

DOLPHIN RESEARCH CENTER

Distance Learning: Energy for Everyone

Energy for Everyone introduces students to the wonderful world of dolphins and how energy is an important part of nature.

Grade Levels: 1-5

Program Description:

Students will participate in an interactive studio based program with Dolphin Research Center Staff to learn about how dolphins and how energy exists in their environment. At the end, students have the opportunity to ask a dolphin expert questions about dolphins while also learning how they can lessen their impact on the marine environment. All webinars include a live instructor interaction with video clips from all around our beautiful Florida Keys facility.

Concepts Addressed:

- Students will:
 - All Grades:
 - Be able to explain what energy is.
 - Describe some of the common forms of energy.
 - Discuss some of the ways in which dolphins use energy, including:
 - Sunlight as part of the food chain.
 - Sound production and echolocation.
 - Discussion on some of the ways in which people use energy.
 - Investigate how technology uses energy.
 - Discuss sources of energy.
 - Examine conservation issues facing marine animals including:
 - Sound from shipping and drilling
 - Oil Spills
 - Discuss ways in which individuals can make a difference in protecting and saving marine life, including:
 - 3 R's
 - Energy Conservation

Program Format:

- This is a studio based program. Students will be able to interact with an educator in our studio as well as see pre-recorded video from around our facility.
- The program will begin with introduction of the instructor and an explanation of where Dolphin Research Center is located.
- We will provide a brief overview of the Dolphin Research Center family (dolphins and sea lions)
- The instructor and students will discuss what energy is and what some of those forms of energy are.
- The students and instructor will brainstorm the ways that people and dolphins use energy.



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- The instructor will share how light energy plays an important role in the world of dolphins.
- The students and instructor will discuss how sound energy is important to dolphins, with an emphasis on echolocation, communication through sound and noise pollution.
- The students and instructor will brainstorm the different ways in which humans use energy and where it comes from.
- The students and instructor will brainstorm different ways in which students can be more energy aware and work to conserve energy in their lives.
- Students will have the opportunity to ask questions.

Program Logistics

Program Length: 45-60 minutes

Minimum # of participants: 1

Maximum # of participants: For groups over 100 please contact us

Program Cost: \$95.00 (CILC premium members: \$85)

- Discounts may be available for bulk programming

Program Fee Notes: Payment of associated fees must be received 72 hours before the program date. If payment is not received by this time the program is subject to cancellation.

Cancellation Policy: We will not charge for programs canceled due to nature i.e. snow days. The full fee will be charged to sites which cancel with less than 48 hours notice. Payment is due 72 hours before the program. If payment is not received by this time the program is subject to cancellation. Dolphin Research Center reserves the right to cancel programs at anytime. If Dolphin Research Center cancels a program than it will contact the requester to discuss rescheduling options. If a program does not occur because of an error in communication between the requester and Dolphin Research Center, requesters will still be charged the full price of the programs. Sites need to participate in a tech run with Dolphin Research Center staff members. This will be scheduled to occur prior to your program date. If the tech run does not occur the full fee will be charged to sites that cannot connect at program time.

Program Delivery Mode: Google Hangouts, ZOOM, CILC One-Click-Connect (for H323)

Recording of any type during a Dolphin Research Center distance learning program is prohibited.



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Standards

Florida

Florida Next Generation Science Standards met or supported:

- **SC.1.L.17.1** Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.
- **SC.2.P.10.1** Discuss that people use electricity or other forms of energy to cook their food, cool or warm their homes, and power their cars.
- **SC.2.L.17.1** Compare and contrast the basic needs that all living things, including humans, have for survival.
- **SC.3.P.10.1** Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.
- **SC.3.L.17.2** Recognize that plants use energy from the Sun, air, and water to make their own food.
- **SC.4.P.10.1** Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.
- **SC.4.P.10.3** Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates.
- **SC.4.L.17.2** Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.
- **SC.4.L.17.3** Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers.
- **SC.4.L.17.4** Recognize ways plants and animals, including humans, can impact the environment.
- **SC.5.P.10.1** Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.

Language Arts Florida Standards met or supported:

- **LAFS.1.SL.1.1** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. C. Ask questions.



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- **LAFS.2.SL.1.1** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others' talk in conversations by linking their comments to the remarks of others. C. Ask for clarification and further explanation as needed about the topics and texts under discussion.
- **LAFS.3.SL.1.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 *topics and texts*, building on others' ideas and expressing their own clearly. A. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. B. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). C. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. D. Explain their own ideas and understanding in light of the discussion.
- **LAFS.4.SL.1.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 *topics and texts*, building on others' ideas and expressing their own clearly. A. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. B. Follow agreed-upon rules for discussions and carry out assigned roles. C. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. D. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
- **LAFS.5.SL.1.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. A. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. B. Follow agreed-upon rules for discussions and carry out assigned roles. C. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. D. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

National

Next Generation Science Standards met or supported:

- **K-LS1-1.** Use observations to describe patterns of what plants and animals (including humans) need to survive.



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- **K-ESS3-3.** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
- **1-PS4-1.** Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
- **4-PS3-2.** Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
- **4-ESS3-1.** Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
- **5-PS3-1.** Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.
- **5-ESS3-1.** Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Common Core for English Language Arts met or supported:

- **CCSS.ELA-Literacy.SL.1.1** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. C. Ask questions to clear up any confusion about the topics and texts under discussion.
- **CCSS.ELA-Literacy.SL.2.1** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others' talk in conversations by linking their comments to the remarks of others. C. Ask for clarification and further explanation as needed about the topics and texts under discussion.
- **CCSS.ELA-Literacy.SL.3.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. A. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. B. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). C. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. D. Explain their own ideas and understanding in light of the discussion.



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- **CCSS.ELA-Literacy.SL.5.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. A. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. B. Follow agreed-upon rules for discussions and carry out assigned roles. C. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. D. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

Ocean Literacy Principles

- **5A** Ocean life ranges in size from the smallest living things, microbes, to the largest animal on Earth, blue whales.
- **5D** Ocean biology provides many unique examples of life cycles, adaptations, and important relationships among organisms (symbiosis, predator-prey dynamics, and energy transfer) that do not occur on land.
- **6D** Humans affect the ocean in a variety of ways. Laws, regulations, and resource management affect what is taken out and put into the ocean. Human development and activity leads to pollution (point source, nonpoint source, and noise pollution), changes to ocean chemistry (ocean acidification), and physical modifications (changes to beaches, shores, and rivers). In addition, humans have removed most of the large vertebrates from the ocean.
- **6G** Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live in ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all.

Recommended Materials and Preparation

