

# WRAP IT UP!

**Grades:**

3 – 4

**Time Allotments:**

Teacher preparation: 20 minutes

Lesson and Activity: 60 minutes or two 30 to 45-minute periods

**Concept:**

Biodegradable Materials

Non-biodegradable Materials

Packaging

**Integrated Curricular Areas and Corresponding Core Curriculum Content Standards:**

Science: **5.10:** (G4) B1

Social Studies: **6.5:** (G4) A6

Language Arts: **3.3** (G3) A1-4, C1&3 (G4) !1-3, B4-6, C3

**Content Objectives: Students will be able to –**

1. Describe difference between biodegradable and non-biodegradable materials and identify example of each;
2. Describe difference between recyclable and non-recyclable materials and identify example of each;
3. Identify reasons or needs for specific types of packaging; and
4. Determine if packaging produces a reasonable or excessive amount of waste.

**Process Objectives: Students will –**

1. Classify examples of packaging into various categories; and
2. Redesign a package and include a diagram of the new design; or
3. Write a narrative that provides a rationale for the acceptable design of a package.

**Materials:**

- Chalkboard and chalk or large paper and markers
- Packaging from home or school – include examples of excessive packaging
- Examples of “nature’s packaging” – banana, orange or grapefruit peels, pistachio or peanut shells, pea hulls

**Anticipatory Set:**

- Ask students to bring to class examples of packaging. This could be for one or more small easy-to-carry items, such as food, snacks, toys, electronics, jewelry, etc. Packaging should be washed and clean. Packaging should also be complete – such as, a soda bottle is an example of packaging but should include the bottle top. A note sent

home to parents would help make them aware of the lesson and encourage them to select items that students can bring in to class to share

- Conduct a class discussion regarding their items – ask some students to stand up, show their packaging to the class, and identify the item that it provided packaging for. The teacher should give an example – such as, a box and inside wrappings for a toy

**Procedures - Teacher’s Presentation or Modeling:**

- Teacher should ask students: *What items do we purchase that usually come with packaging?* (List their suggested items and a description of packaging that each has)
- *Why do you think items we buy are packaged in certain ways?* (List their suggestions)
- To encourage them to consider specific needs for packaging, ask them:
  - *Why are CDs and cassettes sold in plastic cases?* (anti-theft, avoid breakage)
  - *Why are eggs sold in foam or cardboard boxes?* (avoid breakage)
  - *Why is medicine sold with sealed tops and in sealed boxes?* (avoid tampering)
  - *Why are new clothes put into bags when purchased?* (avoid dirt and wrinkles)
  - *Why are many food items sold in sealed boxes, wrappers or containers?* (avoid tampering and maintain freshness)

**Guided and Independent Practice:**

- Have students categorize packaging in different ways based on what some or all of the items have in common with others – such as: color, item types or what materials the packaging is made from
- Ask the students what “biodegradable” means then share the definition with them along with materials that are biodegradable. Also share what “non-biodegradable” means. Ask the groups to determine which of their packaging is biodegradable and which is not.
- Draw the recycling symbol on the board and have the groups look at their packaging to see if which can be recycled and/or which were made from recycled material
- Show the students examples of “nature’s packaging” (banana peel, orange peel, pistachio or peanut shell, etc.). Ask if these wrappings are biodegradable and if there is any waste to these items

**Closure:**

- Divide the class into small groups. Ask groups to review their collection of packaging and determine if the packaging of one item could be reduced without causing harm to the item itself. Were any parts wasteful? Are any parts of it recyclable or biodegradable? Or, is its current design necessary to ensure security, freshness, etc. Have a spokesperson for each group share the group’s ideas with the class
- Ask students: *Are there benefits to reducing amounts of trash produced by packaging? Why might this be important to do?*

**Assessment:**

- Responses to questions from teacher;
- Participation in a small group to fulfill task; and
- Conclusions regarding improvements to be made to one piece of packaging.

**Extensions:**

- Create a “T chart” on a large piece of paper. Label one side as “Nature’s Packaging” and the other side as “Manufactured Packaging.” Have students look through magazines to find examples that identify with each side. Have them cut them out and glue the photographs on the appropriate side of the “T”
- Ask students to examine the packaging brought to class. Ask them to write a paragraph about the packaging for one item that can be redesigned to reduce the waste produced by the packaging. They must include a drawing (with labels) identifying the redesigned aspects of the package. If the student believes the packaging is acceptable they must write a paragraph that supports their conclusion

**Safety/Clean Up:**

- Emphasize to students that the packaging they bring to class must be clean and have no sharp edges. When the lesson is completed items should be recycled or discarded properly