

Lesson 3: Where Does It Go From Here?

Duration: 1-2 class periods plus two weeks project work either in or outside of class

Lesson Overview:

Students develop, present, and evaluate their own and each other's individual plans to apply what they have learned about the 4 R's. This is an opportunity for service learning for school systems with a service-learning requirement.

Objectives:

- Students will develop, present and defend alternative approaches to solving solid waste issues.
- Students will implement a personal plan to reducing solid waste.

Essential Questions:

What actions can each of us take to reduce the amount of waste we produce?

Materials:

- Students should be able to access websites and other written materials from previous lessons on waste management.
- A copy of the assessment "Solid Waste Concepts" for each student.
- A copy of An Engineering Career worksheet (optional)

Lesson:

1. Group students in teams of 3 or 4. Tell students that today they are going to develop individual plans for applying what they have learned about reducing, reusing, recycling or recovering waste.
2. Encourage teams to discuss options and opportunities for implementing one or more of the 4 R's that could take place at the student's home, in their school, or in their community. They should consider the likelihood of success and consider problems that will cause problems. Allow at least ½ hour for discussion by the teams.
3. Share on the overhead or computer the rubric you will be using to gauge their success on this project.
4. When teams are finished have each team present to the whole class their ideas. Presentations should include the group's analysis of the likelihood of success as well as an analysis of potential problems. Plans should be supported with data. Encourage the class to identify challenges to successfully implementing any of the options for waste reduction.
5. Tell the class that they now have many options to consider. Now challenge students to individually, or in groups, write a plan that they will implement over the next two weeks that will result in a reduction of the waste that they produce!

Follow-up:

One week later and each week thereafter ask students to give a brief update by on how they are progressing with their plans. They should share any problems they are encountering in implementation of their plans. Celebrations should be held to recognize successes.

Post-Assessment:

Administer the definitions sheet "Solid Waste Concepts." Students should be able to define most or all of the terms in the context of their own community.

Optional extensions:

An Engineering Career worksheet

Standards Correlations:

National Science Education Standard 12EST1.2 Propose designs and choose between alternative solutions. Students should demonstrate thoughtful planning for a piece of technology or technique. Propose and choose among alternatives

National Science Education Standard 12EST1.3 Implement a proposed solution.

National Science Education Standard 12EST1.4 Evaluate the solution and its consequences. Students should test any solution against the needs and criteria it was designed to meet. At this stage, new criteria not originally considered may be reviewed.

Guidelines for Excellence in Environmental Education 3.1 C Evaluate proposed solutions and likely impacts on society. Describe strengths and weaknesses of each method.

Guidelines for Excellence in Environmental Education 3.2 C

Develop plans for individual and collective action involving groups of classmates.