

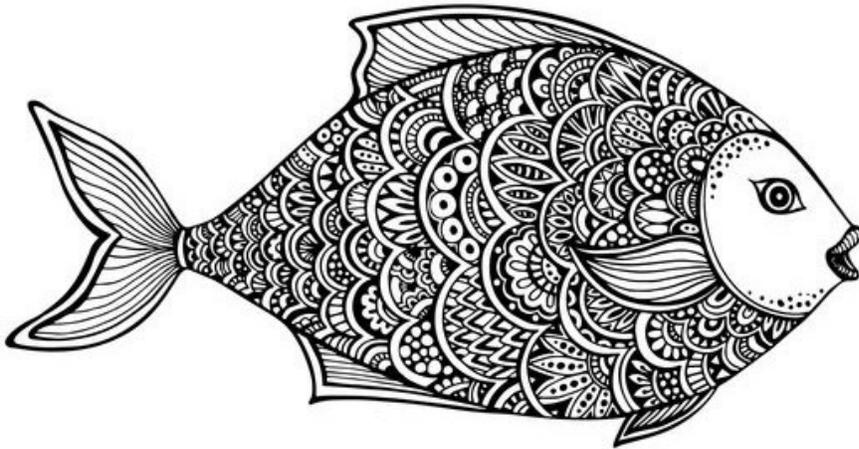
River of Words

MUSINGS ON THE
PORT ROYAL SOUND
THROUGH
ART AND POETRY



NATIVE
FISH & FOODCHAINS
WITH

*Line &
Pattern*



Produced by Alana Adams
Arts Center of Coastal Carolina

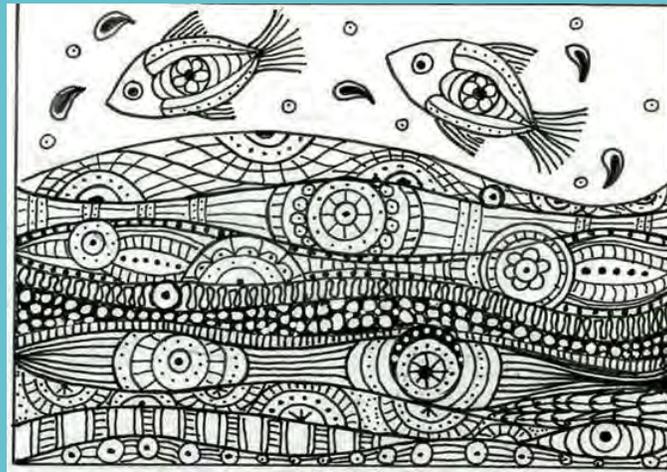


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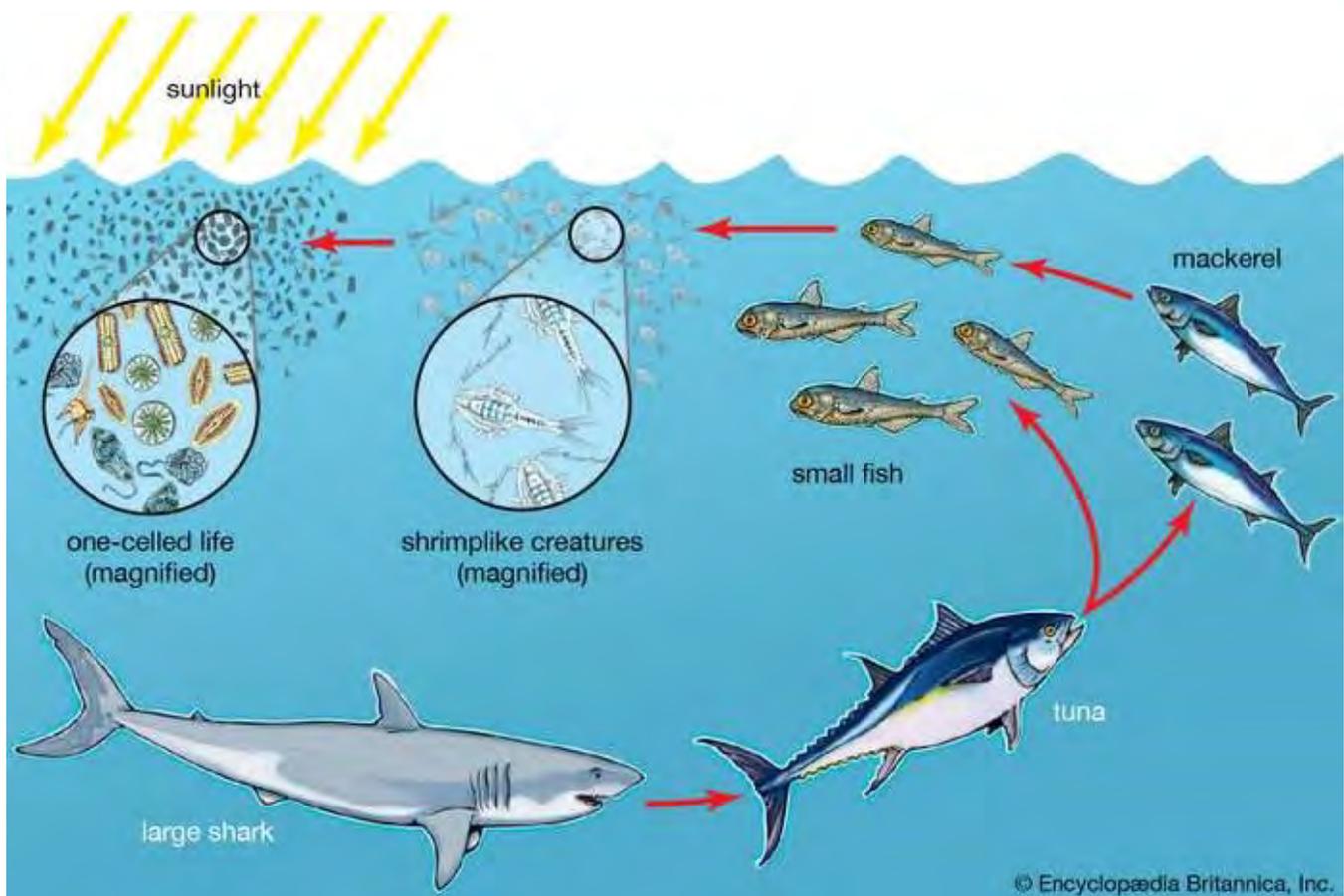
APPENDIX

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Lesson Overview

In this lesson students will learn about the food chains in our unique ecosystem, then will use the Zentangle method to depict fanciful fauna from the Lowcountry watershed by using **repetition, line and pattern**.

Using the resources in the APPENDIX as a guide, students should begin by learning about the variety of fish we have in our watershed and how they rely on each other for survival in an intricate food chain. While a watershed consists of all of the NATURAL saltwater and freshwater in a region, our watershed is primarily saltwater or “brackish” water, which is a combination of fresh and salt waters.

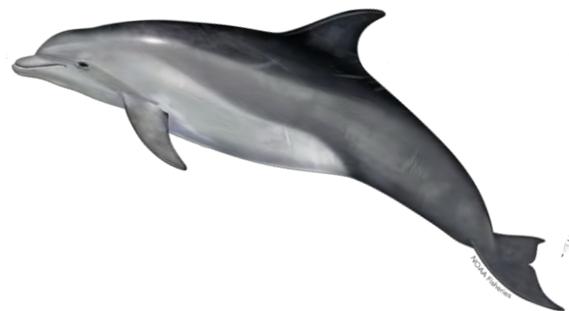
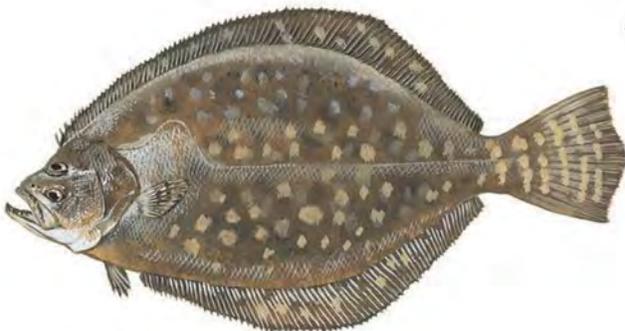


Lesson Prep

Prior to the art lesson, students should choose a native fish to research and find out where that fish is in the food chain, including what it eats, and what eats it! Students should fill out the worksheet on the following page to demonstrate their understanding, then find a photograph of their native fish to use as inspiration for the art project.

