

Focus: Human Impact on Ecosystems
Grade Level: 7-12
Session Length: 45-60 minutes

Driving Questions

- How has the Crystal Cove SMCA changed over time?
- Why do we care about protecting the Crystal Cove SMCA?

NGSS Links

- Asking Questions

Systems Thinking Characteristics

- Identifying System Components & Processes

In the first session of the MPA Exploration, students are introduced to the Crystal Cove State Marine Conservation Area and the threats it is currently facing.

Students divide into their research teams and set up their field notebooks for the unit. Then, research teams are tasked with exploring the Crystal Cove SMCA virtually. As they meet some of the people who work and recreate in this space, they reflect on the threats that it faces and why we care about protecting it.

Learning Outcomes & Assessments

<i>By the end of this module, students will be able to...</i>	<i>You can assess this using...</i>
1. Explain the goals of the Marine Protected Area Exploration project.	Field notebook reflection
2. Describe some of the challenges that the Crystal Cove SMCA is currently facing.	Research team and whole class discussions; Field notebook entry
3. Reflect how on why we care about protecting the Crystal Cove SMCA.	Research team and whole class discussions; Field notebook entry

Session Overview

<i>Section</i>	<i>Description</i>	<i>Length</i>	<i>Format</i>
Launch	Students watch a short video of Erick, who introduces them to the MPA Exploration project. They then divide into their research teams and set up their field notebooks, which they'll use throughout the project to take notes and track their thinking.	10-20 minutes	Whole class
Explore	Students explore the Crystal Cove SMCA virtually using Thinglink and meet some of the people who work and recreate in this space.	20 minutes	Research teams or individual
Share	Students share their reflections on the Thinglink with their research team members.	10 minutes	Research teams
Reflect	In their field notebook, students reflect on whether they think it is important to protect the Crystal Cove SMCA and begin to generate questions that they need to know.	5-10 minutes	Individual

Virtual Materials

- Session 1 Google Slides Presentation: <https://bit.ly/2JNdsaU>
- Session 1 Thinglink: <https://bit.ly/3mxSVWx>
- Session 1 Field Notebook Template (optional): <https://bit.ly/3qsI02y>

Each student will need...

- A device with internet access (a computer, smartphone, or tablet will all work!)
- Field notebook and pencil

Before You Start Teaching

- Copy over the *Session 1 Slideshow* to your own Google Drive account. Test to make sure that the videos work. (If not, you may have to check the permissions on the Crystal Cove Conservancy Youtube Account.)
- In your copy of the Session 1 Slideshow, update *Slide 3* so that it reflects the sessions you plan to run with your class.
- Decide how you want to divide your class into research teams. In your copy of the Session 1 Slideshow, update *Slide 6* with your chosen directions.
- Decide how you want your class to set up their field notebooks. In your copy of the Session 1 Slideshow, update *Slide 8* with your chosen directions.
- Decide how you will host the Share Discussion for the session. In your copy of the Session 1 Slideshow, update *Slide 11* with any specific guidelines you have for science discussions.

Learning Sequence

Launch

Getting Started (10-20 minutes)

1. Open the [Session 1 Slideshow](#) and play the video on [Slide 2](#) for your class. In this video, students will meet Erick, who will introduce them to the MPA Exploration project and give a brief overview of what they'll do throughout the unit.
2. After you've finished the video, reiterate to students that your class has been asked to help protect the Crystal Cove State Marine Conservation Area. Continue to [Slide 3](#), which gives an overview of the entire unit, and [Slide 4](#), which describes what students can expect to do today.
3. Next, it is time to divide your class into their research teams, which they'll work in throughout the project. In [Slide 5](#), Erick will introduce the concept of why scientists often collaborate together in research teams. Play the video for students, and then move onto [Slide 6](#) to divide them into their teams.
4. Finally, students will need to set up their field notebooks for the project. The video in [Slide 7](#) introduces the concept of a field notebook. Play the video for students, and then move on to [Slide 8](#) to share instructions with students.

Explore

Exploring the Crystal Cove SMCA Virtually (20 minutes)

1. Now that students have divided into their research teams and set up their field notebooks, tell them it's time to start exploring the Crystal Cove SMCA. Advance to [Slide 9](#) and play the video of Erick, who will describe the Thinglink and their task.
2. Move on to [Slide 10](#), which will give students directions on using the Thinglink.

Reiterate the directions for students: They are to explore the Thinglink individually and take notes in their field notebook as they go. As they click on the points of interest, they'll hear different perspectives from some of the stakeholders and community members who live and work in this space. Students should make sure to record anything that might be important to our work protecting the Crystal Cove SMCA, such as threats that it is currently facing, as well as any perspectives that you find interesting.

If you feel that it would be helpful open the Thinglink and demonstrate how to move around it using your mouse. Click on the icons to pull up short videos from different stakeholders.

3. Give students 15-20 minutes to explore the Thinglink individually.

Share

Thinking About Perspectives (10 minutes)

1. After the students have had a chance to explore the Thinglink, have the class come back together. Review any guidelines for science discussions on [Slide 11](#), and then break the class into their research teams. Move onto [Slide 12](#) and ask each team to discuss the questions and record their thoughts in their science journals.
2. Give students about 10 minutes to talk in their research teams. If there is time, bring the class back together so teams can share their initial thoughts with the whole group.

Reflect

Reflecting on Session 1 (5-10 minutes)

1. Tell students that they have one last task. In the slideshow, advance to [Slide 13](#) and play the video, where Holly will introduce why it's important for scientists to take time to reflect on how our thinking is changing.
2. Move on to [Slide 14](#), which will share reflection questions. Ask students to spend five minutes reflecting on their experiences today in their field notebook.
3. Finally, if you are able, thank the class for their time today. Tell them that when you gather again, they will start diving deeper into Marine Protected Areas to learn more about them.