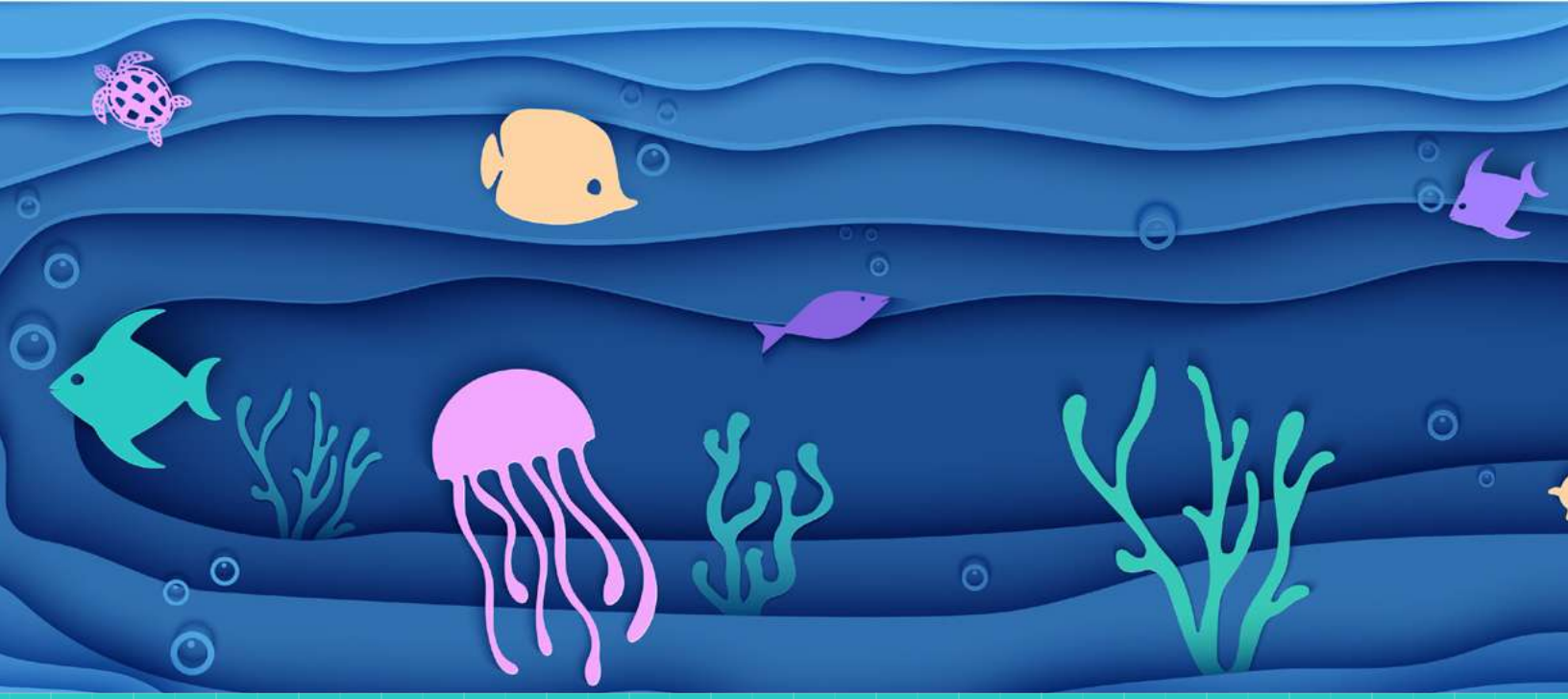


GEOMETRIC MARINE LIFE

Using Math to Create Marine Magic

Challenge your learners to create marine life using art and math in this STEAM activity! Inspired by the Arts Integration lessons from the Sun Valley Museum of Art, this activity is meant for 6th-grade students, however, it can be adjusted to fit any learning environment. Utilizing 3D shapes and paper manipulation techniques like folding, pleating and curling students dive into the world of geometry. To see the paper manipulation techniques in action, check out the Mega Molecule lesson plan from the museum then let student creativity swim freely!

