

Subject: TAG

Grade: K-2nd

Note: TAG instruction occurs one day a week for each student. These plans are meant to replace the time that would be spent on core learning activities (reading, ELA/writing, math, social studies/science) for that one day each week. Students should still complete activities for specials classes (art, music, PE) on their TAG day.

Week 8

Standard	Science Standard: S1L1. Obtain, evaluate, and communicate information about the basic needs of plants and animals. c. Design a solution to ensure that a plant or animal has all of its needs met. TAG Creative Thinking & Creative Problem-Solving Skills Standard: Gifted students will develop and practice creative thinking and creative problem-solving skills with a variety of complex topics within an area of study in order to generate original ideas and products. 3. Incorporates brainstorming and other idea-generating techniques (synectics, SCAMPER, etc.) to solve problems or create new products. 4. Demonstrates skills in fluency and flexibility to solve problems or create new products. 5. Develops original ideas, presentations, or products through synthesis and evaluation.
Brief Description	Students will learn about the Kelp Forest and the Coral Reef habitats. They will read about the similarities and differences between the two habitats. They will use their creativity to imagine that the sea otter has decided to move from the kelp forest community to the coral reef community. Then they will use the SCAMPER technique to modify the sea otter so that it can survive and live in the coral reef community.

Student Directions

1. Complete the Creative Thinking Warm-Up.
2. Read the Background Information on Kelp Forests, Coral Reefs, and Sea Otters.
3. Complete the SCAMPER activity and SCAMPER project.
4. If possible, ask your parents to take a picture of your work with their phone and e-mail it to your TAG teacher.

