Ocean Expert Exchange - Educator Resources

TOPIC – *Octopus Fieldwork: Behavior to Bacteria*

FEATURED EXPERT - *Dr. Chelsea Bennice of Florida Atlantic University & OctoNation*

TARGETED LEARNING STANDARDS:

ELEMENTARY SCHOOL NGSSS:

SC.K.N.1.5: Recognize that learning can come from careful observation.

SC.K-1.N.1.3: Keep records as appropriate - such as pictorial and written records - of investigations conducted.

SC.3.N.1.3: Keep records ... such as pictorial, written, or simple charts and graphs, of investigations conducted.

SC.4.N.1.8: Recognize that science involves creativity in designing experiments.

SC.5.L.17.1: Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics.

MIDDLE SCHOOL NGSSS:

SC.7.L.17.3: Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.

SC.7.N.1.3: Distinguish between an experiment and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.

SC.7.N.1.5: Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.

SC.8.N.1.6: Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions...

HIGH SCHOOL NGSSS:

SC.912.L.17.6: Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.

SC.912.N.1.6: Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

SC.912.N.1.7: Recognize the role of creativity in constructing scientific questions, methods and explanations.

SUPPLEMENTAL RESOURCES:

- Video Short - Schoolyard Films Octopus - Superhero of the Sea (Grades K-12)
- 360 Fieldtrip - Jenny Adler immersed: Dr. Chelsea Bennice (Grades K-12)
- Video Short & Supporting Resources - South Florida PBS *Wild Kratts:* Octopus Power! (Grades K-2)
- Video Short & Supporting Resources - TEDEd Why the octopus brain is so extraordinary (Grades 2-12)
- Video Short & Supporting Resources - South Florida PBS *NOVA scienceNOW*: The Cephalopod Brain (Grades 6-12)
- Video - South Florida Public Broadcasting Service *Changing Seas*: Beneath the Bridge (Grades 4-12)
- Documentary - The Sea Change Project (Netflix) My Octopus Teacher (Grades K-12)
- Reading - ScienceNews*for*Students Touching allows octopuses to pre-taste their food (Middle-High School)
- Reading - Scientific American The Mind of an Octopus (High School)
- Activities - OctoNation Kids OCTO-MANIA: An Octopus Extravaganza Activity Book (Grades K-4)
- Lesson - NYLearns ECSDM Octopus Lesson Plan (Grades K-4)
- Lesson - NOAA FGB Marine Sanctuary Adaptations from the Depths: Octopus (Grades 3-5)
- Lesson - Cardinal Stritch University Camouflage Science Lesson: Octopus and Friends (Grades 3-6)
- Lesson - CPALMS The Amazing Octopus (Grades 11 & 12)
- Reference - OctoNation Octopedia (Grades 4-12)