PCS edventures!™
Experts in Hands-On STEM Education

SVMOA Sun Valley Museum of Art

HANDS-ON STEM EDUCATION

ENRICHMENT PROGRAMS

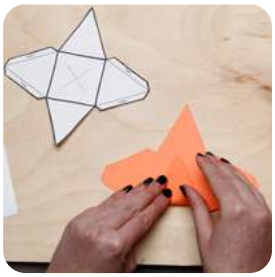
For over 30 years, PCS Edventures has inspired students to develop a passion for Science, Technology, Engineering and Mathematics (STEM), focusing our efforts on making learning and discovery a fun and interactive process for grades K-12.

- CLASSROOM
- AFTER-SCHOOL
- HOME LEARNING

GEOMETRIC MARINE LIFE

MATERIALS

- Colored Construction Paper
- 3D Geometric Templates
- Pencils
- Glue Sticks
- Scissors
- Scratch Paper for Note Taking
- Ruler



INSTRUCTIONS

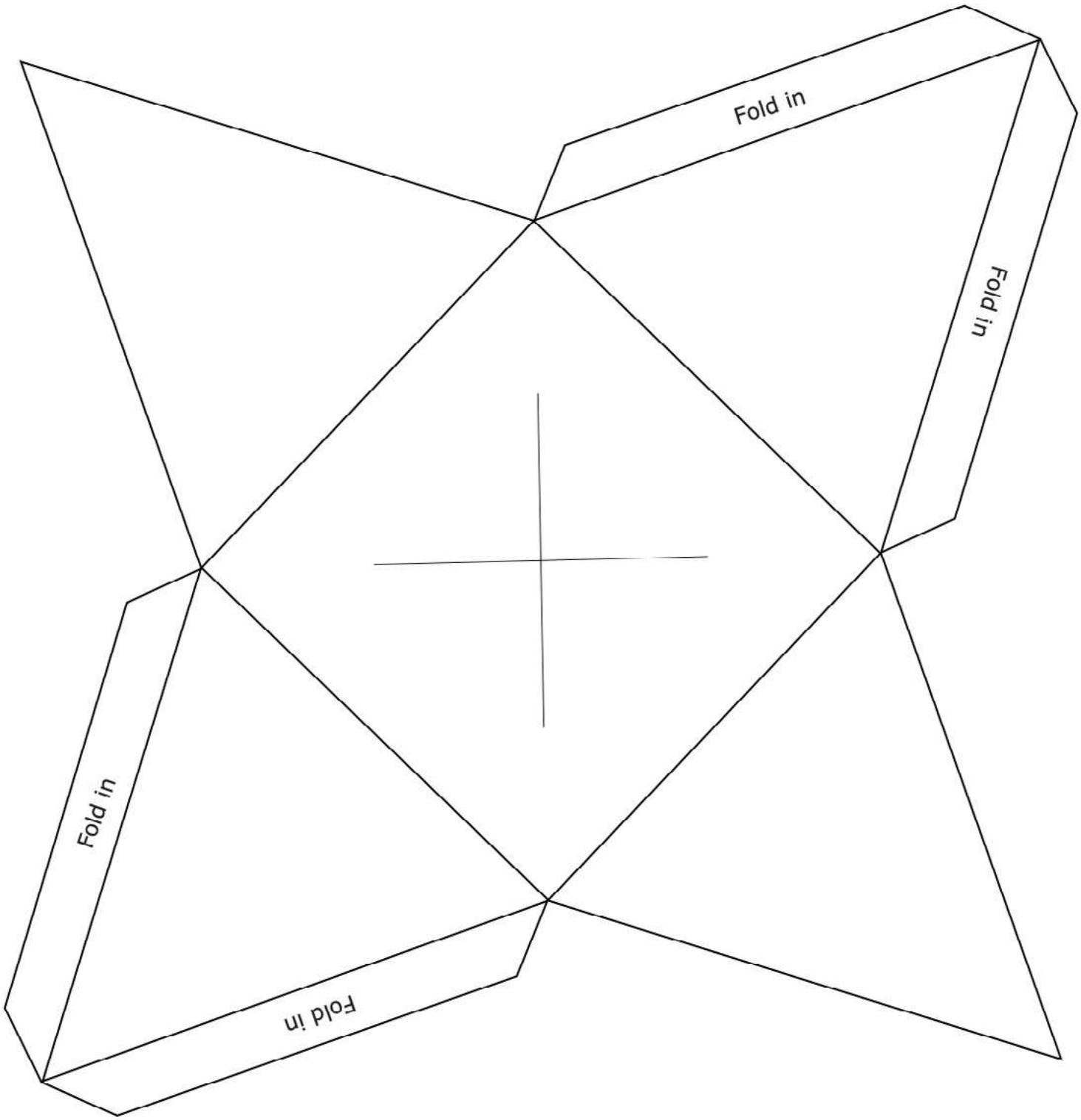
1. Start by tracing your desired 3D template on a colored piece of construction paper.
2. Cut out the template, then fold along the lines accordingly.
3. Glue the folded sides together to create your 3D model and set aside.
4. Take colored construction paper and cut using a desired paper manipulation technique.
   Some techniques include: fringe, folding, pleating, curling, rolling and quilling.
5. Design your 3D model by gluing on your paper manipulations. Once completed, it's time to do some math!
6. Take a ruler and measure the dimensions of your model (base and height).
7. Calculate the surface area of the model and record the data.