This 90 page document is a great resource and has photographs that identify the characteristics of all of the saltwater fish of SC.

www.dnr.sc.gov/pubs/SaltwaterFishID.pdf



An Ocean Food Chain

The relations between plants and animals make up the many different food chains.

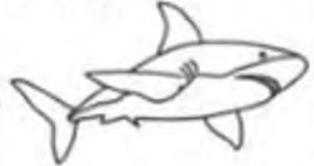
Producers



Herbivores



Carnivore



The algae is food for some small fish, small fish are food for big fish.

Producers:

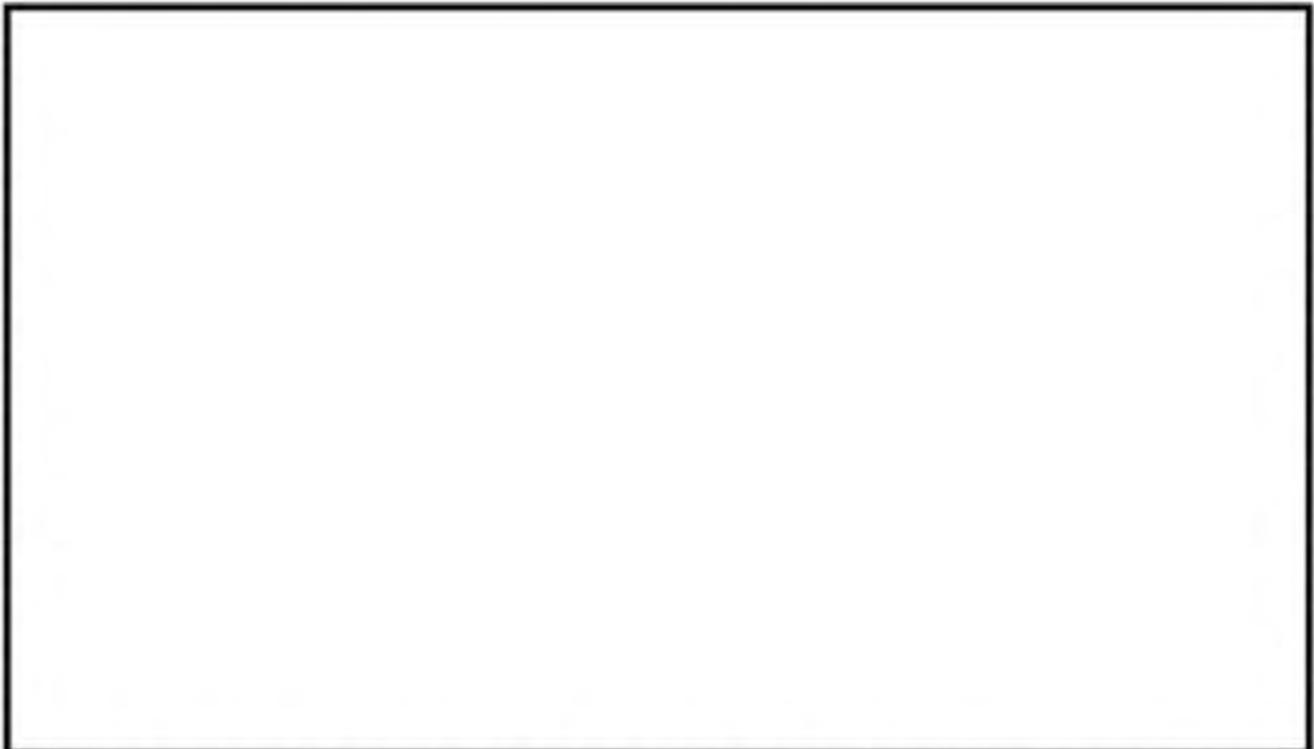
Plants are producers, they produce their own food and get energy from the sun.

Herbivores: Herbivores only eat plants.

Carnivores: Carnivores only eat meat.

Omnivores: Omnivores eat meat and plants.

Draw and label an aquatic food chain that includes your native fish.

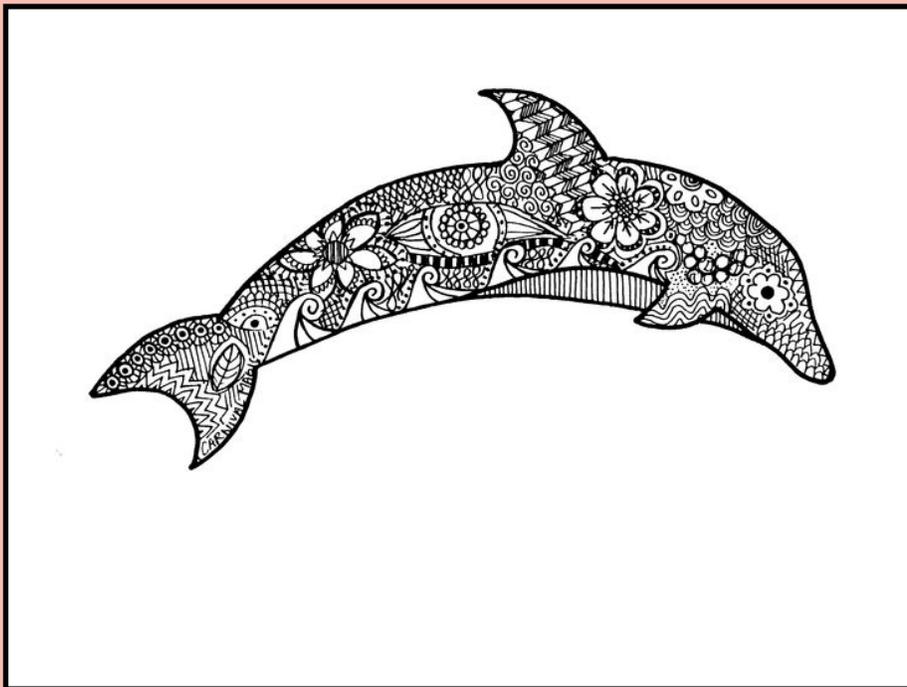


Exploring Line and Pattern:

ZENTANGLE

Zentangle is a form of **artistic meditation** through a very specific Method of deliberate intention that produces non-objective drawings composed of patterns (tangles) that can be viewed from all four sides.

In this lesson, students will begin with an outline of a native fish species, then will use this freeform method to fill the space with line and shape with a black pen.

