

Third Grade- Taming the Lionfish

<p>Standards Focus: *SS.3.06: Identify and locate the major continents and oceans using maps and globes. *SS.3.08: Identify major physical features of the world, including: Bodies of water</p>	<p>Other Integrated Standards: *3.LS4.3: Explain how changes to an environment’s biodiversity influence human resources. (Science) *3.ETS1.2: Apply evidence or research to support a design solution. (Science) *3.RI.CS.5: Use text features to locate information relevant to a given topic efficiently. (Reading) *3.MD.C.6: Measure areas by counting unit squares (square centimeters, square meters, square inches, square feet, and improvised units). (Math)</p> <p>Digital Resources: -National Geographic Kids Trailblazer Magazine Digital- March 2019 issue https://explorer-mag.nationalgeographic.org/trailblazer_march_2019/lions_on_the_loose -Map Maker Ocean Map https://mapmaker.nationalgeographic.org/g2dM5g037QL42VJeayApqt/ -“How Big is the Ocean” Lesson from One Ocean guide- Activity on page 13 https://www.nationalgeographic.org/media/one-ocean-teacher-guide/</p>												
<p>Career Focus: Marine Biologist- Use the video below to introduce this career: https://youtu.be/rThDFJFaRow</p>	<p>Materials Needed:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">*Blow-up globe</td> <td style="width: 25%;">*Chart Paper</td> <td style="width: 25%;">*Markers</td> <td style="width: 25%;">*Printed maps of</td> </tr> <tr> <td>invasion zone</td> <td></td> <td></td> <td></td> </tr> <tr> <td>*Device (one per group)</td> <td>*Grid paper</td> <td></td> <td></td> </tr> </table>	*Blow-up globe	*Chart Paper	*Markers	*Printed maps of	invasion zone				*Device (one per group)	*Grid paper		
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<p>Lesson: Introduce the Big Idea: -Begin lesson by gaining student interest by telling that that they will be marine biologists today. Introduce career with the marine biologist video. -Today they will be coming up with solutions to a major issue impacting our oceans. Review the names of the oceans on earth with class.</p> <p>Investigating “How Big is the Ocean”:</p>	<p>Vocabulary: -Impact -Marine Biologist</p>
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-Transition into the “How Big is the Ocean” activity on page 13 from the [One Ocean guide](#) by asking students how much land is on earth versus water. Complete the activity using the inflatable globe.

“Lions on the Loose”

-Inform students that they will begin investigating the issue through reading an article. Guide students to the article “Lions on the Loose” from [National Geographic Kids Trailblazer Magazine Digital- March 2019 issue](#). Ask students to record important information as they go through the article, information that can help guide them in solving the issue.

-After reading/listening to the article, work with students to create an information chart on lionfish and their impacts. Page 6 of the article provides a great deal of information.


Developing the Solution:

-Introduce the problem to students. They need to design a trap capable of capturing lionfish. Students should work in groups of 4 if possible for this design. Inform students that they will also be responsible for deciding on the placement of 6 traps.

-Provide groups with grid paper, pencils, markers, and printed map of lionfish invasion zones (attached). Each group will need to decide how big the trap needs to be and use the unit squares on the grid paper to the correct proportions. As students work to design their traps have them keep in mind the information about lionfish that the group collected during the article.

-When groups have completed their designs, let them know that it is time to pick locations for their traps. Guide them to the elevation map of the [ocean floor](#). Discuss with students the depth at which lionfish are found.

-Project the map on the board if possible. Guide students through understanding the map by first discussing which ocean (Atlantic) and other bodies of water (Gulf of Mexico & Caribbean Sea) will be the focus. Zoom in the map as needed to discuss the areas. Help students understand the map by pointing out that the darker the water color, the deeper the water. The lighter the water color, the more shallow water.

-Students will work as a team to select 6 areas that would be good for trap placement. To do this, students will use the marker tool . They will need to place 6 markers on the map in selected locations and be able to justify the location choice based on water depth and lionfish sightings.

Closing:

-For closing, ask students to present their ideas to the class. As they share, be sure they are providing justifications from the article and maps to support their ideas. For an exit ticket question, you could provide one of the following: “How does the

Vocabulary:

-invasive species
-biodiversity
-reduced

-justification
-marker

connection between bodies of water impact the spread of invasive species?" or "What are humans role in the introduction and control of invasive species?"

Invasion Zone

Lionfish_Observation_1985_2019



Lionfish