Fishable and Swimmable in 7 Years

Lesson 6 - Evaluate 2 - School

Overview
To continue practicing the STEMS^2 pillars, students will be making individual kits for the school's faculty, and then delivering them. Some students will then teach the staff how to make the Genki Balls during a meeting on Webex. The sense of place has changed to school.

Goal
Students experience teaching as one way to show understanding. Students recognize that involving others could encourage them to care. Students reflect on whether their sense of place changes by location.

Essential Question
How can we encourage others to care?

Enduring Understanding
Problems can have more than one solution. • There are multiple ways to address the Ala Wai Canal's pollution • There are multiple ways to encourage people to care.

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Materials	
Materials for 60 Balls	**Per faculty kit**
• Topsoil (½ cubic ft) • Rice Bran, 1 pound • Molasses • Water • EM solution, 1 liter ○ See note on next page. • Plastic bags, quart • Plastic bags, snack • Rubber bands • Aluminum Pans (9" x 13"), 5 pans • Underbed container, 1 container • Sifting pans ¼" • Container(s) to scoop soil • Graduated cylinder • Beaker • 5 gallon bucket • Newspaper	• Sifted soil - 125 mL • Rice bran - 30 mL • EM solution - 30 mL • Plastic bag, quart - 1 • Plastic bag, snack - 1 • Rubber band - 1

Considerations:

- You will need to multiply the supplies in the left column depending on how many Genki Balls you want to make in total.

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Notes on the EM Solution

Materials:

- 1 bottle of EM
- Water
- Molasses
- 7 one-gallon containers.
- 1000 mL beaker
- Chopstick to stir with

Procedure:

1. Pour 850 mL of water into the beaker.
2. Add 150 mL of molasses into the same beaker.
3. Use the chopstick to stir.
4. Pour this solution into an empty 1-gallon container.
5. There will still be some molasses stuck to the beaker.
6. Add 1000 mL of water into the beaker.
7. Use the chopstick to stir. This will remove more molasses from the beaker.
8. Pour this 1000 mL solution into the same 1-gallon container.
9. Pour 850 mL of water into the beaker.
10. Pour 150 mL of the EM solution into the same beaker.
11. Use the chopstick to stir.
12. Pour this solution into the same 1-gallon container.
13. Close the 1-gallon container, and shake the mixture.
14. This is 3 liters of activated EM.
15. Repeat for the other empty 1-gallon containers.

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Lesson Time = 40 minutes

Introduction (10 minutes)

1. Remind the students that one way to have people care is to get them involved.
2. Mention that this time, they will be making an individual kit for each member of the school's faculty.
3. The staff will be taught how to make the Genki Balls by some students during an online faculty meeting.

Making the Genki Ball Kits (30 minutes)

1. Depending on the amount of resources you have, you will probably only be able to work with a few students at a time.
2. Provide a quart-sized plastic bag per student you are working with.
3. Have the students measure 30 mL of rice bran, and place it into the plastic bag.
4. Provide the students with rubber bands.
5. Using the rubber band, the students should figure out a way to isolate the rice bran into a corner of the plastic bag.
6. Students should sift the soil, and place 100 mL of it in their plastic bag.
7. Due to the rubber band, most of the rice bran should be separated from the soil.
8. Students can place this bag on the side.
9. Provide the students with a snack-sized plastic bag.
10. Measure and pour 30 mL of the EM solution into the snack-sized bag.
11. Make sure that the snack-sized bag is sealed.
12. Place the snack-sized bag into the bag with the rice bran and soil.

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13. Make sure that the quart-sized bag is now sealed.
14. Students can take their finished kit back to their seat.

Student Reflection (Next class session)

1. Create a reflection form, and for the teaching students ask:
    a. How did your teaching experience go?
    b. What did you learn about yourself from this activity?
    c. If you were to teach again, what would you do differently?
    d. Did you feel differently teaching the faculty versus someone from home?

2. For the other students, they can be asked on a different form:
    a. By sharing your knowledge about the Genki Balls, what did you learn about yourself?
    b. How do you think the faculty felt when you created a Genki Ball kit for them?