Plan a Super Cephalopod Family STEAM Night

Science Friday has many exciting educational resources 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).*

- Capture The Iridescence Of Camouflaging Cephalopod Skin: 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)*.
  - Jet-Setting Cephalopods: 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 educate@sciencefriday.com. We're here to help!