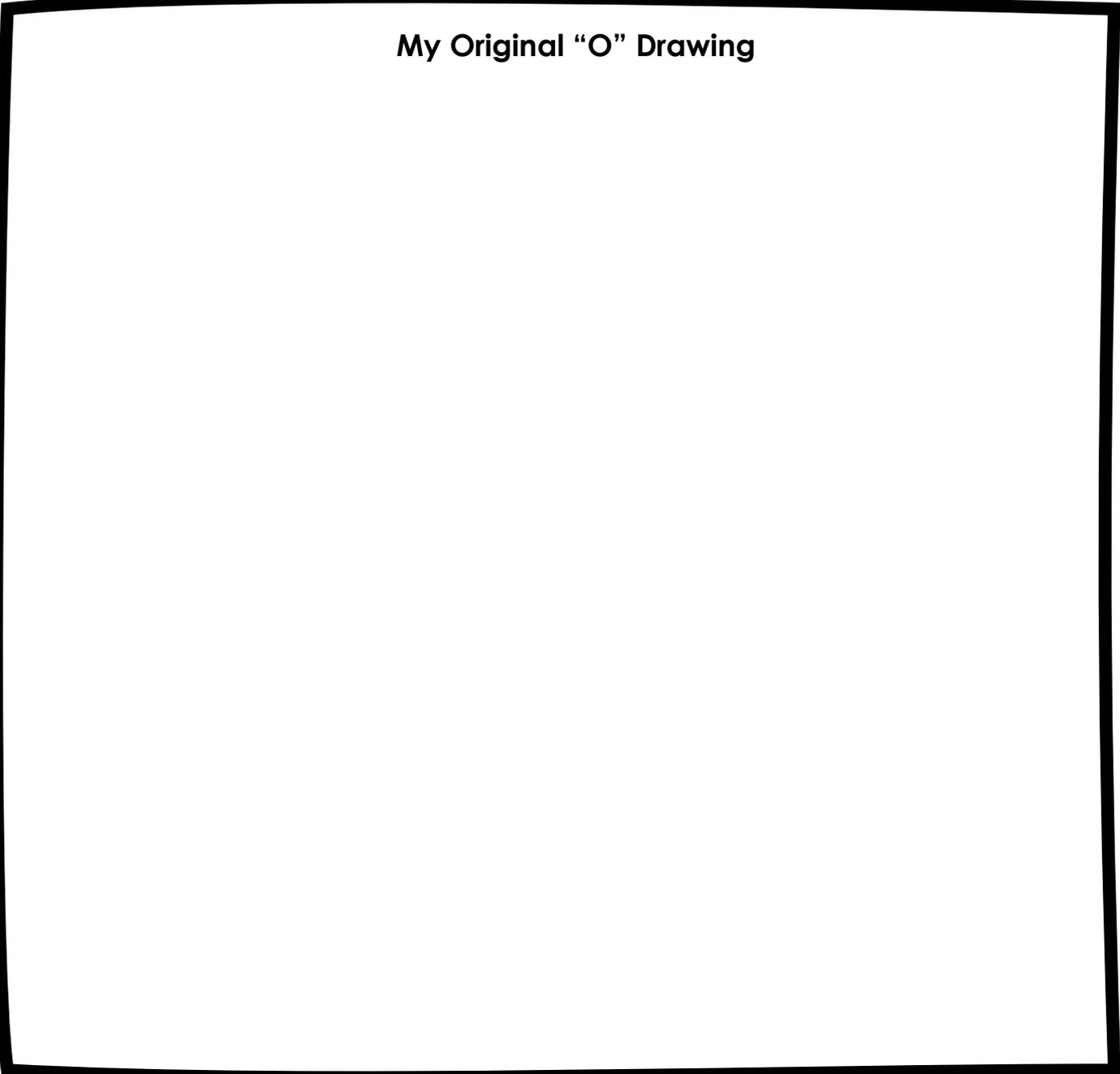
Creative Thinking Warm-Up

Be Original with the letter O! Draw a picture of something using only ovals, circles or "O's".

For example, you could draw a picture of a face using only circles. (There could be circle eyes, circle nostrils, a circle mouth etc.)

What else could you draw using only O shapes? Remember to be original and try to think of something no one else will think of!

My Original "O" Drawing



Background Information

	Kelp Forest	Coral Reef
Location in the world's oceans	Kelp forests grow mainly on the Pacific Coast from Alaska to Canada.	Coral reefs are located all around the world in warm, tropical oceans near the equator.
Water Temperature	Kelp forests grow best in cool water, around 50-60°F.	Coral reefs grow best in warm water, around 70-80°F.
Types of plant and animal life	Kelp forests are made up of seaweed called the Giant Kelp which grows from the rocky ocean floor all the way up to the waves on the surface. Giant Kelp is one of the world's fastest growing plants. It can grow up to 300 feet in a year. It provides shelter for many animals such as sea urchins, snails, and fish. Sea otters spend time playing at the top of the kelp forest on the surface of the water, and swim down to the forest floor to look for food. Sea birds also spend time in the top layer to hunt for fish.	Tiny animals called coral polyps grow on the reef. They live in large groups and come in many different colors. Many animals in the ocean use coral reefs to swim and hide in. Clownfish, parrot fish, crabs, clams, sea anemone, sea urchins, jellyfish, and sponges all can be found in coral reefs.

Sea Otters

Average weight:

Males: about 70-90 pounds

Females: about 40-60 pounds

Average height: 4 ½ feet

Average lifespan: 15 to 20 years

Sea otters have small front legs and stiff toes for handling food, while strong back legs with webbed feet allow for graceful paddling through the water. Because the mismatch gives them a clumsy walk on land, sea otters rarely stray too far from the sea.

Unlike some marine mammals, sea otters rely on thick fur instead of blubber to keep warm in the icy waters of the Pacific Ocean. Sea

otter fur has about 1.6 to 2.6 million hairs per square centimeter, the thickest fur of any animal in the world. A good part of a sea otter's day is spent cleaning itself, because matted or clogged fur doesn't trap enough heat.

Sea otters are hungry animals. In a normal day they'll eat one quarter of their body weight by feasting on sea urchins, crabs, clams, mussels and octopuses. To get food, a sea otter may hammer open shellfish with small rocks or dive over 100 meters into the murky ocean depths. When it has something to eat, an otter rolls onto its back in the water and places the food on its chest to savor it bite by bite.

