#### **Educational Activity**

Grade Level: Pre-K - Grade 1

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#### **Ocean Literacy Standards:**

**#5:** The ocean supports a great diversity of life and ecosystems

The purpose of this hands-on educational activity is to introduce students to the blue crab. Through two creative activities students will learn the basic anatomy and the function of each body part. Parents or teachers can encourage students to compare blue crabs to humans, highlighting the differences between vertebrates and invertebrates.

#### **KEY CONCEPTS**

- Basic anatomy of a blue crab
- Blue crab body versus human body
- Counting, identifying and describing things
- Vertebrate versus invertebrate

<sup>\*</sup>some of the following activities require adult supervision

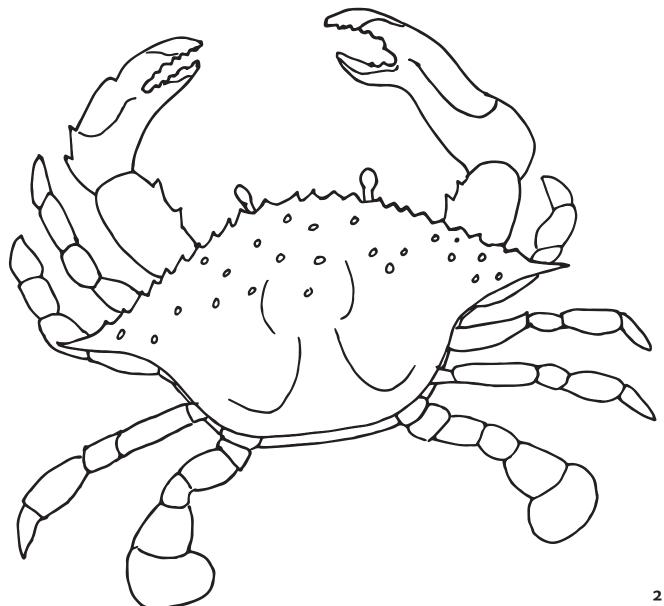


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#### Part 1: Identify blue crab body parts.

- 1. Blue crabs have 10 legs. Can you count them?
- 2. Can you find the crab's claws? Color them blue for a male crab or red for a **female**.
- 3. Find the crab's eyes. Fun fact! Blue crabs have their eyes on stalks. They can move them separately while looking around and find things to hide under.
- 4. Which legs do you think this crab uses to walk? Which legs do you think this crab uses to swim?



#### Part 2: Make your own crab costume!

Here's the game. On the count of three pretend like you have lost all of your bones. One...two...three...no bones! Sorry! All of your bones are gone. What should you do?...

#### FOLLOW THESE STEPS TO TURN YOURSELF INTO A BLUE CRAB.

#### **Materials Needed:**

- · Cardboard box or hard plastic bin
- 2 oven mitts
- · Six long socks
- Stuffing to fill socks ~3/4 full
   (alternatives: cotton balls, newspaper, plastic bags)
- Colander

   (alternative: helmet)
- 2 Pipe cleaners (alternatives: wires, bendy straws)
- Glue

- Velcro

   (alternative: tape)
- Scissors or cutting tool strong enough to cut through cardboard or plastic bin
- ~2 feet of string (alternatives: yarn, shoe lace)
- · Old pair of sunglasses
- Ruler
- Sequins

#### **Step 1: Create your exoskeleton**

Cut a circular hole with an 8" radius in the bottom of your cardboard box (or plastic bin). This will be the hole for your crab's head so make size adjustments if needed. Cut a total of two circular holes (~8" radius each) on opposite sides of the bin/box. Make sure they are only about two inches from the bottom on the bin. These holes will be for your arms so make adjustments as needed. See image below of the finished exoskeleton.



The head region of the crab also needs a protective exoskeleton. Attach about a foot of string to the colander as a chin strap (see picture below). Attach each pipe cleaner to the bottom of the colander (twisting them through the drainage holes) pointing outward. These are the two antennae of the crab so make sure the pipe cleaners are evenly spaced. Now the protection for the head region of your crab is complete!



#### Step two: Make your legs

Grab all six of your socks and stuff them about 3/4ths of the way full with your stuffing material. Tie off the end of the sock in a simple knot. Attach a piece of Velcro to the toe of each sock. Evenly place each sock on the sides of the bin/box underneath where the arm holes are cut (3 pieces of Velcro per side). Attach your six crab legs to the bin/box via the Velcro strips.





#### **Step three:** Make your eyes

Glue sequins onto each lens of the sunglasses to imitate the look of a crab's compound eyes. If you do not have sequins on hand, do not fret! Cut small circular pieces of aluminum foil and glue these homemade sequins onto your sunglasses.



#### Step four: Assemble your crab costume!

Put on your exoskeleton (body region and head region), attach your crab legs, and put your sunglasses on! The final step is putting on your oven mitts, which serve as your claws! Voila!



#### **Crabby Definitions**

A helpful cheat sheet for parents

**Exoskeleton:** Hard outer skeleton, made out of chitin, that provides structure and protection for crabs among other invertebrates. As crabs grow they will molt or shed their old exoskeleton before their new, larger exoskeleton fully hardens.

**Claws:** Two specialized appendages used for protection and grabbing food. These are represented by oven mitts in the costume.

**Swimmerets:** Two specialized appendages used for swimming in all directions in the water. In the blue crab costume, these are your child's human legs.

**Walking legs:** Six jointed/segmented appendages used to walk across the ocean floor. The six legs that you made out of socks are your child's walking crab legs.

**Carapace:** Part of the exoskeleton, specifically over the back of the crab.

**Antennae:** Two sensory organs that crabs use to sense and feel their surroundings.

**Compound eyes:** An eye composed of many visual units, normally seen in crustaceans and insects. Imagine looking through a kaleidoscope – that is similar to how a blue crab sees.

**Cephalothorax:** The fused head and thorax, distinct from the abdomen. Blue crabs have a very broad cephalothorax and a compact abdomen. In this activity, the cephalothorax can be considered the head and majority of the body region.

**Invertebrate:** An animal that is lacking a backbone. Most invertebrates use a shell or exoskeleton to provide needed protection and structure. Examples: blue crab, whelk, oyster.

**Vertebrate:** An animal that has a backbone or spinal column. Examples: human, turtle, fish.

### **PART 1 ANSWER KEY**

- 1. Legs numbered in image below.
- 2. Claws labeled in **green** below.
- 3. Crab eyes circled in **red** below.
- 4. Walking and swimming legs labeled in blue.

Six walking legs! These six legs help blue crabs to walk on the ocean floor. The six legs you made for your crab costume correspond with these.

Two crab claws! These specialized legs
are used for defense and grabbing food.

7

8

4

10

10

Two swimming legs! These specialized legs are called swimmerets. They help blue crabs swim efficiently left, right, forwards, and backwards. Your human legs were your swimmerets in the crab costume.