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Primary Type: Student Tutorial

Lesson 23 Video: MEA Researching Sea Turtle Nesting Temperatures

In this video Sam-1 introduces a Model Eliciting Activity (MEA) challenge. Students will take their prior experiences from the properties unit and apply their knowledge of investigating sea turtle nesting temperatures.

Students will develop a hypothesis, design an experiment, and support their reasoning to determine how to best study different methods for cooling sea turtle nesting areas.

Attachments

Accessible Version: Accessible version of thevideo content in PDF format.

General Information

Subject(s): Science, Mathematics, English Language Arts
Grade Level(s): 3
Intended Audience: Students

Keywords: MEA, model eliciting activity, properties, temperature, heat, hypothesis, data, SaM-1, sam, conservation center, engineering design process, sea turtles, nesting temperature, scientific, experiments, investigations, nesting, marine reptiles
Instructional Component Type(s): Original Student Tutorial

Resource Collection: CPALMS Physical Science with SaM-1 Videos

Source and Access Information

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Aligned Standards

Name	Description
	Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.3.N.1.1:	**Clarifications:** * Florida Standards Connections: 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. ** Florida Standards Connections: MAFS.K12.MP.1: Make sense of problems and persevere in solving them; and, MAFS.K12.MP.3: Construct viable arguments and critique the reasoning of others.
SC.3.N.1.3:	Keep records as appropriate, such as pictorial, written, or simple charts and graphs, of investigations conducted. **Clarifications:** ** Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically; and, MAFS.K12.MP.6: Attend to precision.
SC.3.N.1.7:	Explain that empirical evidence is information, such as observations or measurements, that is used to help validate explanations of natural phenomena. **Clarifications:** ** Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically.
SC.3.P.8.1:	Measure and compare temperatures of various samples of solids and liquids. **Clarifications:** ** Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically; and, MAFS.K12.MP.6: Attend to precision.
SC.3.P.10.1:	Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.
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.3.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. b. Develop the topic with facts, definitions, and details. c. Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information. d. Provide a concluding statement or section.
MAFS.3.MD.2.3:	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

Suggested Tutorials

Name	Description
Measure and Compare Temperatures:	Measure and compare temperatures of various things in this interactive tutorial. Then determine if temperature impacts the melting rate of ice cream.
Lesson 22 Video: MEA Animal Meal Planning Part 2:	In this video, SaM-1 introduces a part 2 twist to the Model Eliciting Activity (MEA). In the optional twist, students will need to modify their original diet for a senior chimpanzee. The first video provided meal planning information to add to the knowledge students gained throughout the unit to start the challenge.
Lesson 22 Video: MEA Animal Meal Planning:	In this video, SaM-1 introduces a Model Eliciting Activity (MEA) challenge for the students. This video provides meal planning information to add to the knowledge students gained throughout the unit. Students will be asked to develop a varied diet for a chimpanzee at the CPALMS Rehabilitation and Conservation Center based on the color, shape, texture, and hardness of the food. In the optional twist, students will need to modify their original diet for a senior chimpanzee. The optional twist also has a SaM-1 video to introduce the twist challenge.
Lesson 21 Video: MEA Entertaining Animals Part 2:	In this video, SaM-1 introduces a part 2 twist to the Model Eliciting Activity (MEA) challenge. In the optional twist, students will need to design a prototype toy suitable for a Florida panther with an injured leg. This first video provides background information on why and how animals need to be entertained.
Lesson 21 Video: MEA Entertaining Animals:	In this video, SaM-1 introduces a Model Eliciting Activity (MEA) challenge for the students. This video provides background information on why and how animals need to be entertained. Students will have the opportunity to apply what they learned about physical properties and measuring linear lengths as they are asked to design a prototype toy for Florida panthers housed at the CPALMS Rehabilitation and Conservation Center. In the optional twist, students will need to design a prototype toy suitable for a Florida panther with an injured leg. The optional twist also has a SaM-1 video to introduce the twist challenge.

Lesson 20 Video MEA Animal Habitats Part 2:	In this video, SaM-1 introduces a part 2 twist to the Model Eliciting Activity (MEA) challenge. In the first video, students were asked to design a habitat for an elephant or gorilla that will be housed at the CPALMS Rehabilitation and Conservation Center. In this twist, students will need to modify their design to accommodate a senior elephant or gorilla.
Lesson 20 Video: MEA Animal Habitats:	In this video, SaM-1 introduces a Model Eliciting Activity (MEA) challenge for the students. This video provides habitat information to help the students use the knowledge they gained throughout the unit. Students are asked to design a habitat for an elephant or gorilla that will be housed at the CPALMS Rehabilitation and Conservation Center. Students will need to describe the physical properties (color, shape, texture, hardness) of the features they selected for the habitat while explaining the rationale behind their design choices. In the optional twist, students will need to modify their design to accommodate a senior elephant or gorilla. The optional twist also has a SaM-1 video to introduce the twist challenge.
Lesson 17 Video: Sea Turtle Expert Interview :	In this SaM-1 video, students will use their listening and writing skills to watch a video to learn about the affects temperature has on sea turtles' nests, preparing them for an investigation in subsequent lessons within the unit.
Lesson 16 Video: Reading & Recording Temperature :	In this SaM-1 video, students will learn how to make observations based on the property of temperature using thermometers, while representing the data in line graphs.
Lesson 15 Video: Observing Sea Turtles:	In this SaM-1 video, students will use their listening and writing skills to learn about sea turtles, preparing them for subsequent lessons in the unit.
Lesson 13 Video: Introduction to Displacement :	In this SaM-1 Video, students will learn how to find the volume of irregular objects using a graduated cylinder and the displacement method.
Lesson 11 Video: Introduction to Volume:	In this SaM-1 video, students will learn how to use a graduated cylinder to make observations based on the volume of liquids.
Lessons 7-9 Video: Measuring Mass with Solids and Liquids:	Help SaM-1 make observations and sort items based on the mass of materials using an equal-arm balance. In this video, you will also become familiar with metric units for measuring mass: gram and kilogram.
A Camping We Will Go! Energy:	Learn how to identify explicit evidence and understand the meaning of heat, light and sound energy around the campfire in this interactive tutorial.
Bar Graph Jones and the Pyramid of Pi:	Learn to use the information presented in scaled bar graphs to solve one-step "how many more" and "how many fewer" problems.
Diving into Informative Writing:	Learn how to write a topic sentence to introduce a topic, group related information together, develop a topic by adding details, and add an image to support the text.