

THROW IT AWAY – THEN WHAT?

Grades:

5 – 6

Time Allotments:

Teacher Preparation: 20 minutes

Lesson and Activity: 2 or 3 class periods

Vocabulary:

Recycling

Recycled Products

Integrated Curricular Areas and Corresponding Core Curriculum Content Standards:

Science: **5.1:** (G4) A4

5.10: (G6) B1-2

Social Studies: **6.6:** (G8) A2-4, E1-2

Language Arts: **3.1:** (G5) 1-5&7 (G6) H1-3&5

3.2: (G5) C-all, D1-2 (G6) C-all, D1-2

3.3: (G5) B6, D1-7 (G6) B6, D1-7

Technology: **8.1:** (G8) C6&8

Content Objectives: Students will be able to –

1. Identify items and materials that can be recycled;
2. Describe what happens to materials to be recycled once they are picked up;
3. List items that recycled materials can be made into; and
4. Identify the benefits of recycling, along with any challenges and consequences.

Process Objectives: Students will –

1. Conduct research on recycled products;
2. Develop a flow chart for a recycled material that depicts steps in the recycling process; and
3. Present research findings through an oral presentation to the class.

Materials:**For teacher's presentation:**

- Background information
- Copies of “Throw it Away – Then What?” worksheet – one per student
- Construction paper or poster board – enough for each student group
- Colored pencils, crayons and/or colored markers

For each group of students:

- Internet access or ability to conduct research at school or local library
- Construction paper or poster board
- Colored pencils, crayons or colored markers

For each student:

- Copy of “Throw it Away – Then What?” worksheet

Preparation:

- Review background information about recycled materials and the types of products that are made from recycled materials. (Some New Jersey online resources are provided at the end of this lesson and additional resources are listed in the resource section of this curriculum supplement)
- Collect samples of products from home, school and workplace settings that are made from recycled materials. Such items can include certain types of plastic or glass bottles and containers, office paper, periodicals and publications, insulation, pillow filler, etc. Information on the product wrapper usually lists information about the recycled materials that were used and online resources provide examples of products and items to look for

Anticipatory Set:

- Ask students the following questions:
 - *What items are typically recycled at home or at school?* List items on the board
 - *What materials are these items made from?* For each item, have them identify the material it is made from that is being recycled. Examples include glass, plastic, newsprint, aluminum, cardboard, etc.
 - *What do you think is done to the items that are picked up from locations around the community to be recycled?* Work with them to construct the steps they think could happen to the various materials that are recycled. Consider such needs as transportation, storage, separation needs, re-manufacturing processes, new products to be made, marketing, etc. List their ideas on the board

Teacher’s Presentation or Modeling:

- The teacher should show and then distribute the collection of items that are made from recycled materials. Encourage students to examine then pass the items around, having them look for clues to explain that the item is made from recycled materials
- Explain to students that they will be investigating what happens to recyclable items once they are discarded and collected to be recycled – they will be learning more about how these materials are turned into new products

Guided and Independent Practice:

- Divide the students into small teams of 3 – 4 students. Explain that they will be working in groups to research what happens to an assigned recyclable material once items that are made from it are picked up to be recycled
- Assign each team a common material that is recycled. Items can include glass, aluminum, plastics, newsprint, cardboard, rubber (from tires) and scrap metal
- Review their options for conducting research. Methods could include Internet use, library research, phone calls for information, site visits and interviews with employees and professionals in recycling and waste management

- Give each student one copy of the “Throw it Away – Then What?” worksheet. Review questions with them and explain that their research findings must provide correct answers to all of the questions on the worksheet
- Assign deadlines and check in with groups regularly regarding progress
- When worksheets and research have been completed the students will create a flow chart that depicts the steps taken to recycle their particular item and material it is made from (teacher may need to provide students with an example of a flow chart)
- The groups should report their findings to the class through oral presentations, completed worksheets and a visual poster

Closure:

- Ask students the following questions:
 - *Did you learn anything new from this project that surprised you? If so, what?*
 - *Based on what you learned about your recycled material and the materials assigned to the other student groups, what do you think are the benefits of recycling?*
 - *What are the challenges or pitfalls for recycling companies and the companies that use recycled materials to make new products?*
 - *Are there any consequences or negative results of recycling?*

Assessment:

- Responses to questions from teacher;
- Participation in student group to fulfill research needs;
- Participation in the group’s oral presentation;
- Responses to questions on the “Throw it Away – Then What?” worksheet; and
- Quality and comprehensiveness of the poster and flow chart.

Extensions:

- Invite a county or municipal recycling employee to the classroom to speak about the county or municipality’s recycling program
- Explore options for a local class field trip – visit and tour a local recycling center

Safety/Clean Up:

Be sure students use proper Internet safety procedures

“Throw it Away – Then What?” Worksheet

Student Names: _____

Directions: Use appropriate research tools and methods to find answers to the questions below. If needed, continue your answers on the back of this paper or use a separate sheet. Don't hesitate to ask for assistance. This worksheet must be completed by _____.

1. Is your item (or the material it is made from) biodegradable? If so, about how long would it take for it to fully decompose? _____

2. Describe how your item (or the material it is made from) is recycled. _____

3. Describe (in steps and in sequence) what happens to your item after it is set out at the curb to be picked up for recycling. Where is it taken? What people are involved in different stages of the recycling process? How is the material processed? Where does the recycled material go? What is it made into? List the steps your material takes to its final destination.

4. Are there any regulations imposed on the recycling of your material or item? If so, what?

5. What are the environmental consequences (either positive or negative) of disposing of this material instead of recycling it? _____