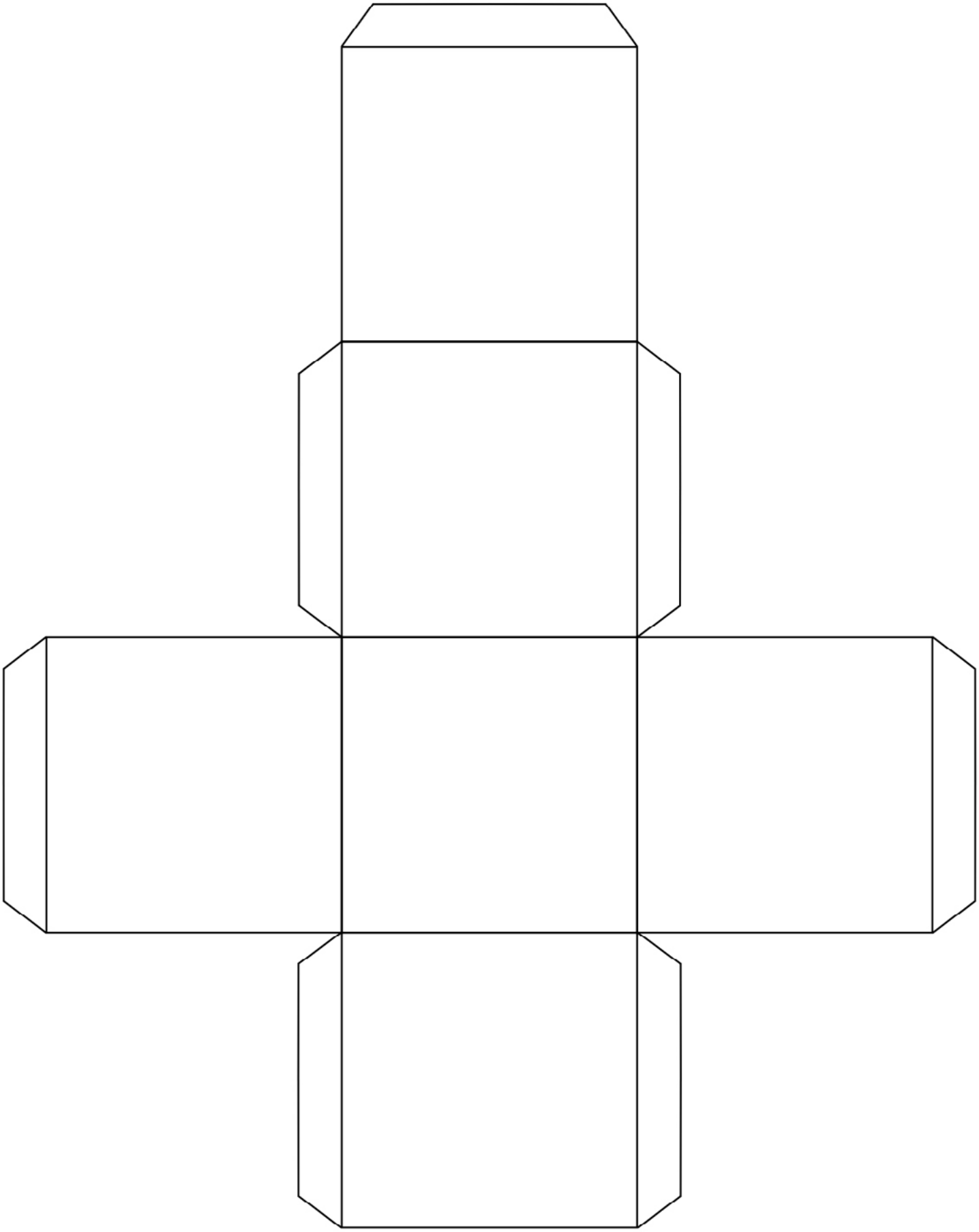
DISCUSSION QUESTIONS

1. What challenges did you encounter while creating your 3D marine life model?
2. Did you have a strategy beforehand or did you create as you went?

OPTIONAL EXTENSIONS

1. Calculate the volume of your 3D model.
2. Explore a variety of 3D geometric shapes with your students: Cylinder, Triangle, Prism, etc.
3. Discuss mathematical vocabulary with students using geometric terms like Radius, Area, Diameter, Polygon, etc.


Fold in
Fold in
Fold in
Fold in



Sun Valley Museum of Art

For more great lessons from the Sun Valley Museum of Art, visit https://svmoa.org/learn/lesson-plans

EXPLORE MORE ART/STEAM ACTIVITIES

WITH THESE ENRICHMENT SOLUTIONS

BrickLAB Magic Beans brings fairy tales to life through thrilling STEAM, language arts and collaborative communication activities. Designed with a focus on arts integration, each of the 12, one-hour lessons challenges hands-on creativity as students work together to build the characters and stage props needed to act out unique folktales.

Traveling Artist: Survey the history of art by experimenting with the artistic traditions of the world. Whether you're carving totem poles in the Pacific Northwest or crafting Aztec masks in the heart of Mexico, get ready to take creative thinking and cultural awareness head-on by examining the STEAM processes that make art possible. Developed with the help of local artists, Traveling Artist embodies STEAM learning at it's finest with a multi-subject exploration and reflection of the world's cultures.

Drone Designers: Drones are transforming the world of arts and entertainment, performing alongside artists as diverse as Metallica, Drake and Cirque du Soleil. Follow in the footsteps of the world's groundbreaking drone designers, weaving together the engineering design process and principles of aerodynamics as learners collaborate to costume, choreograph and code tiny aerial robots in creative performances. Use your imagination, problem-solve and explore STEAM careers through the innovative ways drones are being used for good!

Learn more at https://edventures.com/collections

REFERENCES

firstpalette.com (2020). Cube Template. Retrieved March 1, 2020 from https://www.firstpalette.com/pdf/pyramid.pdf

firstpalette.com (2020). Square Pyramid Template. Retrieved March 1, 2020 from https://www.firstpalette.com/pdf/cube.pdf