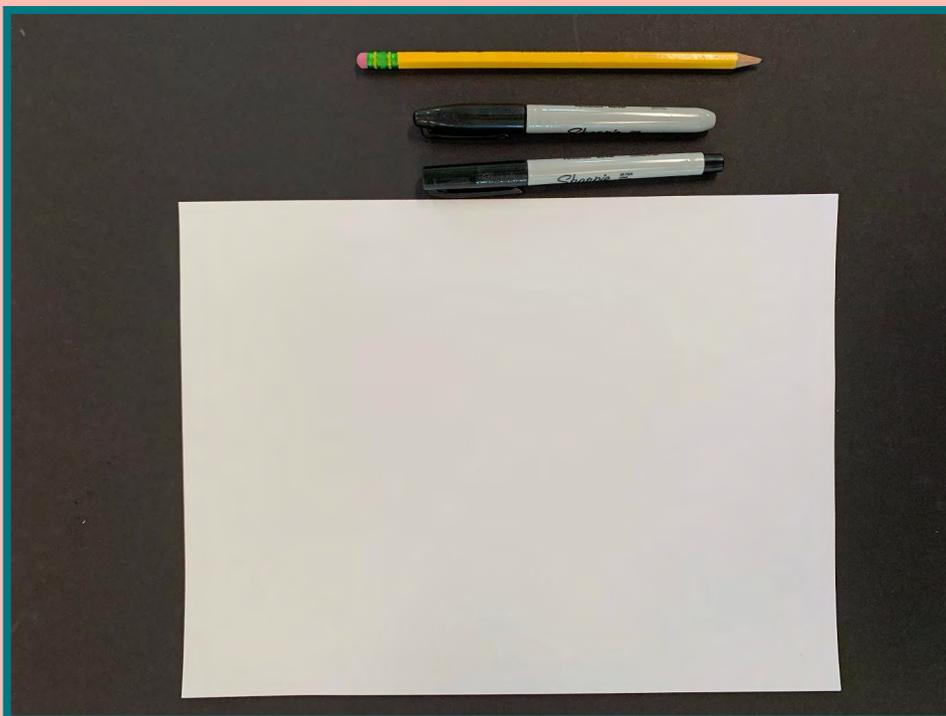


MATERIALS

One of the great things about Zentangle art is the minimal list of supplies! All you need to begin is:

- 9 x 12 Paper
- Pencil
- Black pen (Fine tip Sharpies work great!)
- Printouts of sample Zentangle designs
- Zentangle Practice Sheet

You may want to experiment with black pens with different tips and optionally, may choose to color in the design after drawing it. You could use colored pencils, markers, or even watercolor if your art paper is heavy enough.

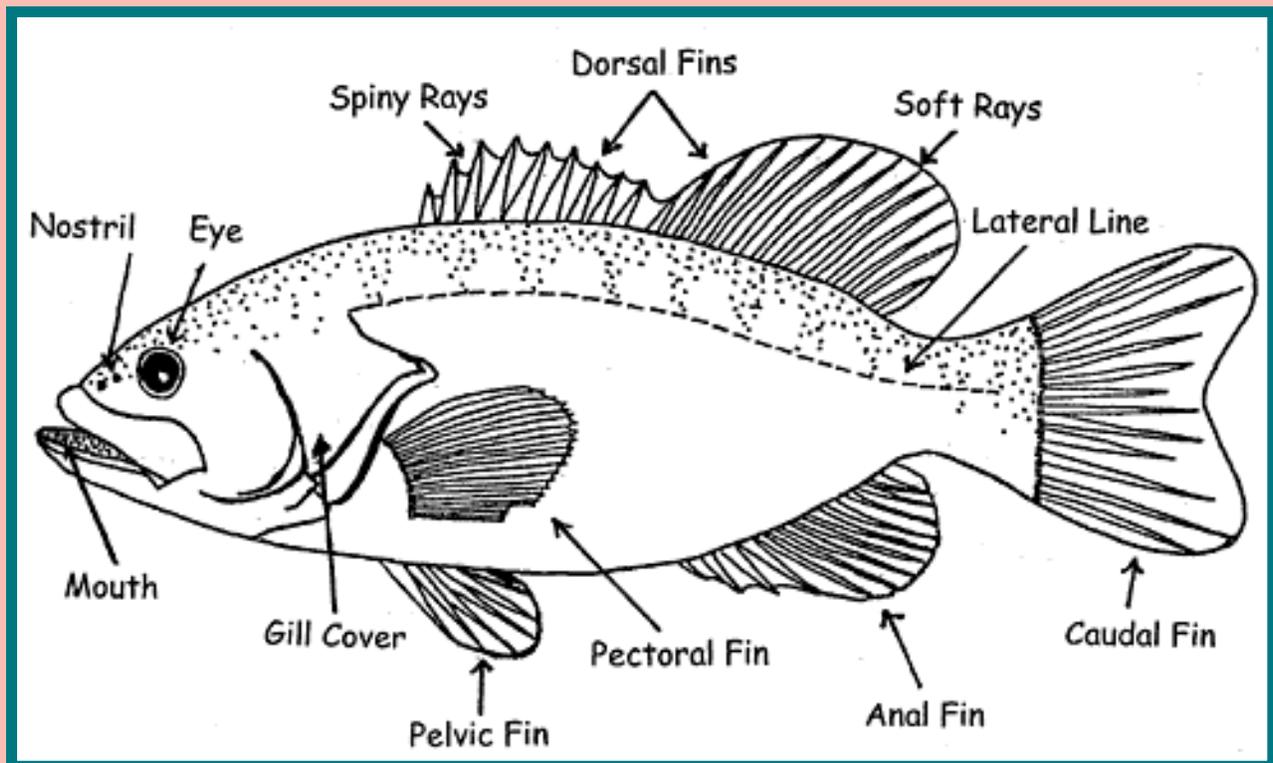


PROCEDURES

DAY 1

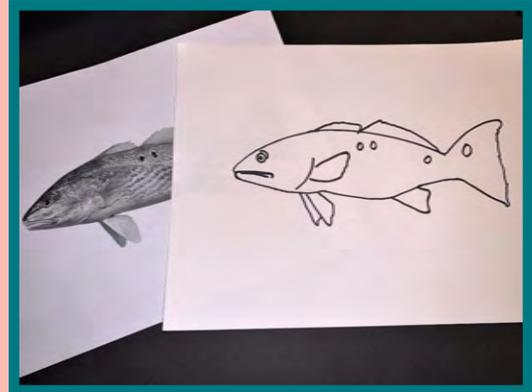
STEP 1: Using the chosen fish photograph as a reference, students will sketch their fish species on the white drawing paper. The sketch should be large, filling most of the page. This will create lots of spaces for the Zentangle line art later. **DO NOT** include textures such as scales. **DO INCLUDE** lines that refer to the placement and proportion of the fins, tail, eyes, gills, etc.

While all fish have the same basic body parts, what distinguished them is the proportion, spacing, and size of the different parts. Some fish have a very small tail, some have an exaggerated lower mouth part, some have large anal fins, etc.



PROCEDURES (cont.)

STEP 2: Use a black marker or pen to outline the fish drawing.



DAY 2

STEP 1: Now for the fun part! Introduce Zentangle! Zentangle designs are created by using repetition and lots of **ORGANIC** lines! Organic means the lines are curvy, like the ones found in nature. Have students examine the samples on the following page then **try out 8 designs that they would like to use on their fish**. Can you identify the following elements and principles of art in the tangles?





