Class Title: Red Marine Life Research & 3D Design Lab

Teacher Name: Jennifer Brodowska

Class Day: Friday

Class Size: 12

Class Cost: $30

Individual Student Supply Fee: $60

Class Fee: $96

Ages or color group served: Red

What level is this class: Level 3

Prerequisites: Students are expected to properly cite their sources and organize information into a structured research paper including:

*Introduction

*Multiple body paragraphs

*Conclusion

*Typed final draft in proper format

Students will need acess to a computer or tablet. We will be working with hot glue, scissors, exacto knives and or box cutters.

Graduation Requirements: Students must complete their project and research paper.

Homework Requirements: Students will work through the semester on their research paper that will be turned in at the end of the semester as part of their requirement for graduation.

Class Description:

Welcome to an exciting 12-week deep dive into the world of ocean animals! In this interdisciplinary unit, students will explore marine biology through research, writing, engineering and art.

Each student will select an ocean animal to study in depth. Throughout the unit , students will:

* Conduct detailed research using reliable sources

* Write a full research paper in proper format

* Design and build a large scale 3D model using cardboard and paper mache

* Paint and finish their model with realistic details

* Present their projects to the class as a final showcase.

Research expectations

Students will investigate and answer the following questions about their chosen marine animal:

*What type of animal is it? (Mammal, fish, reptile, invertebrate, etc.)

*What are its physical characteristics?

*What does it eat? How does it hunt or gather food?

*Where is it found? (Oceans, regions, climate)

*What is its habitat like?

*What is its family or social structure (if applicable)?

*What predators does it have?

*What physical and behavioral adaptations has it developed to survive?

*What role does it play in its ecosystem?

Engineering and Art Component

Students will:

*Plan the size and structure of their animal model

*construct a sturdy cardboard base

*Apply and layer paper mache

*Paint and add detailed finishing touches

This project integrates creativity with scientific understanding, encouraging students to think like marine biologists, engineers, and artists all at once

Week 1:

Introductions, icebreakers, expectations

Overview of the unit

Brainstorm and discuss possible ocean animals

Homework: complete research outline

Week 2:

Finalize chosen animal

Review and revise outlines

Discuss model size and materials

Homework: Begin research

Week 3:

Begin construction of cardboard structure

Homework: Complete introduction paragraph

Week 4:

Continue construction

Homework: First body paragraph

Week 5:

Construction

Homework: Second body paragraph

Week 6:

Begin paper mache process

Homework: Continue body paragraph writing

Week 7:

Paper mache layering and shaping

Homework: Conclusion paragraph

Week 8:

Paper mache completion

Homework: Rough draft due

Week 9:

Begin painting and detailing

Homework: Work on final draft

Week 10:

Continue painting and details

Homework: Finalize research paper

Week 11:

Final painting touches

Homework: Final paper due

Week 12:

Project presentations

Students present their marine animal model and research findings to the class