

The Responsible Package

5th Grade Standards-Based Supplemental Lessons

Dear Educator,

Welcome to **The Responsible Package**® program. This free, in-school program aims to raise awareness among your students and their families that paper is a renewable resource and that choosing paper-based packaging is the responsible choice.

Included in this program are the following:

- **Four Interactive Classroom Activities** that help students discover reuse and recycling practices in your school, create awareness to use paper-based packaging, and understand some of the varied and interesting career opportunities available in the corrugated cardboard industry. The standards for each activity can be found in the Activity 1 instructions.
- **School Scavenger Hunt Worksheet** that accompanies Activity 1 and challenges students to explore their school's recycle, reuse, and use of paper-based packaging – please photocopy and distribute.
- **On the Job Worksheet** that accompanies Activity 2 and guides students through this team-building, career-explorative exercise – please photocopy and distribute.
- **Three Family Take-Home Materials** to send home with students:
 - **A Letter to parents** that describes the program objectives – please photocopy and distribute;
 - **A Family Seek and Find Challenge** that raises awareness around paper-based packaging and encourages recycling and reuse – please photocopy and distribute; and
 - **Recycle + Reuse = Rewards!** handout to help students engage their families in recycling and reusing paper and paper-based packaging at home.

Through this program, students will learn about the renewable nature of paper and will discover how to make positive changes to increase use, reuse, and recycling of paper and paper-based packaging at school and at home.

For the abovementioned education materials, tools, and more information, please visit: theresponsiblepackage.com.

We look forward to your students becoming ambassadors of change in your school and community.

Your friends at The Responsible Package



Activity 1: School Scavenger Hunt

Objective: Students work in teams to discover reuse and recycling in their school and create awareness and motivate the student body to actively use, recycle, and reuse paper-based packaging.

Introduction:

- Define paper-based packaging, recycling, and reuse:
 - Paper-based packaging: A versatile and cost-effective method to transport, protect, and preserve a wide array of items. Examples include paperboard (like cereal boxes), corrugated cardboard boxes, paper bags, milk and juice cartons, and paper shipping envelopes. For more information and examples, visit <http://www.afandpa.org/our-products/paper-based-packaging>.
 - Recycle: Convert waste into reusable materials.
 - Reuse: Use again (one or more times).
- Ask students to share how they already use, reuse, and recycle paper-based packaging. Discuss how paper-based packaging is both sustainable (it comes from renewable resources and can be reused or recycled) and versatile (it can be used for many different functions and purposes).

Part A:

1. Divide the students into teams and supply each student with 1) a copy of the School Scavenger Hunt Worksheet; and 2) a digital camera or smartphone. If a camera is not available, ask students to log the location of the items they find in the last column.
2. Allow teams to explore the school and complete the chart on the activity page. Instruct students to indicate if the items are being used, reused, and/or recycled. Have students suggest improvements about how their school could improve their use, reuse, and recycling of paper-based materials in the last column.
3. Encourage students to use the back of the activity sheet and list other paper-based items found during their search.
4. Have teams reconvene and discuss their findings.
Discussion starters:
 - What was the most unique paper-based packaging found?
 - How does your school reuse paper-based products?
 - How does your school recycle? Are there recycling bins in the classrooms, lunchroom, and offices?

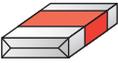
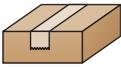
Part B:

5. Using their photos, ask each team to create a poster demonstrating their school's use and reuse of paper-based packaging and participation in recycling. If students didn't have access to a camera, instruct them to draw pictures of the items or cut pictures from magazines to complete their poster. Allow students time to brainstorm and include ways to improve their school's use, reuse, and recycling of paper-based packaging in their presentations.
6. Display the poster presentations throughout the school for exposure among the entire school community.