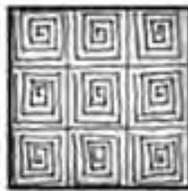
Afterglo



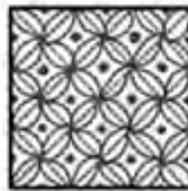
Ahh



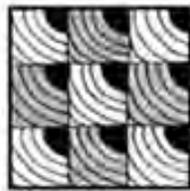
Arrowheads



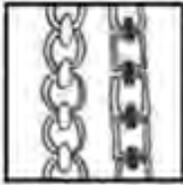
Ambler



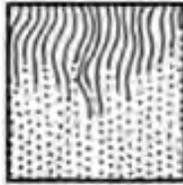
Bales



Beelight



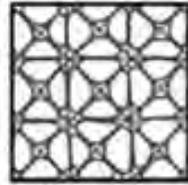
Linked



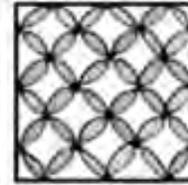
MSST



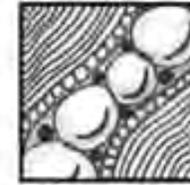
Munchin



Nzeppel



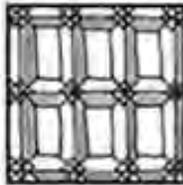
Netting



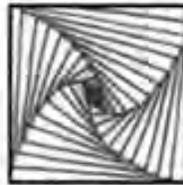
Onomato



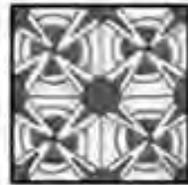
Opus



Pane



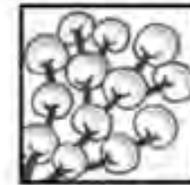
Paradox



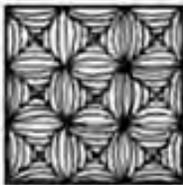
Pina



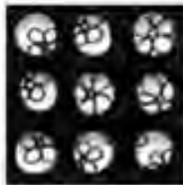
Pokeleaf



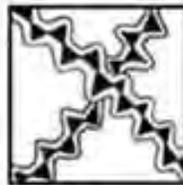
Pokeroot



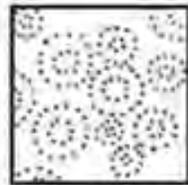
Puf



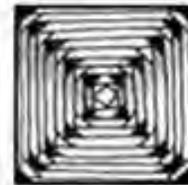
Punch



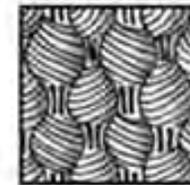
Rain



Raindotty



Rosewood



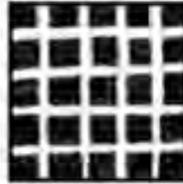
Scrumble



SEZ



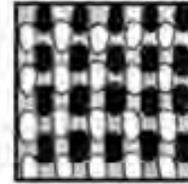
Shattuck



Squares



Squid



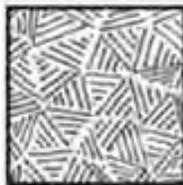
Stacks



Striping



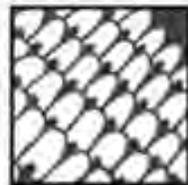
Stripples



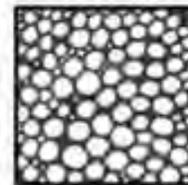
Swarm



Swirls



Tagh



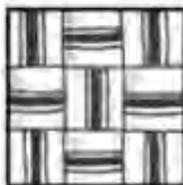
Tipple



Twisted Rope



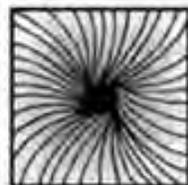
Unyun



Up and Across



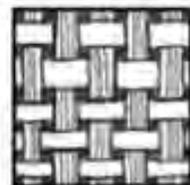
Verdigogh



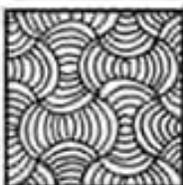
Vortex



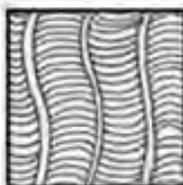
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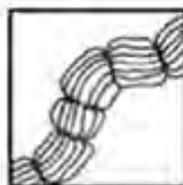
Weave 2



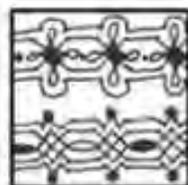
Warped Eggs



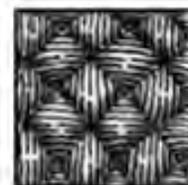
Waves



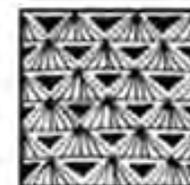
Worms



XYP



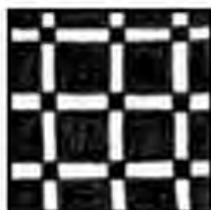
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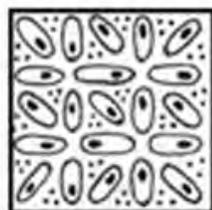
ZIN



Beeline



Black box



Black eyed peas



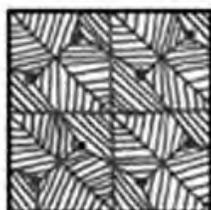
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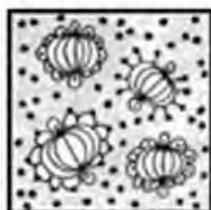
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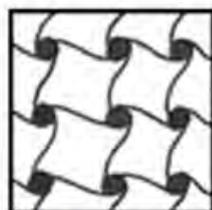
Btl Joos



Bucky



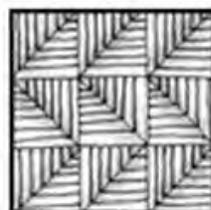
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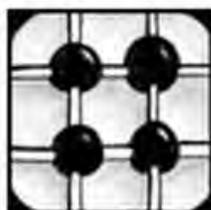
Cadent



Centrifuge



Chard



Chemystery



Corner Box



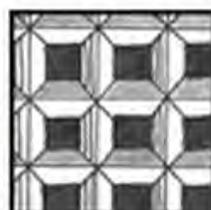
Cubine



Cyme



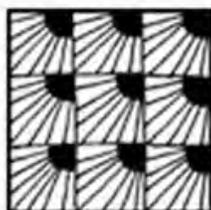
Daggerly



Dex



Labyrinth



DL Sunray



Drupe



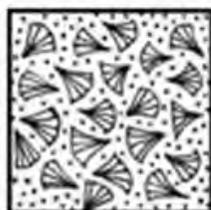
Efyls



Ennies



Eye-Wa



Fans



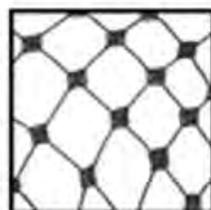
Feathers



Fescu



Finery



Florz



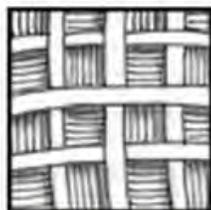
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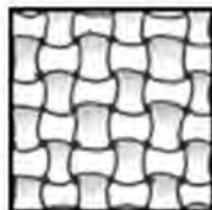
Flutter Tile



Hybrid



Hollibaugh



Huggins



Hurikan



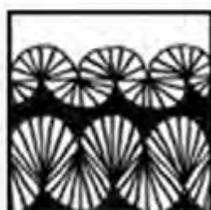
Hurry



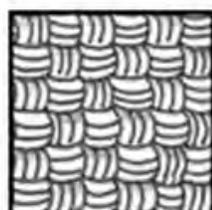
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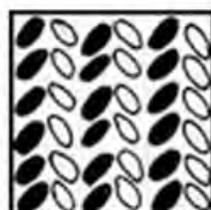
Jonqal



