

Reuse and Choices

Grades: 4-5

State Standards: Grade 4, Science; Investigation and Experimentation 6.a Students will differentiate observation from inference (interpretation) and know scientist's explanations come partly from what they observe and partly from how they interpret their observations. Grade 5, Science; Interpretation and Experimentation 6.h Students will draw conclusions from scientific evidence and indicate whether further information is needed to support a specific conclusion.

Preparation Time: 25 minutes

Activity Time: 40 minutes

Key Words: Recycling bin, Reduce

OBJECTIVE

Students will participate in making group decisions for identifying the best choice among four alternatives for reusing items. The students will bring in items from home and list at least three ways to reuse each item.

MATERIALS

Students: "Reuse Choice Cards" (one card per group of four students), "Reuse Choices" worksheet (one per student)

Teacher: Example of a "Reuse Choice Card" overhead, "Reuse Choices" worksheet overhead

BACKGROUND

It's easiest to shop with the first R -- Reduce -- in mind. Look for ways to get more product and less packaging for your money. Take dry breakfast cereals for instance. Most are available in large, family-sized boxes or in bulk bins, which reduces packaging over time. The idea of buying in larger size holds true for many products, from detergents to tomato sauces and pastes. Second, don't package products that don't need it. Fruits and vegetables are prime examples. Apples and carrots can be bought loose (or, if necessary, be put in a plastic bag brought from home). You can reduce a tremendous amount of lunch waste by avoiding single serving containers. Third, carry a shopping list to reduce the amount of impulse shopping you do, thereby reducing unnecessary purchases.

The second R -- Reuse -- is also important. Buy groceries like juice, lunch supplies and condiments with reusable containers in mind. Juices can be purchased in concentrate form to be mixed in your own reusable containers. Instead of using disposable shopping bags, use reusable grocery bags.

The California Department of Resources Recycling and Recovery (CalRecycle) has compiled some statistics that speak to the urgency of implementing the credo of Reuse. CalRecycle determined that the average student disposes of 540 paper bags, disposable juice packs, and plastic sandwich bags a year. Multiply those numbers by the millions of students eating lunches in California schools and you begin to appreciate the need for

more responsible shopping habits. Remember, many condiments like ketchup, mustard and salad dressing can be purchased in large containers to reduce waste.

Don't forget to also buy with Recycling -- the third R -- in mind. If you can't reuse an item, make sure the item is recyclable. Typically, this means it is cardboard, glass, aluminum, tin, or specific kinds of plastic. For example, No. 1 and No. 2 plastics are readily recyclable. (If you are not sure whether the plastic container is a No. 1 or 2 plastic, and therefore can be recycled, ask your local Recycling Coordinator. If they don't know, ask them to find out!). Recycling is important, but it is often more effective to prevent waste before it is generated in the first place. That's why the first R -- Reduce -- is the top priority.

Finally, Repurchase -- the lesser known fourth R -- by purchasing products made of recycled content material. Buying these products helps turn recycling strategies into economic development opportunities. The packaging on many products lists whether recycled material is used. Buying these products helps "close the loop," and because these products use fewer resources, you will be helping the environment.

The practice of reuse eliminates waste handling and disposal costs. Students can develop the ability to think critically about choices they make that will help reduce waste. They can develop their own opinions and learn to convey and justify their thoughts in order to make decisions based on their values. During the decision making process, students may attempt to locate additional information or evidence that may support their opinions on topics such as waste reduction.

More waste prevention guidelines are available online at:

<http://www.calrecycle.ca.gov/ReduceWaste/coordinator/articles/ShipPack.htm>

Vocabulary:

Recycling bin: container for accepting items that will be recycled into new products.

Reuse: extending the life of an item by reusing it again as it is or creating a new use for it.

PROCEDURE

1. Have the students describe choices that they make every day such as selecting food, choosing which games to play, picking who will be their friends, etc. Help them to recognize that there may be long-term consequences to many of their choices.
2. Ask students what they could choose to do with a piece of paper after writing on one side (write/draw on the backside, make a paper airplane, put it in the recycling bin, throw it away, etc.).
3. Ask the students to explain how they arrived at that particular choice. Explain that we often make decisions based on evidence that supports our opinions about different topics.
4. Ask students whether they can define "reuse" (extending the life of items by using them again as they are or creating new uses for them). Help the students recognize that

there are long-term consequences to their choice of reusing, recycling or throwing away things like paper. Reusing helps extend the life of items by using them again, and it conserves natural resources (trees).

Activity

1. Tell the students that they will be divided into groups of four and given reuse choice cards.
2. Have four volunteers come up to the front of the class and help you model how to do the activity.
3. Assign each volunteer to represent choices a, b, c, and d.
4. Select a Reuse Choice Card and project overhead. Read it aloud to the class.
5. Model for the class how to defend their assigned solution, and ask the volunteers to come up with answers or evidence to defend their solutions. For example, if referring to the paper grocery bag scenario, the student assigned to choice a might defend it by saying that reusing the bag saves natural resources because the paper will get used again and extends the life of the bag until it is recycled.
6. After hearing about all four solutions, model how the group should decide on the best solution(s) to their choice that helps conserve natural resources. Students can share their personal opinions and ask questions of other group members to justify their opinions.
7. Explain how solution “d” may be a good choice because using a reusable cloth bag saves natural resources; trees, water and energy spent making the paper bag.
8. Organize the class into groups of four, and pass out one card to each group. Give the groups five minutes to discuss their Reuse Choice Card.
9. Come back together as a class, and have each group present the best solution from their choice card.
10. Pass out the “Reuse Choices” worksheet table to each student, and assign them to write a list of three items that they will reuse at home or at school and how they will reuse each item.

