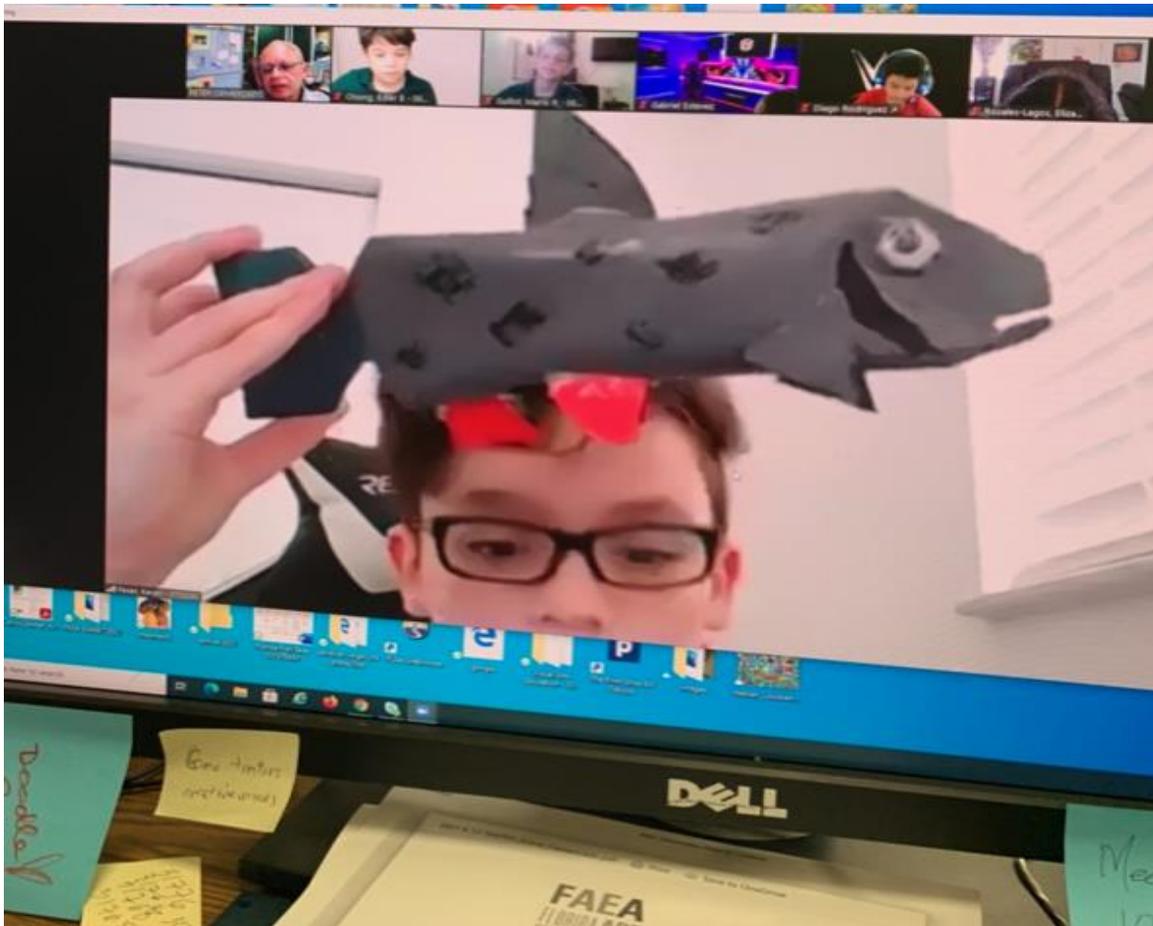
Portfolio x

A. Tracking

B. Demonstrates growth x

C. Compiles a variety of processes, techniques, and media

x A. Journals    x B. Ideas for projects    x C. Sketches    x D. Teacher generated assignments



## Base Assessment

Vocabulary test x

Sketchbook/Journal or Home Learning: Students will find visuals of fresh and saltwater fish that are found in Florida waters and produce sketches and drawings. Recycle 2 paper towel tubes from their home.



## Resource List

### Websites:

<https://floridadep.gov/rcp/rcp/content/floridas-coral-reefs>

<https://floridasportfishing.com/fish-id/>

### Fieldtrip Suggestion:

Miami Sea-aquarium

440 Rickenbacker Causeway Key Biscayne, FL 33149

Tel: 305-361-5705

### Materials List:

Home Depot: 3M masking/painter's tape 1.5" rolls

Michael's Craft: Glass beads (half round)/buttons

Stores & Distribution- colored tissue paper/

makers/paint pens/scissors/ruler.

Student/Teacher- paper towel tubes