Kandysnake



Keeko



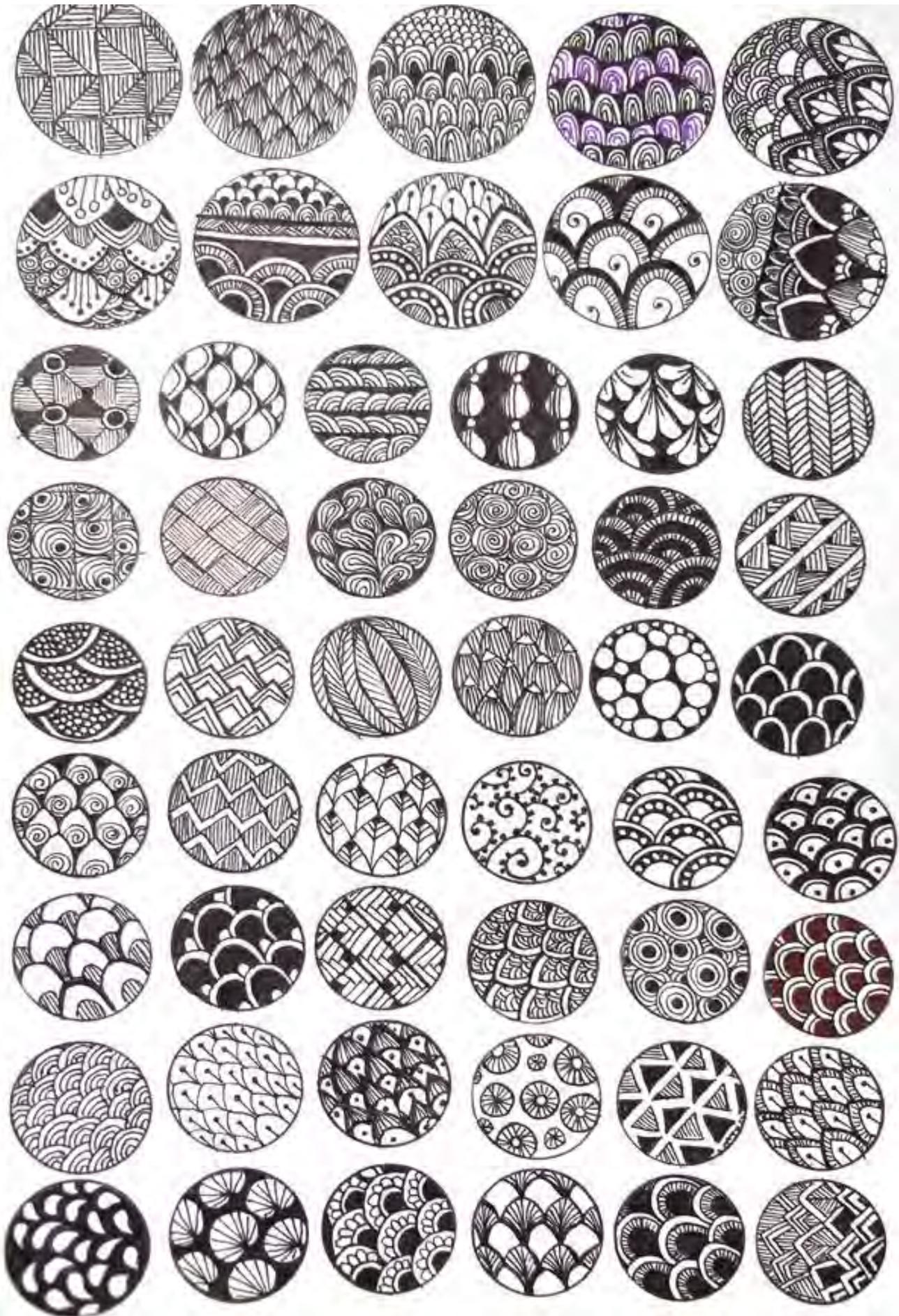
Knitting



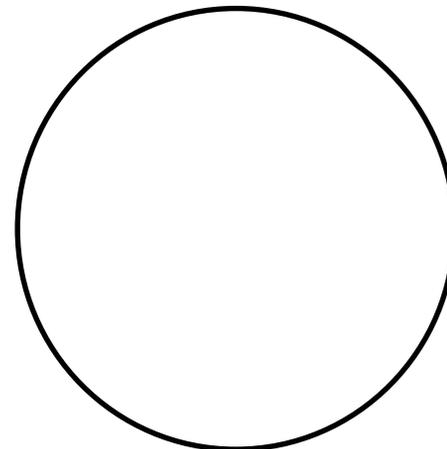
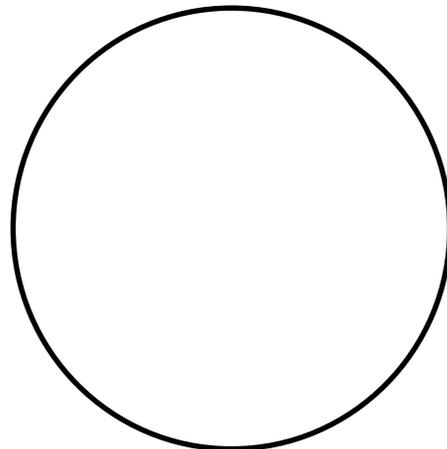
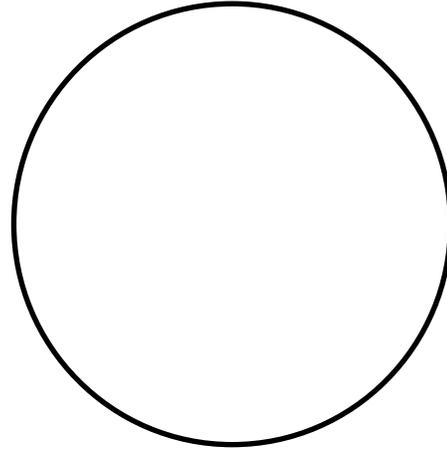
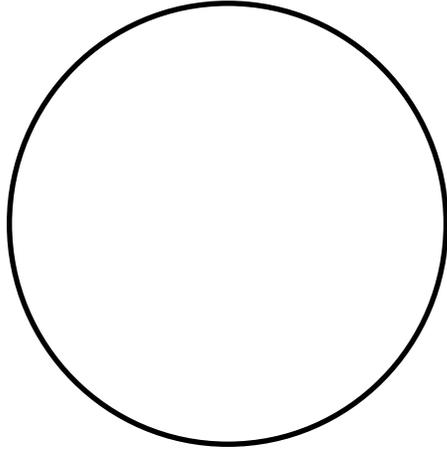
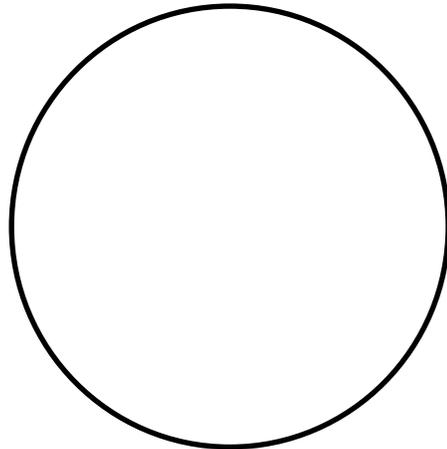
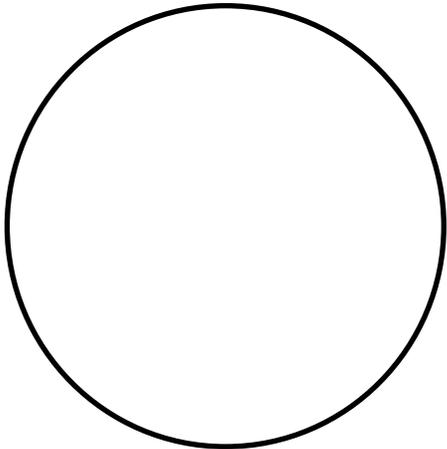
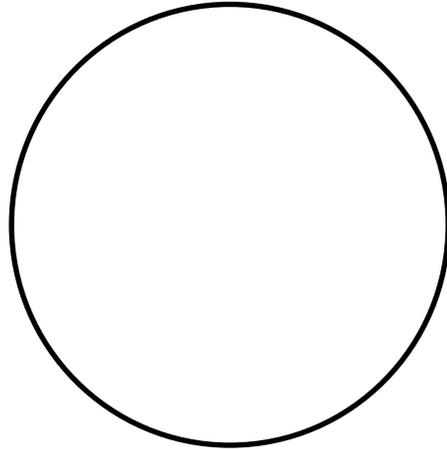
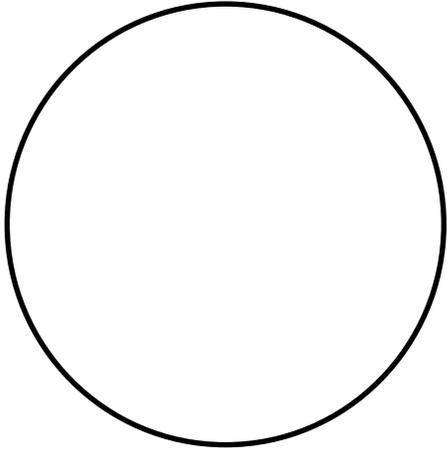
Laced