Discuss

1. Ask some students to share their list of items and reuse ideas with the class.
2. Have the students create their own reuse choice cards using the blank cards provided on the student worksheet. Then have them answer their own questions and explain in writing how their reuse choice extends the life of a product or natural resource.

Extension 1:

Have a classroom “reuse” show-and-tell day. Ask students to bring in an item from home that has been or will be reused. Have each student show their object and tell how it can be reused. Have student’s research artists who reuse common objects. Then ask students to collect items from home they would normally throw away such as bottle caps, packaging, etc. Create a class sculpture by reusing the items brought from home to show the importance of practicing the 4Rs.

Extension 2:

Organize a school-wide clothing swap. To do this;

- Request a local or big box retailer to donate hangers or clothing racks for a designated period of time
- Advertise the clothing swap in a school newsletter
- Require clothes only in good condition (no holes, or major stains)
- Have students manage the clothing swap
- Donate the left over clothes to a charity or non-profit

A clothing swap not only reuses resources but save families money. Kids often grow out of clothes while they are still in good condition.

ANALYSIS

By reusing we reduce the amount of material being unnecessarily landfilled. Reusing helps extend the life of items by using them again, and it conserves natural resources, watersheds and habitats.

Reuse Choice Cards

Directions: Each group member will defend one of the four reuse choices below (a, b, c, or d). After each group member has justified why their choice is the best to conserve natural resources, decide on the Best solution as a group.

Choice Card	Choice Card
<p>You help a neighbor unload her groceries and you notice that, as she unloads the food, she is throwing the paper bags in the garbage can.</p> <p>SOLUTIONS You should:</p> <p>A. suggest she can reuse the bags next time she shops.</p> <p>B. say nothing.</p> <p>C. ask her whether you can have the bags to make something.</p> <p>D. tell her to buy some cloth bags she can reuse every time she shops.</p>	<p>You are running on the playground, and you fall and rip the knee of your jeans.</p> <p>SOLUTIONS You should:</p> <p>A. patch the hole in the jeans.</p> <p>B. throw away the jeans.</p> <p>C. save the jeans to cut off and use for shorts.</p> <p>D. cut up the jeans and use the fabric to make a rug.</p>

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Choice Card	Choice Card
<p>Your friend tells you they just bought a CD and listened to it. They say they hate it and are going to throw it away.</p> <p>SOLUTIONS You should:</p> <p>A. ask them to give the CD to a friend who might like it.</p> <p>B. do nothing.</p> <p>C. ask them for the CD and use it for an art project.</p> <p>D. tell your friend to listen to sample music before purchasing their next CD.</p>	<p>You are at the Tehama County Fair and see a sturdy old wood chair in the dumpster.</p> <p>SOLUTIONS You should:</p> <p>A. bring the chair home to refurbish and paint it.</p> <p>B. put the chair in the recycle bin</p> <p>C. do nothing.</p> <p>D. burn the chair as fuel.</p>

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Choice Card	Choice Card
<p>You are helping a friend organize their room and you notice they have a large pile of greeting cards.</p> <p>SOLUTIONS You should:</p> <p>A. throw the cards in the garbage.</p> <p>B. do nothing.</p> <p>C. show your friend how to cut up the cards and turn the cards into gift tags.</p> <p>D. tell your friend to put the cards in the recycling bin.</p>	<p>A package full of styrofoam pellets, each about the size of popcorn, arrives at your home.</p> <p>SOLUTIONS You should:</p> <p>A. post the pellets as “free” on freecycle.org or craigslist.org.</p> <p>B. use them for an art project, like Christmas tree ornaments</p> <p>C. save them for packaging your own gifts that you will be mailing later.</p> <p>D. throw them away in the trash.</p>

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Choice Card	Choice Card
<p>After cleaning out a closet, you have twenty-five extra wire coat hangers.</p> <p>SOLUTIONS You should:</p> <p>A. throw them away</p> <p>B. return them to a dry cleaner or laundry that uses them as part of their business.</p> <p>C. recycle them in a container for metals.</p> <p>D. make yard decorations out of them.</p>	<p>When you help clean out a refrigerator, you find leftover food scraps in containers that are now spoiled.</p> <p>SOLUTIONS You should:</p> <p>A. throw the food in the containers in the trash, wash and reuse the container.</p> <p>B. put vegetable and fruit scraps in a compost bin, wash and reuse the container.</p> <p>C. throw the food and container in the trash.</p> <p>D. get rid of the food scraps by putting them in the sink’s garbage disposal and throw away the container.</p>

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Choice Card	Choice Card
<p>After shopping at a grocery store, you have taken home ten plastic bags.</p> <p>SOLUTIONS You should:</p> <p>A. return these bags to the grocery store for recycling.</p> <p>B. throw them in the garbage because you can't put them in your recycling bin.</p> <p>C. reuse the bags during multiple trips to the grocery store.</p> <p>D. use the bags at home to collect garbage and then throw them away.</p>	<p>You finished an art project and have unused paint leftover in the can. You don't have a purpose for the extra paint.</p> <p>SOLUTIONS You should:</p> <p>A. throw the can in the trash.</p> <p>B. accurately calculate the correct amount of paint to purchase next time.</p> <p>C. do nothing.</p> <p>D. donate the unused portion of paint in the can to a local community group for their project(s).</p>

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Reuse Choice Cards

Directions: Use the blank cards below to create your own reuse choice card.

Choice Card	Choice Card

Reuse Choices

**Directions: Write or draw three items that you will reuse at home or school.
Describe three ways that you will reuse each item.**

Name of reuse item	Ways it will be reused
1.	1. 2. 3.
2.	1. 2. 3.
3.	1. 2. 3.