National Science Education Standards	Activity			
	1	2	3	4
8AS1.2: Design and conduct a scientific investigation.	●	●	●	●
8AS1.4: Develop descriptions, explanations, predictions, and models using evidence.		●		●
8AS1.5: Think critically and logically to make the relationships between evidence and explanations.		●		●
8AS1.6: Recognize and analyze alternative explanations and predictions.		●	●	●
8AS1.7: Communicate scientific procedures and explanations.				●
8EST1.1: Identify appropriate problems for technological design.		●	●	●
8EST1.2: Design a solution or product.		●	●	●
8EST1.3: Implement a proposed design.		●	●	●
8EST1.4: Evaluate technological designs or products.		●	●	●
8EST1.5: Communicate the process of technological designs.		●		●
8EST2.4: Perfectly designed solutions do not exist.		●		●
8FSPSP4.5: Risks and benefits relate directly to personal and social decisions.	●			

School Scavenger Hunt

Paper-based packages, containers, and bags are part of our everyday lives, so it can be easy to forget what makes them unique. Explore your school and indicate if these items are being used, reused, and/or recycled. Then, suggest improvements for better use, reuse, or recycling of paper-based items in your school.

	Search and Find	Using	Recycling	Reusing	Suggested Improvements
	Cereal boxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Copy paper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Corrugated cardboard boxes/shipping boxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Paper grocery bags	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Magazine/catalogs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Milk/juice cartons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Newspapers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Paper cups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Shoe boxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Paper shipping envelopes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hard or soft cover books	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Paper lunch bags	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Paper towel or toilet paper tubes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Paper napkins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Activity 2:

On the Job

Objective: Students work in teams to create a corrugated cardboard store display to learn about some of the careers involved in the paper-based packaging industry.

Introduction:

- Start with a show-of-hands poll to see which school topic students like best. You could use this Bureau of Labor Statistics list for the poll topics and a discussion on connecting interests to career choices:
<https://www.bls.gov/k12/content/students/careers/career-exploration.htm>
- Introduce paper-based packaging industry careers by talking about how the industry offers jobs for all types of skills – creating art, designing/building objects, producing/selling goods, or managing people/projects. You can use the International Corrugated Packaging Foundation career guides and videos to help discuss which industry careers might interest students: http://careersincorrugated.org/Types_of_Jobs
- Introduce “On the Job” and explain that it’s a creative, team activity that will help students imagine what role they might like to play in the paper-based packaging industry.

1. Explain that students will work in teams to create a corrugated cardboard store display to promote a product. You can show these videos to help inspire students:
<https://www.youtube.com/watch?v=QH2nTp4vGyk&feature=youtu.be>
<http://www.creativedisplaysnow.com/case-studies/>
2. Give students a week to bring in empty boxes of common pantry items made with paper-based packaging that they would like to promote (pasta box, cereal box, board game box, toothpaste, toy, milk/juice carton, etc.). Meanwhile, collect cardboard (also known as corrugated) boxes for building the displays (the cafeteria can be helpful here). You will also need such supplies as glue, duct tape, scissors, pens/markers, and paint/brushes.
3. Assign students and products to teams and explain that each team will have a Project Manager, Designer, Engineer/Logistics, and Sales Leader (See Student Worksheet: On the Job for role descriptions. If teams have more than four students, students can work in pairs under one role). Although one student will lead each area, all students are to help each other in this team effort.
4. Walk students through the steps for this activity, using the information about each student’s role in each step found in the student worksheet.

Optional Extension Activities:

- Use this AF&PA video to delve deeper into the discussion of paper use/reuse by talking about how paper is made:
<https://www.youtube.com/watch?v=4x9HlzPZLyM&t=11s>
- Use this AF&PA video and request this Project Learning Tree lesson plan to have students make paper in class:
<http://www.paperrecycles.org/recycling-resources/school-recycling>
- Have students conduct research to discover what percentage of different types of paper goods were recycled last year and discuss how that number could be increased next year.

Local Connection

The paper manufacturing industry is all around us – help students see what’s in their backyard. Investigate setting up a field trip to a local box plant or other paper manufacturing facility or asking someone in the local paper industry to speak to your class.

On the Job

For this challenge, your team will create a corrugated cardboard display that a store could use to promote a product. Once you've built your display, your team's Sales Leader will present it to the class. Be sure to recycle your display once your project is complete! (You can always take a photo to remember it.)

