Lesson Title: Who Lives on the School Playfield

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5th-6th Grade Science/Language Arts

Duration: 3-4, 45 minute class periods

Lesson Overview:
This lesson was designed for Earth Day. Our school places great importance on teaching our students to be socially responsible. One way of doing this is by being good stewards of their natural environment. This lesson was designed with the school’s philosophy in mind and was implemented on Earth Day 2011.

The students will be introduced to the topic of the playfield community using narrative fiction. The students will collect, record, and graph the type of trash found on the school grounds. They will also record a description of any living organisms they find. They will then reflect on how people’s behavior impacts the school and community. Finally, they will propose and construct solutions for improving the environmental quality of the school grounds.

Sources:
Department of Environmental Quality: MEECS Ecosystems and Biodiversity. Mt. Pleasant, MI: Central Michigan University Printing Services


GLCE:
Science
S.IA.05.12, S.IA.06.12, Evaluate, Data, claims and personal knowledge through collaborative science discourse.
S.IP.05.11, S.IP.06.11 Generate scientific questions based on observations, investigations, and research
S.IP.05.15, S.IP.06.15 Construct charts and graphs from data and observations
S.RS.05.17, S.RS.06.17, Describe the effect humans and other organisms have on the balance in the natural world.

Language Arts
R.NT.05.01 Analyze how characters and communities reflect life (in positive and negative ways) in classic, multicultural, and contemporary literature recognized for quality and literary merit.
R.NT.05.03 Analyze how characters’ traits and setting define plot, climax, the role of dialogue, and how problems are resolved.
R.NT.06.03 Analyze how dialogue enhances the plot, characters, and themes; differentiates major and minor characters; and builds climax.
R.NT.06.04 Analyze how authors use literary devices including dialogue, imagery, mood, and understatement to develop the plot, characters, point of view, and theme.

Learning Objectives:
At the end of the lesson the students will be able to:

1. Use the author’s message from the story to help them apply the concept of stewardship to their playfield improvement plan.
2. Work collaboratively with other students and accurately construct charts and graphs from data and observations.
3. Apply what they have learned about the human impact on the environment to construct a plan to improve the environmental quality of the school grounds.

Materials
Day 1: Read the book (or show the powerpoint) The Empty Lot, (Audio Visual cart, document camera or LCD projector and screen if available) list of pre and post questions for the story
Day 2: Rakes (to share), shovels (to share), brooms (to share), gloves (enough for each child), garbage bags (1 per group), file folders (1 per group), assignment sheet (staple inside file folder beforehand), large bottle of hand sanitizer
Day 3 & 4: Data form and Assessment page (1 per student)

Vocabulary
- Community: a group of organisms that share the same living area
- Environmental quality: the quality of the living area in a community (ecosystem)
- Habitat: the place where a plant or animal naturally lives or grows
- Organism: Any form of life (plant, animal, micro-organism)
- Pollution: contamination of the environment by human made waste
- Stewardship: To care for the natural environment in such a way that it can be passed on to future generations.

Procedure
Day 1:
1. Use the list of questions below to introduce the lesson to the students
   a. Stewardship means to care for the environment in such a way that it can be passed on to future generations
   b. How do you think people can be stewards of the Earth?
   c. Explain that Environmental quality is the quality of the area where organisms live
   d. Define, Habitat: the place where a plant or animal naturally lives or grows
   e. Define, Community: a group of organisms that share the same living area
   f. Define, Organism: Any form of life (plant, animal, micro-organism)
   g. Ask the students about what pollution is? (contamination of the environment by human made waste)
2. Introduce the book to the students, Have them predict what they think the story is about by looking at the cover
3. Read the story to the students (be animated, show the illustrations)
4. Questions for after the story
   a. Where was the lot located?
   b. How had the area changed?
   c. Was the lot empty? If not who live on the lot?
   d. What did the author want you to know about the lot?
   e. How did the author help you to understand his message?
   f. How did Harold act as a steward for the environment?
   g. What else could Harold do to act as a good steward for the environment?
   h. How can you be more like Harold at the end of the book?

Day 2:
1. Pass out supplies go over expectations for students working in groups (work together, use respectful voices, stay in the designated area for your group)
2. Go over the expectations for how the students are to fill in the Data sheets
   a. Students will work in pairs to collect trash on a section of their play field
   b. They will record the type of trash they have collected (paper, plastic, metal, glass, other).
   c. They will record and describe any living organisms that they found.
3. Collect the student folders at the end of the class period
4. Have the students dispose of the trash the collected in the school dumpster
5. Have the students put their things away. Give each child a squirt of Hand sanitizer
Day 3 & 4:
1. Pass out the folders and the student analysis sheets from the previous day’s activity
2. Go over the instructions for the activity
3. Have the students work with their partners to complete the graph and the analysis questions
4. If time permits have the students complete the assessment portion of the activity. This portion of the activity is to be done independently.
5. If the students need more time move the assessment portion to the following day
6. Read the directions with the students. Explain that this is where they will apply what they have learned to improve their community.

