

# Plan a Super Cephalopod Family STEAM Night

Science Friday has many exciting <u>educational resources</u> featuring hands-on activities, interesting investigations, and exciting science projects that are perfect for any educational setting. It's a cephalo-palooza of science, technology, engineering, and math. So if you have a squid squad ready for adventure, we have just the right project for you. These activities are great after-school on their own, combined for a Family STEAM Night, or shared at a special weekend event.

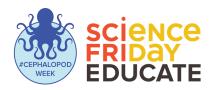
Here's a list of free STEAM resources, by age group:

#### All ages

- Make A Squid Print: Grab a squid, explore its amazing features, make your own squid print, and use math to determine the diameter of a giant squid eye. (15 minutes to 1 hour).
- High Pressure in the Deep Ocean: Pressure is a huge challenge for deep ocean explorers. Learn how pressure changes with depth and explore its effects on compressible solids in this series of experiments, demonstrations, and real-life data collected aboard the E/V Nautilus. (15 minutes to 1 hour)
- Looking For Life In The Deep Ocean: An Engineering Challenge: How would you look for life in the deepest, darkest parts of the ocean? Get ready to investigate and invent as you prepare to search the seas with this all-ages activity. (60 to 90 minutes)

## • Ages 5-10 (grades K-5)

- Cephalopod Camouflage: A Beauty That's Skin Deep: It's a rock, it's seaweed, it's an...octopus? Using this hands-on activity, learn how crafty cephalopods are well adapted to hide in an ocean full of predators (1 to 2 hours).
- How Does an Octopus Change Its Body to Blend In With Its Environment?: Learn
  about four different characteristics to describe camouflage—texture, shape, color,
  and size—and create your own uniquely shaped, textured, colored, and sized
  "octopus" using clay (1 to 2 hours).



<u>Capture The Iridescence Of Camouflaging Cephalopod Skin</u>: Explore the deep,
 color-changing iridophore and leucophore layers of cephalopod skin to see how
 they use light to camouflage themselves (1 to 2 days).

## • Ages 11-13 (grades 6-8)

- Model The Texture-Changing Structures of Cuttlefish Skin: Papillae: Learn how cephalopods use papillae on their skin to blend into their surroundings and try it yourself using balloons (15 minutes to 1 hour).
- <u>Jet-Setting Cephalopods</u>: The most common type of locomotion used by cephalopods is jet propulsion. Can you engineer a system that mimics the speed of a squid? (15 minutes to 1 hour).

### Ages 14 and up (grades 9 and up)

- How Big Was This Squid?: We know giant squid exist, but seeing them in their natural habitat is incredibly difficult. Use a 3D model to work like a scientist and find the mantle length and mass of the giant Humboldt squid (15 minutes to 1 hour).
- ROVs: The Swiss Army Knife Of The Ocean: These versatile machines keep deep sea explorers above water where it's safer, but is operating an ROV really just like operating a big remote control car? (1 to 2 hours)

Do you need help adapting a resource for a different age group or shorter time frame? Send a note to <a href="mailto:educate@sciencefriday.com">educate@sciencefriday.com</a>. We're here to help!