Lightning Bolt

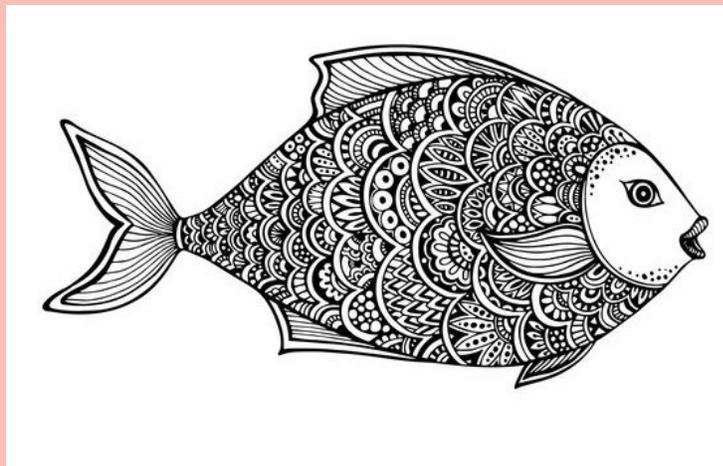
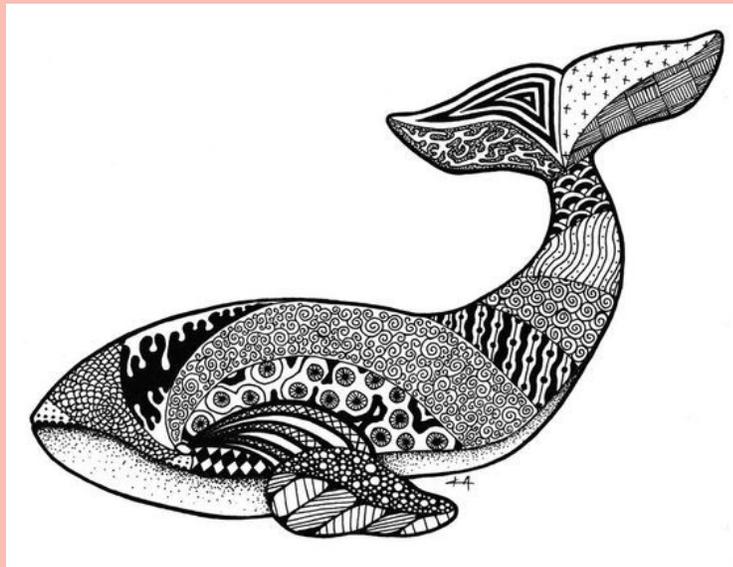


ZENTANGLE PRACTICE

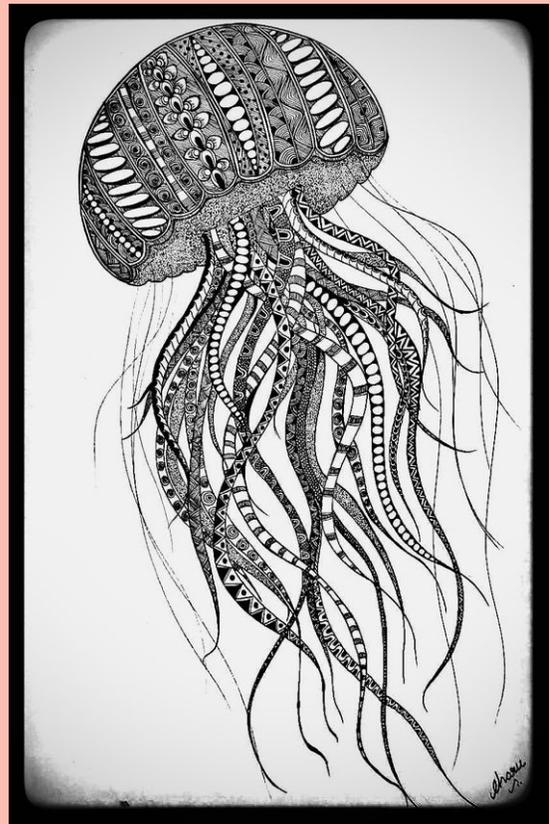
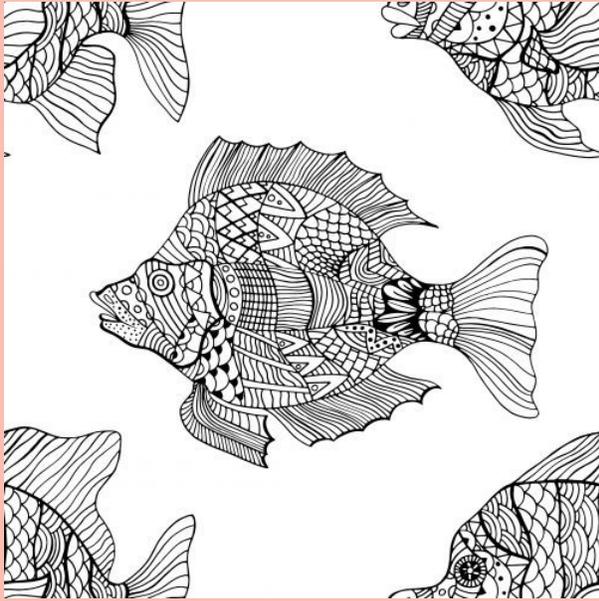


DAY 2 PROCEDURES (cont.)

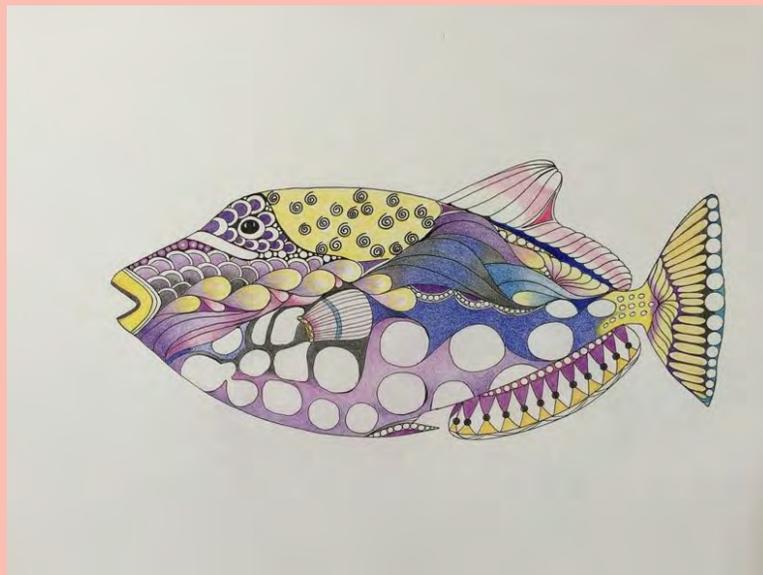
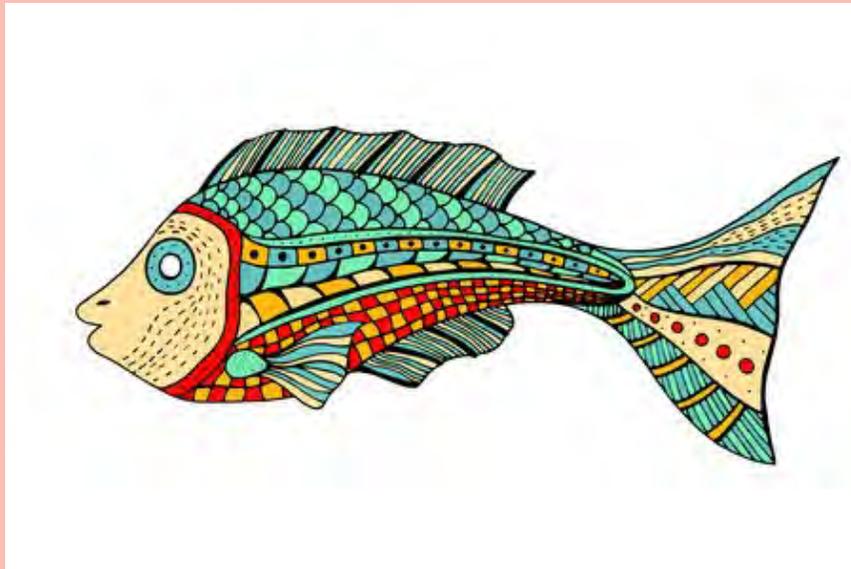
STEP 2: Once students have chosen 8 Zentangle designs and practiced them, they should fill their fish with the designs using black pens or thin markers. While Zentangle designs are generally only black and white you may optionally choose to color them in with watercolor, markers, or colored pencils.



