

A Pollution Solution - Taking Care of the Environment

Activity Information

Grade Appropriate Level: 1-3

Duration: 45 minutes - 1 hour

Materials: squares from six different brands of toilet paper, six jars with lids, six labels, a marker, chart paper to record process and results

Objective

By participating in a class experiment on the biodegradability of various brands of toilet paper, students will learn about the Scientific Method while finding a practical pollution solution they can utilize at home.



Prescribed Learning Outcomes

Language Arts, Science, Social Studies, Personal Planning

- Students will gain a sense of personal responsibility for the environment
- Students will develop an appreciation of scientific inquiry
- Students will develop the skills of scientific inquiry, including hypothesizing, observing, recording and confirming
- Students will work co-operatively in groups

Skills

- Measuring, recording, hypothesizing, observing, interpreting

Suggested Instructional Strategies

- Give brief examples to the students as you explain each of the new vocabulary words: hypothesis, procedure, observation, and conclusion.
- Ask students if they have heard of the word [biodegradable](#). Let students offer their ideas and give them a moment to discuss some things that they think or know to be [biodegradable](#) (youtube video link for help).
- Develop a definition for biodegradable and write it in the centre of a large chart paper. In a web format around the word, record items they think or know to be biodegradable and also record and discuss reasons why it is important to take care of the environment.

- Create a large chart to record the experiment and place it up on the class chalkboard for easy visibility. Fill in the chart as you proceed step by step through the experiment.
- Taking the various brand samples that students have brought from home, cut a small piece of each brand (postage stamp size).
- Place each sample in its own jar (small, wide mouth mason) labeling each jar with the appropriate brand name.
- Fill the jar with water and put the lid on tight.
- Shake each jar 20 times (have the kids count with you as you shake).
- In small groups and then as a class, discuss predictions about which brand of toilet paper will be the most and least biodegradable.
- Leave the jars for a week. Shake again. Check the results and record the final steps on the chart.
- Discuss the conclusion and re-visit the predictions of students. Take the news home!

NOTE: For older grades, the lesson plan should be adapted so that students keep their own tracking sheet and complete each section while performing the class experiment. Students can also be encouraged to clip media articles on the subjects of biodegradability by obtaining newspapers/magazines and through web searches. Ask them to contact groups such as the *Western Canada Wilderness Committee* and the *Canadian Pulp and Paper Association* to compare and contrast points of view and information. Teachers might consider asking a representative from both groups and others to visit the classroom for a presentation.

Suggested Assessment Strategies

- Teacher observations of students' level of participation in lesson and experiment
- Assess student knowledge of each of the vocabulary words related to the Scientific Method.
- Optional: The teacher could have the students complete a K-W-L (Know, Wonder & Learn) about biodegradability. This could be another form of assessment.

Cross-Curricular Interests

Environment and Sustainability

Media Education

Special Needs

Suggested Links

<https://www.instructables.com/A-Biodegradability-Experiment-You-Can-Do-With-Kids/>

<http://www.epa.gov/recycling/first.htm>

<https://web.archive.org/web/20070813061652/http://www.gnb.ca/0009/0372/0003/0001-e.asp>

<https://web.archive.org/web/20120410090513/http://holidays.kaboose.com/earthday-cando.html>