



Lesson: Potato Ways

Grade: 4-5

Subject: Math, Social Science

Objectives:

Students will:

- compare and contrast the price per pound of products to the amount of waste they generate
- analyze the positive and negative aspects of packaging

Teaching Time: 30 minutes for discussion, 25 minutes for calculations

Materials: transparency, "A Spud By Any Other Name"

Background:

Although packaging is useful and necessary for many reasons, it is a major component of the waste stream. People can reduce the amount of garbage they generate by making thoughtful and informed choices when they buy packaged products. (Prerequisite: Buyer's Choice or The Good, The Bad, and The Ugly!). Additionally, students should realize the connection between their purchases and the decisions product manufacturers make. Because manufacturers try to meet consumer demand, avoiding unenvironmentally friendly products helps shift the curve towards more responsible, sustainable products.

Procedures:

- Assign the worksheet "A Spud by Any Other Name."
- **Which forms of the potato seem to be most highly processed?**
- **Which forms are most expensive per pound?**
- **Which form of potato would you purchase if you were interested in reducing solid waste? In saving money?**
- **What relationships are there among cost, amount of processing, and packaging of products?**
- **Actually, for every \$10 that you spend at the grocery store, about \$1 is used to pay for the package. Remember that you pay for the package, then you take it home and throw it in the garbage-- which you also have to pay for! Therefore, it makes sense to only buy the amount of packaging that you need!**

Reflection/Response:

- Review the trade-offs of packaging. (Remember some of the drawbacks are: packaging increases the cost of the product, most packaging ends up in a landfill, some packaging becomes unsightly litter and can injure wildlife, packaging can make a product look bigger and better than it really is, and natural resources are used to make packaging. On the other hand, we need packaging to keep some things fresh, to protect them from breaking, to tell us how to use the item, etc.)
- Reflect that nature's way of packaging does not have to create waste. Examples are bananas, apples, oranges, peanuts, coconuts - all come in their natural "wrapper" and can be purchased without other packaging and these items are useful in composting. Natural items can be composted or "broken down" by nature and provide nutrients back into the soil.
- Write the following on the board, but in a different order from the correct one below:
 - *No packaging
 - *Refillable (or reusable) packaging made from recycled products
 - *Packaging that is reusable
 - *Packaging made from recycled products and is recyclable
 - *Packaging that is made from recycled products
 - *Packaging is not more than necessary, but not reusable or recyclable

REDUCE
REUSE
RECYCLE

- Ask students to rate these choices in order of least wasteful to most wasteful and explain their answers.

Extensions:

- Have students make informative posters that recommend careful selection of food products. Include such ideas, for example, as: choose products in recyclable, returnable, or refillable containers, avoid excessive packaging, buy products in bulk and in larger sizes, buy unwrapped fruits and vegetables, avoid snack items in single-serving packages, carry products home in cloth or string bags, support companies that provide minimal and recyclable packaging.
- Hand out the Extension “No Waste Lunch” (in the Resource section) and ask students to practice this several times over the next few weeks or months and share their experience with the class. Was a “No waste lunch” easy or hard? What changes did they have to make? What favorite items did they give up? What substitutes did they use instead?
- Have students create a cafeteria display of a “waste-less” lunch that uses durable containers inside a lunch box and a refillable thermos, etc.

Oregon Common Curriculum Goal:

Mathematics: Measurement

- Determine and use appropriate standard and nonstandard units and tools of measurement to measure to the degree of precision and accuracy desired in particular situations

Social Science: Analysis

- Define and clarify an issue so that its dimensions are well understood

Content Standard:

- Determine appropriate units, tools, and techniques to measure to the degree of precision and accuracy desired in particular situations.
- Gather, use, and evaluate researched information to support analysis and conclusions

Grade 5 Benchmark:

- Students will use the following units: weight—ounce, pound, gram, kilogram, ton
- Examine an event, issue, or problem through inquiry and research.



Worksheet: A Spud By Any Other Name

Product	Package Size	Price	Price/Pound (lb.) ¹	How Packaged
Fresh russet potatoes	5 lb.	\$.99		Plastic bag
Fresh russet potatoes	10 lb.	\$1.69		Plastic bag
Fresh russet potatoes	4 lb.	\$1.00		Bulk
Canned potatoes - sliced	15 oz.	\$.75		Can (steel)
Canned potatoes - whole	15 oz.	\$.75		Can (steel)
Tater tots - frozen	32 oz.	\$2.85		Plastic bag
Tater tots - frozen	5 lb.	\$5.55		Plastic bag
Mashed potatoes - frozen	22 oz.	\$2.39		Plastic bag
Hash brown patties - frozen	24 oz.	\$2.39		Cardboard box
Hash browns (southern style) - frozen	32 oz.	\$2.79		Plastic bag
French fries (crinkles) - frozen	32 oz.	\$2.75		Plastic bag
Shoestring potatoes - frozen	20 oz.	\$2.17		Plastic bag
Potato chips	9 oz.	\$2.09		Plastic bag
Potato chips	14 oz.	\$2.99		Plastic bag
Instant mashed potato buds	5.5 oz.	\$.99		Cardboard box
Instant mashed potato buds	13.75 oz.	\$2.45		Cardboard box
Instant mashed potato buds	1 lb. 12 oz.	\$3.75		Cardboard box

1 lb. = 16 oz.

¹ Prices gathered in Lakeport, California on July 25, 1997.

Source: California Integrated Waste Management Board: *Closing the Loop: Exploring Integrated Waste Management and Resource Conservation K-6* (2000)