Source: <https://www.canadiangeographic.ca/article/animal-facts-sea-otter>

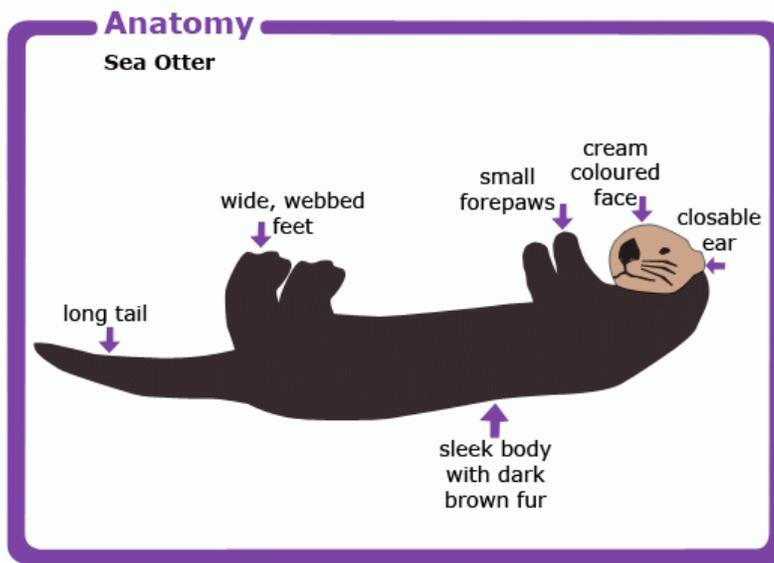
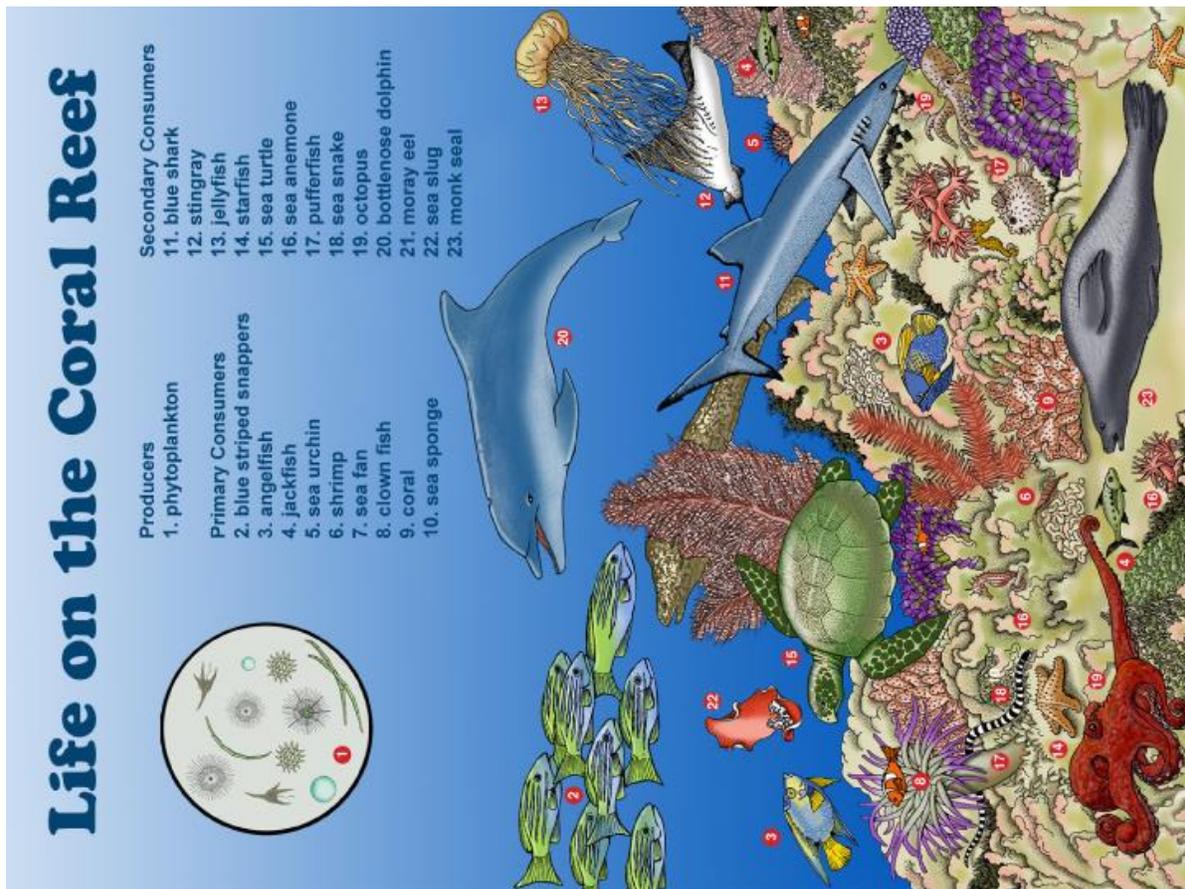
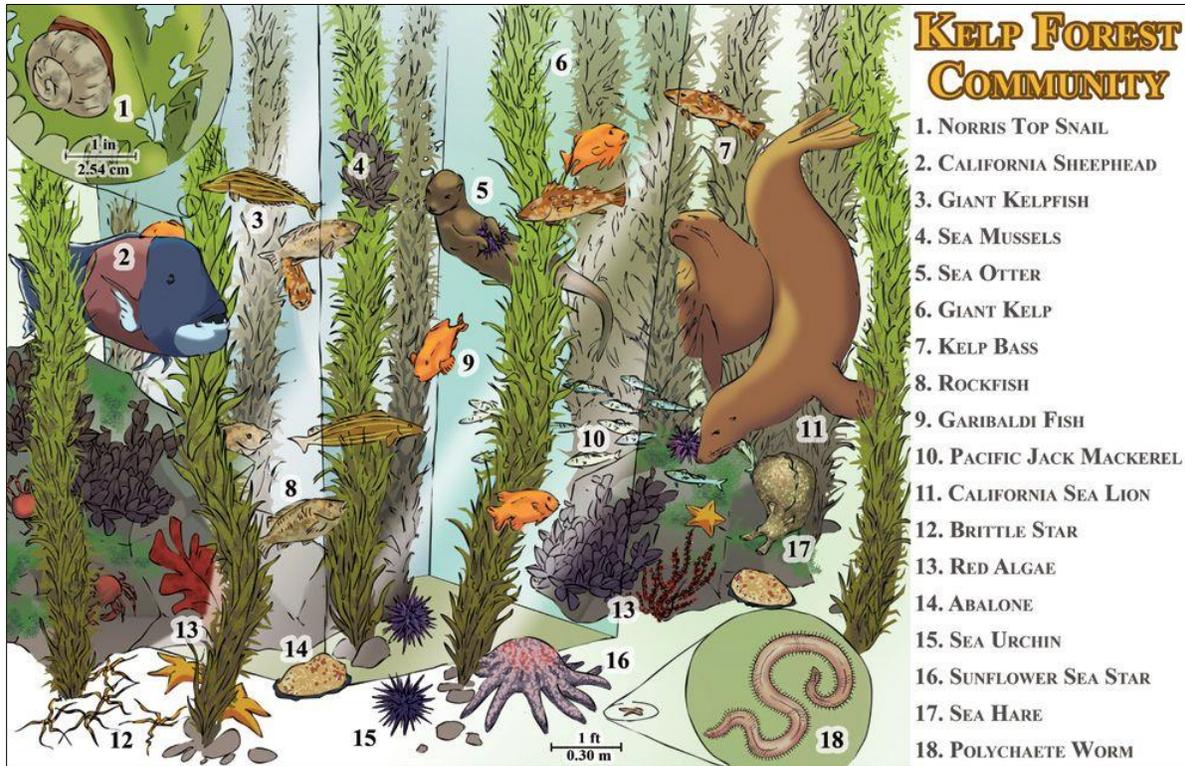


ILLUSTRATION BY SHERYL RAFUSE

Background Information (Continued)



Images Sources:

<https://i1.wp.com/blog.education.nationalgeographic.org/wp-content/uploads/2017/11/kelp-forest-labeled.jpg?ssl=1>

https://www.exploringnature.org/graphics/biomes/coral%20reef_color_text.jpg

SCAMPER Activity

Directions: The sea otter has decided to move from the kelp forest community to the coral reef community. SCAMPER the sea otter so that it may survive in its new home!

S	Substitute What will the sea otter look like if I put a fish face on it?	
C	Combine Think of a new name to describe the sea otter now!	
A	Adapt What characteristic or part of the sea otter should I change?	
M	Modify What happens if I enlarge the sea otter or make it smaller?	
P	Put to other purposes What can I have the sea otter do differently?	
E	Eliminate What happens if its fur is removed?	
R	Rearrange Where in the coral reef will the sea otter live?	

SCAMPER Project

Directions: Use a blank piece of paper to draw a picture of your new animal in its new habitat. Label each change you made during the SCAMPER on the drawing. Need a challenge? Try to make a "pop-up" picture. Use extra pieces of paper and fold them to make them 3D and come off the page. Don't forget to add color to your work.