Assessment:
Day 1: The students will be asked a series of questions about The Empty Lot. The questions are designed to evaluate whether or not the students are able to apply the concepts discussed prior to the story, to the story and then to their own lives. This is an oral assessment.
   a. Where was the lot located?
   b. How had the area changed?
   c. Was the lot empty? If not who lived on the lot?
   d. What did the author want you to know about the lot?
   e. How did the author help you to understand his message?
   f. How did Harold act as a steward for the environment?
Day 3: The students will analyze the data they collected from Day 2 by creating a bar graph and answering questions about what they observed and how pollution affects environmental quality.
Day 3/4: The students will apply the new knowledge that they have acquired to come up with possible solutions and a plan to improve the environmental quality of their playfield.

Special Comments:
Please see attached work sheets. For Days 2, 3 & 4
You can also use small construction flags to mark off areas prior to students going out to do the clean-up activity.
Name________________________________________________________ Date ____________

Field Clean-up Record Sheet

<table>
<thead>
<tr>
<th>Material</th>
<th>Items (description/tally marks)</th>
<th>Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List and describe any living organisms that you and your teammates observe (i.e. worms, insects, flowers...).

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
Create a graph using the information in your chart from Clean-up Day that compares the types of garbage that you collected. (Be sure to included labels and a title.)

Answer the questions below using the information you gathered.

1. Which type of garbage did you find the most of on the field?

2. Which type of Garbage did you find the least of on the field?

3. Were there any items on the field that you picked up that surprised you?

4. What types of animals did you observe while you were cleaning up the field?
5. Did you observe any of the animals in their habitats? If so, describe their habitat? (i.e. Was it underground or in a tree, was it wet, damp or dry, was it hidden or out in the open, etc.)

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

6. What types of plant life did you observe in the field? (Grasses, flowers, trees, mosses, etc.)

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

7. What are some hazards that animals may encounter on a littered field?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

8. Write a Hypothesis about how you think the garbage on the field affects the ability of other organisms to live there?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

9. What do you think you could do to test your hypothesis?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

________________________________________________________________________
Assessment

1. Create a list of possible solutions for improving the environmental quality of the playfield for both children and other living organisms.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. Choose one of your solutions above and construct a plan for implementing your solution.
   a. The solution___________________________________________________________
   b. What is the purpose for improving the playfield?
      ___________________________________________________________________
      ___________________________________________________________________
      ___________________________________________________________________
      ___________________________________________________________________
   c. How will the improvement be funded?
      ___________________________________________________________________
      ___________________________________________________________________
      ___________________________________________________________________
      ___________________________________________________________________
   d. How will the improvement be built?
      ___________________________________________________________________
      ___________________________________________________________________
      ___________________________________________________________________
      ___________________________________________________________________
   e. How will the improvement be measured to see if it is actually effective?
      ___________________________________________________________________
      ___________________________________________________________________
      ___________________________________________________________________
      ___________________________________________________________________
Lesson Reflection: *Who Lives on the School Play field?*

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“Amazing!” is the word I would use to describe the level of engagement from the students for this lesson. We began with the story *The Empty Lot*. I was introduced to the story by Joan Chadde at one of the workshops and instantly fell in love with the illustrations and language used in the story. The author makes the lot come alive when the main character Harold talks to the animals and they chirp and croak back at him. This sets up the lesson for exploring our own school field for the children. It raises the level of expectation for the students when they go out to clean the field, as well as, opens their eyes to the little living things around them. While reading the story the students were actively engaged in the fate of the animals on the lot.

The story transferred to the field clean up activity in the student responses on The Field Clean-up Record Sheet. The students actually took the time to count the number of roly-polies they found, ant hills they saw, birds and squirrels they came across and worms they saved. They had a deep sense of pride about the effort they had put in to clean their field. One of the students came up to me and described how he was able to save a bird because he cleaned the area around the bird’s home. In addition to their observations, they were competing with each other to see who could pick up the most garbage. They were excited to be outside and eager to observe their world.

The lesson is written for the 5th and 6th grades but can be modified to be a schoolwide project which is what happened at our school. I teach fifth, sixth, and seventh grades, so I followed the lesson for those grades and worked with the other teachers to include their grades.

After my experience with Field Clean-up Day, I would encourage the teachers in Detroit to install a sense of pride in the students for their school and their neighborhood---it is everyone’s community. Also, get the children outside! It is a new experience for them, and they are willing and ready to learn in new ways.

I would like to thank the people responsible for putting all of the Environmental Education & Urban Teacher Workshops together. Because of their time and dedication, I was able to put this lesson together to share with the whole school. The children are still asking when we will do it again?!