

5E Lesson Plan

Teacher:

Date:

Subject / grade level: Science/7th

Materials:

Presentation slides

Kahoot: <https://create.kahoot.it/share/microplastics/89891f32-dcd6-4b43-a191-3d74a3401d1c>

Pom Pom making materials (Materials listed are enough for one person, multiply by number of students)

- 8 pieces of equal sized tissue papers
- 1 craft pipe cleaner
- scissors
- string optional

NC SCOS Essential Standards and Clarifying Objectives

LS.6 The student will investigate and understand that organisms within an ecosystem are dependent on one another and on nonliving components of the environment. Key concepts include the carbon, water, and nitrogen cycles; interactions resulting in a flow of energy and matter throughout the system; complex relationships within terrestrial, freshwater, and marine ecosystems; and energy flow in food webs and energy pyramids.

LS.11 The student will investigate and understand the relationships between ecosystem dynamics and human activity. Key concepts include food production and harvest; change in habitat size, quality, or structure; change in species competition; population disturbances and factors that threaten or enhance species survival; and environmental issues.

Lesson objective(s):

Students will understand the dangers of microplastics in the Chesapeake bay. Students will also learn ways that they can help improve the microplastic problem in the Chesapeake bay.

Differentiation strategies to meet diverse learner needs:

Visual learners- video and presentation

Hands on and interactive learners- kahoot and Pom Pom activity

Verbal learners- vocal presentation by teacher to go along with the presentation slides, and the video.

ENGAGEMENT

- Describe how the teacher will capture students' interest.
- teachers should expand on the topics in the presentation by relating it to topics from past or present units.

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- Teachers should explain their answers to the questions proposed in the presentation.
- Teachers should make the presentation interactive by asking students questions throughout the presentation, the questions can come from both the presentation and the teacher.
- Questions students should be asking themselves after presentation
- What Can I do to help reduce microplastic?
- What Can I do to reduce my own plastic uses?

EXPLORATION

- Hands on Pom Pom activity
- As a hands on activity students will make Pom Poms. The Idea behind making the Pom Poms is to have a fun activity that also explores alternatives to plastic products, such as balloons.
- Pom Pom making instructions can be found in the presentation links and here, <https://kids.nationalgeographic.com/explore/nature/kids-vs-plastic/pom-poms/>
- "big idea" Discussion time,
- Teachers should ask their class these questions during discussion time to see if students were paying attention and thinking about what they just learned.
- 1. What are some things that you may already be doing that contribute to the microplastic problem, for example, does your face wash contain microbeads?
- 2. What are some things that you already do to help reduce your plastic waste, for example, recycling plastics.
- 3. What is your biggest take away from the presentation?
- Kahoot activity
- kahoot link in the presentation and at the top
- The kahoot will be like a little quiz covering the topics discussed in the presentation.

EXPLANATION

- Student explanations should precede introduction of terms or explanations by the teacher. What questions or techniques will the teacher use to help students connect their exploration to the concept under examination?
- teachers will ask students to build off of the information provided in the presentation and connect the information provided in the presentation to their own lives
- The idea of the presentation is to get kids to start making the connection between the microplastic problem in the bay and their own actions.
- List higher order thinking questions which teachers will use to solicit *student* explanations and help them to justify their explanations.
- During the discussion time of the presentation the teacher will prompt kids to discuss microplastics by asking them the following questions,
- What are some things that you may already be doing that contribute to the microplastic problem, for example, does your face wash contain microbeads?
- What are some things that you already do to help reduce your plastic waste, for example, recycling plastics.
- What is your biggest take away from the presentation?

ELABORATION

- Describe how students will develop a more sophisticated understanding of the concept.
- Students will receive a more in depth understanding of plastic pollution in the environment. The lesson focuses on the biggest source of plastic pollution in the Chesapeake bay, microplastic. This lesson builds off topics such as pollution and food webs to give students a more in depth understanding of microplastics and their own affect in the environment.
- What vocabulary will be introduced and how will it connect to students' observations?
- Microplastics
- Microbeads
- Food web
- Recycling
- Gastrointestinal tract
- These are the key vocabulary needed to understand the presentation. Microplastics and microbeads are defined in the presentation.
- How is this knowledge applied in our daily lives?
- The terms microplastics, microbeads, and recycling will pop up throughout our daily lives.
- It is important to know what microplastics are and how they affect the environment so that people can make changes to their daily lives in order to reduce their microplastic impact.
- Microbeads are a large part of the microplastic problem. Learning what microbeads are and where they are found will help people to avoid them in their daily lives

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- Recycling is an important tool in reducing our plastic waste. Learning what recycling is and how to properly recycle will reduce the amount of microplastic people produce in their daily lives.

EVALUATION

- How will students demonstrate that they have achieved the lesson objective?
- Students will show that they have paid attention to the information presented by participating in the kahoot game. The kahoot game will test what they learned from the presentation in a fun and competitive way.
- During the discussion time students will be asked questions to test and see if they were paying enough attention to form their own opinions and evaluations.