MAKING CONNECTIONS, CREATING SOLUTIONS

by Betsy Messenger, IHE M.Ed. student, classroom teacher

PURPOSE
This activity helps students think about how we are all connected and how our actions impact others and the environment and inspires students to learn more about issues that interest them and to create solutions to address local and global challenges.

GRADES
5 and up

TIME
Three to four 45-60 minute class sessions

MATERIALS
- plastic bag; plastic water bottle; sea shell; a container of car oil representing petroleum
- pH paper; a lemon; a pH scale
- some salt water in a glass jar
- a globe of Earth; a picture of a web
- white board and markers
- large paper and markers or iPads, etc.
- Internet access

SUBJECT AREAS
Language Arts, Science, and Social Studies/History

COMMON CORE STANDARDS
Forthcoming
PERTINENT INFORMATION

This activity as written focuses on issues such as plastic pollution, global warming, and ocean acidification, but the concept of bringing together seemingly-disparate objects and concepts to make connections about issues that affect people, animals, and the earth – and creating solutions to address those challenges – can be applied to many topics.

PROCEDURE

1. Have the items (unidentified) out on a table for all to see:

   - plastic bag
   - plastic water bottle
   - sea shell
   - a container of car oil representing petroleum
   - pH paper tested with lemon and dried to create the range in the acid zone and a pH scale to match up
   - salt water in a glass jar
   - a globe of Earth
   - a picture of a web, etc.

   Invite the students to take a moment to come and look at the items more closely to figure out what they are/might represent.

2. As a whole class create a list of the items on the white board. Take a moment to read them aloud and look at the list.
Ask the students: How might these items be related? Discuss all ideas.

3. Invite students to divide into smaller groups of three or four. Ask the groups to each develop ideas on how they think these items are related. Provide large sheets of (recycled) paper for groups to draw on and demonstrate connections. If you have iPads groups can work together with Popplet or a similar program, but all students need to be involved. That’s why large visuals are a good option.

Examples:

- Plastics (the plastic bag/plastic water bottle) use petroleum during manufacturing (container of oil) = which puts CO2 emissions in the atmosphere; CO2 is absorbed into the oceans (jar of salt water) = which creates ocean acidification (pH paper) = which depletes the building blocks of calcium (shell) in some sea animals, such as pteropods = who are the base of the food web for many other sea creatures (web photo)).

- Plastics (the plastic bag/plastic water bottle) can end up in the oceans (jar of salt water) in one of the 5 gyres (globe) = animals eat the plastic and die (and/or are eaten by other animals) which concentrates the amount of plastic ingested, which affects the food web (web photo)).

- See the Popplet image above for additional examples of connections.

4. Invite the small groups to share with the class their discoveries and theories. After having the groups share openly (with no judgment) invite the class to develop a story about how these items are related.

5. Provide additional information to support/disprove their theories and invite them to conduct further research to find out more. (You may wish to provide a variety of resources related to topics such as the impact of CO2 and other greenhouse gas emissions, ocean acidification, plastic pollution, the impacts of plastic production, the influence of consumerism, etc.)

6. Then ask the students to gather back with their small groups and to brainstorm possible solutions, small or large, that would help the environment, animals, and people; think creatively. Then have them choose one or two of their solutions and create a mind map around those
solutions regarding how it addresses the problem while also being compassionate toward people, animals, and the planet.

Sample solutions might include:

- Refuse plastics when shopping.
- Educate others about the issues; create posters and other means of sharing accurate information and suggested solutions.
- Ask thoughtful questions and learn more about the issues.
- Drink from water fountains and/or bring your own reusable metal or glass water bottles.
- Develop compostable containers (or research what already exists).
- Use reusable bags.
- Eat more plant-based meals.
- Consider fossil fuel-free options for energy and transportation.
- Develop strategies for recycling plastics and for helping others go plastic-free.
- Bring your own container when eating out.
- Launch campaigns to stop the use of plastic water bottles, to reduce plastic waste, to reduce the impact of and contribution to global warming, etc.

7. Have students come back together as a whole class and share the solutions and mind maps their groups devised to create a master list. Ask them to consider how these solutions would help the environment, people, and animals.

8. Invite students to think about ways your class can help people understand and encourage solutions. Could your class start in your school? How? Lead a discussion, develop a plan, and make a move!