Critical Thinking Skills

Waste Management: At the Source

Skills For Critical Thinking	Reading								Hands-on Activities
	What Is Waste?	Pre-Consumer Waste	Post-Consumer Waste	Packaging	Soild Waste Disposal	Toxic Waste	Pollution	Waste and the Ocean	
LEVEL 1 Knowledge									
• List Details/Facts	✓	✓		✓	✓	✓	✓	✓	✓
• Recall Information	✓	✓		✓	✓	✓	✓	✓	
• Match Vocab. to Definitions		✓	✓	✓	✓	✓	✓		
• Define Vocabulary	✓		✓	✓	✓	✓	✓	✓	
• Label Diagrams		✓					✓		
• Recognize Validity (T/F)	✓		✓						
LEVEL 2 Comprehension									
• Demonstrate Understanding	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Explain Scientific Causation	✓	✓	✓	✓	✓	✓	✓	✓	
• Rephrasing Vocab. Meaning	✓	✓	✓	✓		✓	✓		
• Describe	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Classify Objects Into Groups	✓	✓	✓	✓		✓			
LEVEL 3 Application									
• Application to Own Life	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Model Scientific Process	✓	✓	✓	✓	✓	✓	✓		
• Organize & Classify Facts	✓	✓	✓	✓		✓	✓		
• Utilize Alternative Research Tools	✓				✓	✓		✓	
LEVEL 4 Analysis									
• Distinguish Meanings	✓	✓	✓	✓	✓	✓	✓		
• Make Inferences	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Draw Conclusions Based on Facts Provided	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Classify Based on Facts Research	✓	✓	✓			✓			✓
• Sequence Events					✓			✓	
LEVEL 5 Synthesis									
• Compile Research Information	✓	✓	✓	✓	✓	✓	✓		
• Design & Application	✓	✓	✓	✓		✓	✓		✓
• Create & Construct	✓	✓	✓	✓				✓	✓
• Imagine Self in Scientific Role	✓	✓	✓	✓		✓	✓	✓	
LEVEL 6 Evaluation									
• State & Defend an Opinion	✓	✓			✓	✓	✓		
• Evaluate Best Practices	✓	✓	✓	✓	✓			✓	
• Make Recommendations	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Influence Community	✓	✓				✓	✓		✓

Based on Bloom's Taxonomy

📖 Before You Read

Packaging

1. **Write a definition for the word packaging on the lines below. You may use a dictionary to help you.**

_____

_____

2. **Draw a line to match the products on the left to their usual packaging on the right.**

1 milk	bubble wrap and a cardboard box	**A**
2 cereal	hard plastic case with a plastic wrapper	**B**
3 DVD	waxed paper carton	**C**
4 picture frame	thin metal tube with a plastic cap inside of a cardboard box	**D**
5 toothpaste	glass jar with a metal lid and paper label	**E**
6 jam	plastic bag inside of a cardboard box	**F**

3. On the lines below, describe **five** examples of packaging waste that you threw away in the past couple days.

_____

_____

_____

_____

Packaging

Think about walking down the aisles of a store. What do you see? Usually, you see boxes, cans, and other types of packages. Materials that contain or protect products are called **packaging.** A product's packaging may be as simple as a label or a wrapper. Some products have very large packages made of many different types of materials, such as plastic, Styrofoam, and cardboard.

Packages have many purposes. Labels advertise a brand and provide information about contents. Labels let you tell one type of milk from another, for example; Boxes and bags contain loose materials, such as cereal and flour. Bottles keep liquid products contained. Electronics like video games often have packages that are much larger than the actual product. These packages protect easily breakable products.

STOP

What is packaging? Describe different ways juices are packaged.

_____

_____

Why does packaging cause problems?

Like products themselves, packaging must be manufactured from raw materials. Trees must be cut to make paper labels and cardboard boxes. Tin must be mined to make cans. **Plastics,** made from **petroleum oil,** must be produced for many types of packaging materials.

The manufacturing of packaging has the same problems as the manufacturing of goods. Getting raw materials is costly and can be harmful to the environment. More pre-consumer waste is created during the manufacturing process. Packaging also creates more post-consumer waste, because it is simply thrown away when a product is purchased. Heavy or bulky packaging is more difficult to transport to stores. It requires more trucks to transport products with larger packages. More trucks create more pollution, and more cost for the product.

Packaging

1. Use the words from the list to label each type of packaging.

| glass jar | plastic bottle | tin can |
| Styrofoam | plastic wrapper | cardboard box |

a) _____

b) _____

c) _____

d) _____

e) _____

f) _____

2. Write the raw material next to the packaging that was made from it. You may use each raw materials more than once.

| glass | metal | petroleum oil | trees |

_____ **a)** cardboard box

_____ **b)** plastic wrapper

_____ **c)** can

_____ **d)** Styrofoam

_____ **e)** paper label

_____ **f)** jar