Project Manager

Your Role: You'll help your team work together to create a product store display.

Step 1: Lead a brainstorm about your display:

- Have Engineer lead a discussion about how to build the display.
- Have Designer lead a discussion about how the display should look.

Step 2: Help pick the best idea and then have the Engineer and Designer sketch a draft of the display.

Step 3: Discuss the pros/cons of this design draft. Help the team create a final sketch and then help build the display to match the sketch.

Step 4: Discuss how to promote the benefits of your team's display.

Engineer/Logistics

Your Role: You'll help the team decide how the display will be built.

Step 1: Ask questions to spark ideas:

- What shape display would best support and showcase the product?
- What would be the best materials to use to create the corrugated cardboard display?

Step 2: Work with the Designer to sketch a draft of the display.

Step 3: Discuss how to fix the weaknesses that are revealed during the pros/cons discussion. Work with the team to create a final sketch and then build the display.

Step 4: Discuss how to promote your team's display, including why the final shape was chosen.

Designer

Your Role: You'll help the team decide how the display will look.

Step 1: Ask questions to spark ideas:

- What colors would catch people's eye?
- What could be added to make the product stand out among other products in the store?

Step 2: Work with the Engineer to sketch a draft of the display.

Step 3: Discuss the pros/cons of the draft. Work with the team to create a final sketch, making changes that fix any weaknesses. Then help build and decorate the display.

Step 4: Discuss how to promote your team's display, including why the final design was chosen.

Sales Leader

Your Role: You'll help the team convince your class that your display would work to sell products in a store.

Step 1: Participate in creating the look and design of your team's display.

Step 2: Help the team create the display sketch.

Step 3: Discuss the pros/cons of the sketch, suggesting solutions to fix weaknesses. Prepare for the class presentation by considering how to highlight the display's strengths and answer potential questions from the class about its weaknesses.

Step 4: After receiving your team's input, present the display to the class, explaining how everyone's roles played a part in its development.

Activity 3: It's My Creation

Objective: Students promote reusing paper-based packaging through hands-on creativity.

Introduction: Ask students to consider which paper-based products they use on a daily basis at home or school. Display the list in the classroom and discuss how these items could be made into different objects with new uses.

1. Allow students a few days to collect paper-based products, like paper bags, paper towel/toilet paper tubes, milk/juice cartons, paperboard boxes (cereal or shoe boxes), and corrugated boxes. Students may also choose to set up a collection box in the cafeteria to promote school participation.
2. Students can work independently or in pairs to use the collected materials and create their new object. Their creation can be a version of something that already exists or a new invention. Encourage students to use glue, tape, scissors, paint, markers, and other art supplies to enhance their creation.
3. Ask students to write a brief summary of the materials they used and the function of their creation.
4. Display students' creations and summaries in the cafeteria or other highly visible location and ask the entire student body to vote for their favorite.
5. Involve administrators by having them encourage voting and ask them to announce winning student(s) during morning announcements.
6. Provide a reward for the winning students(s), like a homework pass or extra free time!
7. Culminate the activity by instructing students to recycle any unused paper-based items collected and dissembled creations.

Activity 4: Packaging Made Perfect

Objective: Students explore how trees are a useful renewable natural resource and discover that paper-based packaging is an effective material for shipping.

Introduction: Ask students to research what it means to be a renewable natural resource.

1. Have students work in teams. Provide teams with several bags of chips or pretzels. Challenge them to use various types of paper-based packaging to wrap and pack a single bag. The package should be sealed and only contain paper-based packaging.
2. Teams should test their package to see the effectiveness of their paper-based packaging. Students can drop the packages from various heights or toss them back and forth like a delivery service.
3. After each trial, have students open the package and observe if the chips or pretzels broke. Ask them to record their results and discuss how they might repack the items for better success. For example:

Trial	Challenge	Result	Ways to Improve

4. After several trials, have teams present their most successful packaging technique and discuss their results as a class.
5. Conclude that paper-based packaging is an effective way of shipping delicate items.