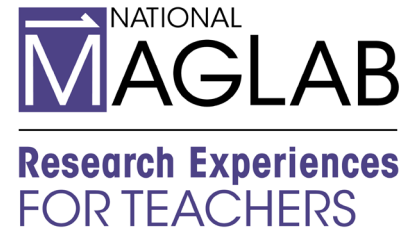


Culturally Responsive STEM Lesson Plan:



Symbiotic Relationships from a Multicultural Perspective

Lesson Objectives:

- Scholars will be able to identify and explain the five types of symbiotic relationships.
- Scholars will be able to compare the symbiotic relationships.
- Scholars will be able to state how the symbiotic relationships are different.
- Scholars will be able to define the following vocabulary: symbiosis, predation, parasitism, competition, commensalism, and mutualism.
- Scholars will be able to demonstrate their understanding of symbiotic relationships by creating, recording, and presenting skits of puppets that they create that represent themselves or of a figure based on their culture as they act out each symbiotic relationship.

Next Generation Science Standard:

- SC.912.L.17.6 - I can compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.

STEM Rationale for Lesson:

Scholars will understand the value of connecting their cultural heritage and personal backgrounds to the study of symbiotic relationships and ecosystem equilibrium.

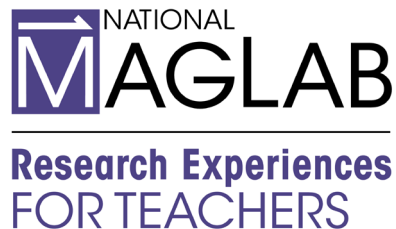
Culturally responsive connection:

- Scholars will comprehend the significance of cherishing and representing their cultural heritage and sharing their unique identities with their classmates.
- Scholars will comprehend the significance of diversity among their peers and the value of learning from other classmates' cultures in order to bolster a safe, diverse, and culturally inclusive learning environment.

Materials Needed:

Provided by Teacher:

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- Computers to record puppet show demonstrations (or any recording device/smart technology)
- Popsicle sticks
- Fabric (patterns or felt)
- Markers
- Scissors
- Glue (hot glue, glue sticks, Elmer's liquid glue)
- Googly eyes
- Yarn
- Pipe cleaners
- (Any other materials to design puppets are at the teacher's and students' creative discretion)

Activate Prior Knowledge:

- Students should know the definitions of predation, parasitism, competition, commensalism, and mutualism.
- Scholars should be able to compare and contrast symbiotic relationships.

Lesson Introduction:

1. The day before, show the PowerPoint and have students copy the terminology, the emojis, and the definitions for each slide in their science notebooks.
<https://drive.google.com/file/d/1F1GQrJ--pLOISYKiFEMarXZ5Dlo2tRc5/view?usp=sharing>
2. The day before scholars did a gallery walk, where I presented different images of interactions between organisms, and in small groups scholars had to rotate around the stations and discuss among their peers to identify and explain the symbiotic relationship for each image.

Lesson Activity Steps:

1. Divide students into small groups with an intent to make each group as diverse as possible.
2. Groups will create a skit that shows a relationship between two groups/organisms/people that will show symbiosis of any kind. Students can begin by choosing a symbiosis, and then will have to first plan each skit on paper first.
3. Once scholar's puppet skits are approved by the instructor to ensure each demonstration is appropriate and correctly demonstrates each of the symbiotic relationships, then scholars will be released to begin designing their puppets.

Culturally Responsive STEM Lesson Plan:



4. Students will start the design and creation process for their puppets, and again get approval by the instructor before making the physical puppets.
5. Once each group member's puppet has been created, then students will rehearse their skits.
6. Next, students must record their puppet skits with a laptop and then upload each video to a learning management system in order to submit. (This can be dropbox, Microsoft teams, or Google Drive).
7. Once the class has submitted their videos, then each group will play their video with the projector in front of the class for presentations.

Lesson Assessment

The groups' video presentations will serve as their assessment grade for this standard.

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