



Handout 6.5: Compost Sort and Packaging Redesign

Name: _____ Date: _____ Period: _____

Print pages 1 to 4 for every student. Page 5 is the compost sort card set, one per group of four, printed and cut apart.

DAY 1

Part 1. Sustainability, in your words

Something is **sustainable** if _____

Three farm methods

Method	What the farmer actually does	What it protects
Crop rotation		
Drip irrigation		
Integrated pest management		

Which one surprised you? _____ Why?

Part 2. Plant it and keep it alive

My plant: _____ Planted on: _____

My care plan

Question	My answer
How much water each time?	
How often?	
How much light does it need, and where in this room gets it?	
Who waters it if I am absent?	

Watering chart, four students per week. Write your name in the week you signed up for.

Week	Names
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	

Part 3. Compost sort

Sort the ten cards. Write each one in the right column, and for the NOT column write a reason.

GOES IN THE COMPOST	DOES NOT GO IN, and why

The card my group argued about: _____

Why we argued: _____

The rule in one sentence: things that used to be a plant break down. Things that came from an animal, or have oil or grease on them, _____.

Part 4. Packaging: protection against waste

The cucumber question

A cucumber wrapped in plastic stays fresh about three times as long as a loose one.

What gets better with the wrap: _____

What gets worse with the wrap: _____

Our three packages

Package	How many layers?	What is each layer doing?
1.		
2.		
3.		

Circle the one your group will redesign tomorrow.

The two criteria for tomorrow



Day 1 exit card

Sustainable means _____.

One thing that makes food production more sustainable is _____.



DAY 2: The redesign

Step 1. Define the problem

Our package: _____

The problem in one sentence: _____

Step 2. Criteria and constraints

Criteria (what the new design has to achieve):

1. The food still gets protected: _____
2. The waste goes down: _____

Constraints (rules the design cannot break). These are given to you:

1. The food has to survive shipping in a truck and being stacked three high.
2. The food has to last at least two weeks on a store shelf.
3. The package has to say what is inside and carry a Nutrition Facts panel.

Step 3. Brainstorm four ideas, then select one

#	Idea	One problem with it
1		
2		
3		
4		

The idea we selected: _____ Why that one: _____

Step 4. Prototype

Build the model. Draw your model here and label every part.



Step 5. Test it

Your teacher will ask you to drop it and stack three. Write what happened.

Drop test: _____

Stack test: _____

Step 6. Justify

Question	Our answer
How many layers did the original have?	
How many does ours have?	
What protects the food now?	
What did we remove, and what was that layer doing?	
What got worse in our design?	

Our thirty-second pitch, in two sentences:





Class total: how many layers did the whole class remove today? _____

Page 5: Compost sort cards

Print one set per group of four and cut apart. Each card has the item name and a small picture.

1. Apple core	2. Coffee grounds and the paper filter
3. Eggshells	4. Banana peel
5. Plain paper towel (no cleaner on it)	6. Chicken bones
7. Leftover buttered noodles	8. Cheese rind
9. Lettuce that went slimy in the fridge	10. Plastic produce sticker

Grade 8 stretch: the cost line and the hard question

Cost line

Question	Our estimate	How we would find out for real
Does the new package cost the company more or less to make?		
Does it cost more or less to ship?		
Would the store charge the same price?		

The hard question

Name one case where **more** packaging is the sustainable choice. Explain in three or four sentences.