SAMPLES



SAMPLES



SAMPLES



CURRICULUM CONNECTIONS

Visual Resources:

<https://www.dnr.sc.gov/wildlife/fishspecies.html>

Coastal Discovery Museum Online Resources Habitats
(Beach, Freshwater pond, salt marsh, maritime forest)

<https://www.coastaldiscovery.org/home/discover-and-learn/school-programs/>

SCDNR Virtual Field Trips

<https://www.dnr.sc.gov/marine/discovery/programs.html>

SC Aquarium Virtual Field Trips

Virtual Field Trips - South Carolina Aquarium (scaquarium.org)

REFERENCES

www.britannica.com/science/food-chain

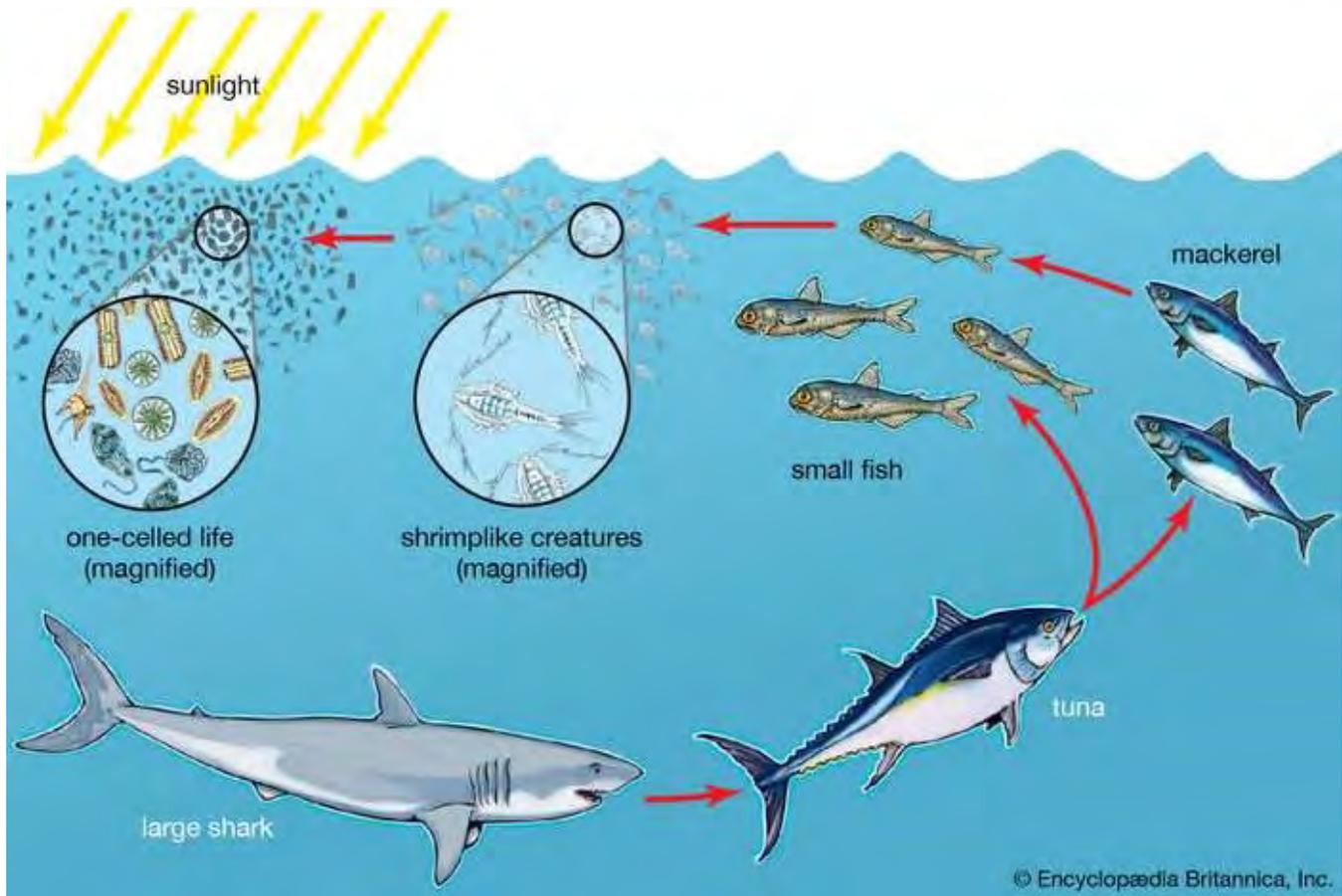
Portroyalsoundfoundation.com

www.dnr.sc.gov/pubs/SaltwaterFishID.pdf

Dnr.sc.gov

APPENDIX

What is a food chain?



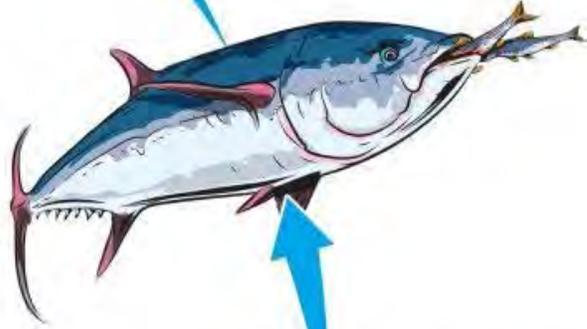
A food chain, in ecology, is the sequence of **transfers of matter and energy** in the form of **food** from organism to organism. Food chains intertwine locally into a **food web** because most organisms consume more than one type of animal or plant.

Plants, which convert solar energy to food by photosynthesis, are the primary food source. In a predator chain, a plant-eating animal is eaten by a flesh-eating animal. In a parasite chain, a smaller organism consumes part of a larger host and may itself be parasitized by even smaller organisms. In a saprophytic chain, microorganisms live on dead organic matter.

**QUATERNARY
CONSUMERS**



**TERTIARY
CONSUMERS**



**SECONDARY
CONSUMERS**



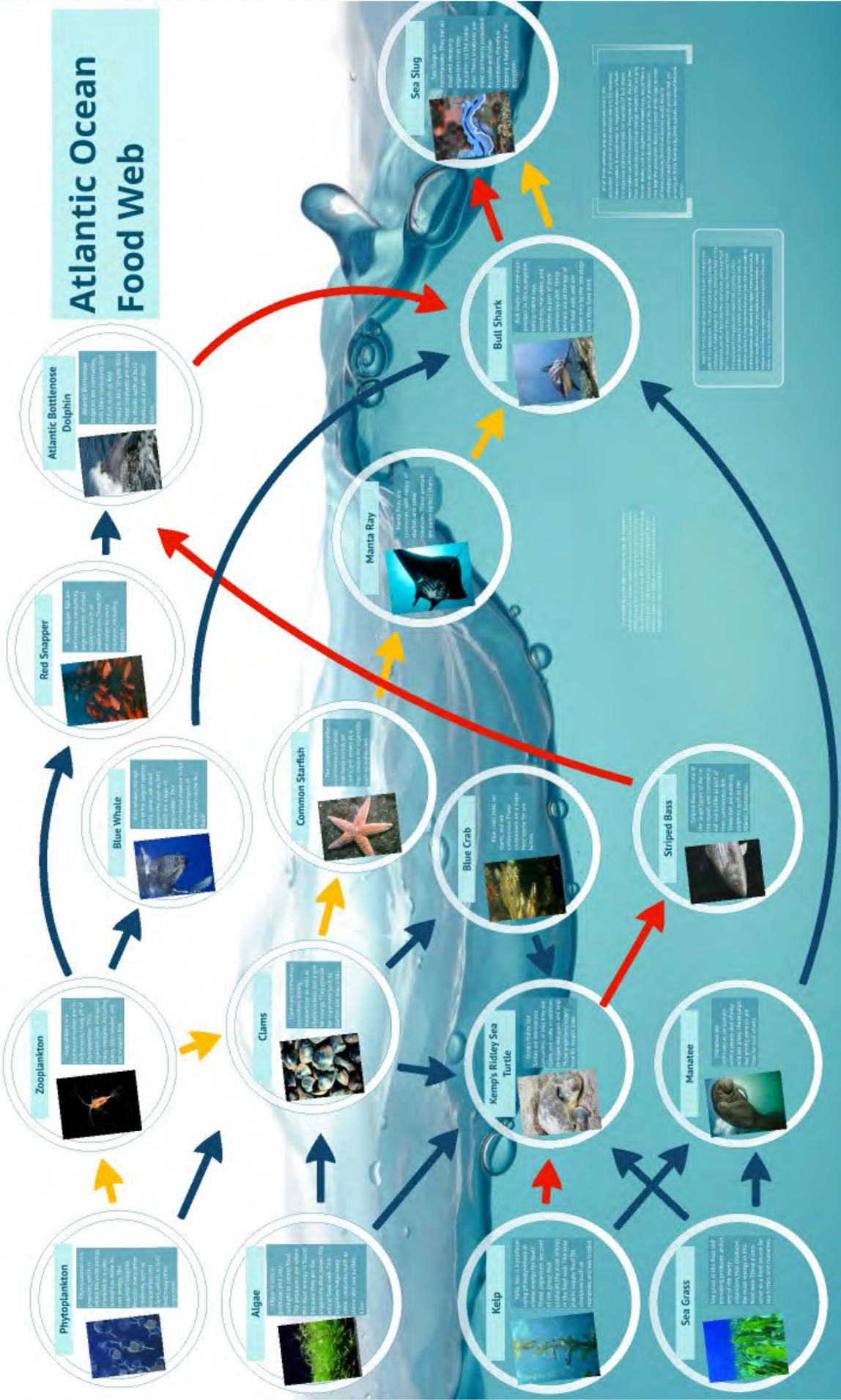
**PRIMARY
CONSUMERS**



**PRIMARY
PRODUCERS**



Atlantic Ocean Food Web





South Carolina

www.dnr.sc.gov/aquaticed email: aquaticed@dnr.sc.gov



Saffish

Blue Marlin



White Marlin



King Mackerel



Dolphin



Wahoo



Weakfish



Blacktip Shark



Great Barracuda



Spanish Mackerel



Ladyfish



Atlantic Croaker



Spotted Seatrout



Black Drum



Tarpon



Greater Amberjack



Knobbed Porgy



Atlantic Spatfish



Bluetfish



Florida Pompano



Red Drum



Atlantic Sharpnose



Tiger Shark



Little Tunny



Pinfish



Pigfish



Crevalle Jack



Silver Perch



Spot



Tripletail



Shortfin Mako



Blackfin Tuna



Red Porgy



White Grunt



Gray Triggerfish



Vermilion Snapper



Silk Snapper



Gray Snapper



Scalloped Hammerhead



Skipjack Tuna



Soup



Sheepshead



Warsaw Grouper



Cobia



Red Snapper



Gray Snapper



Bluefin Tuna



Hogfish



Black Sea Bass



Gag



Northern Puffer



Kingfish



Smooth Dogfish



Atlantic Bonito



Scamp



Striped Bass



Speckled Hina



Oyster Toadfish



Southern Flounder



Yellowfin Tuna



Stingray



Saltwater Fishes

NATIVE FISH COMMON TO THE LOWCOUNTRY WATERSHED



Skate



Bonnethead Shark

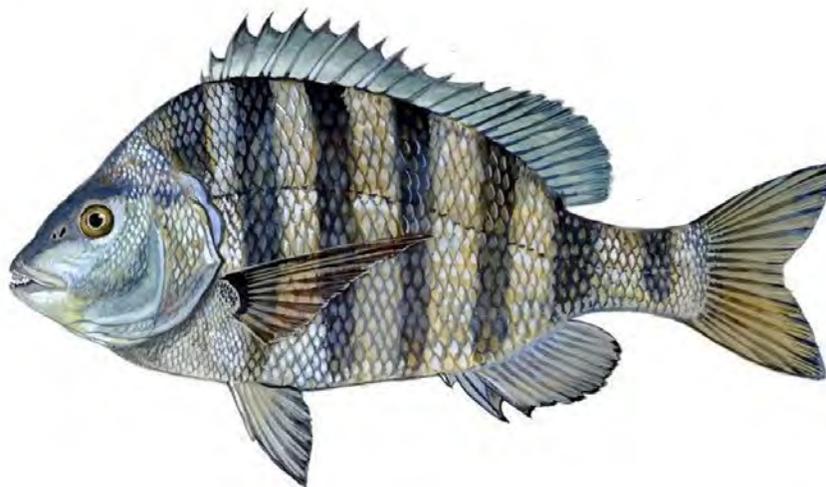


Croaker

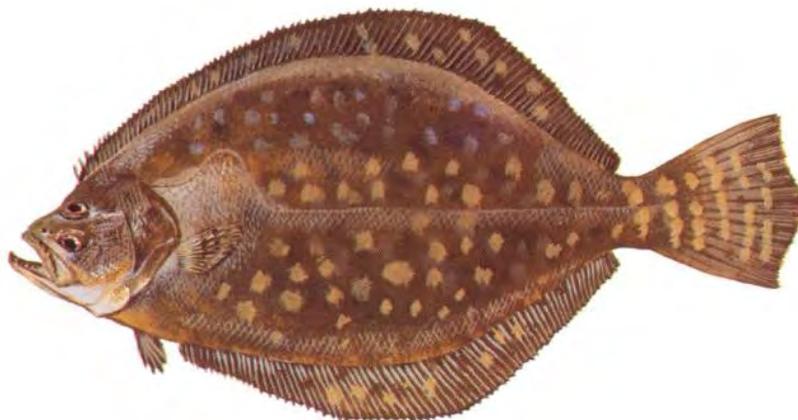
NATIVE FISH COMMON TO THE LOWCOUNTRY WATERSHED



Redfish



Sheepshead



Flounder