Recycling Education Packet

Developed in partnership with California State Parks and LA’s BEST as part of the Plastics. Too Valuable to Waste. Recycle.™ Campaign
Dear Educator:

In a continuing effort to expand recycling education efforts throughout California, we've developed this easy-to-use packet of lessons and activities for you to use with the students in your classroom. The games and information are designed primarily for K-5.

Working on behalf of the plastics industries, the American Chemistry Council (ACC) has partnered with Keep California Beautiful and other groups throughout California to educate students, families and communities about recycling. To date, our partnerships have reached more than 30,000 students and ACC-sponsored recycling bins throughout the state are diverting more than 45 tons of plastics from the waste stream annually. Our hope is that this packet will continue to encourage everyone to keep plastics out of the natural environment and in recycling bins where they belong.

This packet includes suggested activities that you can use to teach your students about reducing waste and increasing recycling. The structure for each activity is outlined within and followed by specific instructions, including a list of the materials that you'll need to set up and participate in the activities. All of the materials are things that you and your students can easily find at home and bring in, then recycle at the end of the day.

We hope you and your students will enjoy these activities and have fun learning about ways we can all reduce, reuse and recycle!

In this packet, you will find:

- Recycling information, tips, and trivia.
- Recommendations on how to set up and run the games and activities.
- List of materials to gather before hand to set up the activities.

Program Goal:
Continue to reinforce the importance of recycling and to educate students about reducing waste in an innovative way.

Note: As some communities have different recycling standards, users of this packet should confirm with their local municipality which items are accepted in the recycling bin.
RECYCLING INFORMATION, TIPS, AND TRIVIA

Recycling and Healthy Living Tips

At home or on-the-go, the following tips can help your students increase the amount of plastic items that they recycle.

1) Start with plastic bottles.

Almost all recycling programs collect plastic bottles. A bottle is any container with a neck that is smaller than its base. These include:

- Milk jugs
- Water, soft drink, and juice bottles
- Bottles from shampoo, toiletries, laundry detergent and other household cleaners
- Salad dressing, cooking oil and condiment bottles
- Food jars, such as peanut butter and mayonnaise

Place caps back on bottles before tossing in the recycling bin. Recyclers want caps too!

Ask students to name some other plastic bottles in their homes.

Point to the resin symbol on the bottom of a bottle and explain to students that this is how recyclers sort different types of plastics so they can process them and make them into new products.

2) Bring it to the bin.

Many beverages are consumed away from home so it's important to bring empty bottles back to the recycle bin.

The next time you think about throwing a recyclable plastic bottle in the trash, remember that recycled plastic bottles can be used to make new bottles, fleece jackets, tote bags, blankets, carpeting, and T-shirts, and that every bottle that goes into a bin and into these products is one less bottle in a landfill. A landfill is the place where the trash collectors take our trash to store it all in one big area - and landfills have A LOT of garbage so they don't need any recyclable plastic!

Ask students to brainstorm ways they can do more away-from-home recycling. Hint: When you're out and about, place the cap back on and temporarily store the empty bottle in your backpack until you get home.
3) Pitch in beyond the kitchen.

While many recyclable bottles come from the kitchen, don’t forget to check the bathrooms and laundry room for shampoo and detergent bottles.
Ask students to name some other plastic bottles in their homes that they can remind family members to recycle.
Ask students who in their home does most of the recycling and to come up with ways that they can help recycle more.

4) Don’t forget food containers.

Different plastic containers can be made with different types of plastics. In addition to bottles, many neighborhoods are collecting and recycling plastic containers, such as yogurt cups, butter tubs, food containers and lids. But, keep in mind that mixing the wrong types of materials (even other plastics) can lower the quality of the recycled material. Students can work with their parents to check online to find out what types of materials your community does and does not collect.
www.earth911.com is a great resource for information on what can be recycled and where.

5) Plastic bags and plastic product wraps can be recycled, too.

Across the United States, large grocery stores and pharmacies now offer drop-off programs that allow shoppers to return their used plastic bags and product wraps to be recycled. In most stores, bag collection areas are located at the front entrance or near check out areas. Check with your grocer and other area retailers to see where bags are recycled in your community.
Ask students to brainstorm other kinds of plastic wraps and films that can be recycled (HINT: Wherever plastic bags are recycled, you can also recycle dry cleaning bags, newspaper bags, bread bags and wraps from paper towels, bathroom tissue, napkins, diapers and cases of beverages.)

6) Find new ways to use old bags. (Good info to share with parents)

This is a great time to encourage the kids to come up with their own ideas on how to reuse plastic bags.

Use a bag more than once before throwing it away. Plastic bags’ durability and water-resistance allow them to be reused in a variety of ways, such as:
• Wet umbrella cover - keep other items in your backpack dry when your umbrella is wet
• Doggie duty - take them on dog walks to collect and dispose of pet waste
• Hand protectors – place them over your hands to handle messes indoors and out
• Kitchen clean-up – place them under the cutting board for quick scrap removal

Recycling Trivia Questions

These trivia questions can be used on their own as part of a recycling lesson, or along with the games (for example, having each relay stage involve answering a trivia question).

1) If you recycle your plastic water bottles they may be made into which of the following:
   a. fleece jackets; b. carpeting; c. t-shirts; d. blankets; e. all of the above.

   The answer is e. All of the above, because remember that recycled plastic water bottles can be used not only to make new bottles but also fleece jackets, tote bags, blankets, carpeting and even T-shirts.

2) Besides the kitchen, where might there be plastic bottles that can be recycled?
   a. The laundry room; b. the bathroom; c. the storage closet; d. all of the above.

   The answer is d. all of the above. Remember, besides the plastic bottles you find in the kitchen, you can also recycle laundry detergent bottles, shampoo and conditioner bottles, liquid soap bottles and cleaning supply containers.

3) How can you and your parents find out what can be recycled in your neighborhood?
   a. call a friend; b. ask my teacher; c. look online; d. none of these.

   The answer is c. look online. While your friends and teacher can help, one of the best places to find out what is recycled in your neighborhood is to have your parents help you look online to see what is or is not collected in your community. One very useful website is www.earth911.com, where you can enter your zip code to find out more about where to recycle in your community.

4) Which of the following can be recycled?
   a. milk jugs; b. water, soft drink and juice bottles; c. salad dressing, cooking oil and condiment bottles. d. all of the above.

   The answer is d. all of the above. Other bottles that can be recycled include: salad dressing, cooking oil and condiment bottles and food jars, such as peanut butter and mayonnaise.

   Also, keep in mind that mixing the wrong types of materials (even other plastics) can lower the quality of the recycled material. So unless your community specifically asks for plastics other than bottles, please put only bottles into the recycling bin. Students can work with their parents to check online to find out what other types of materials your community does and does not collect.
Activity Instructions

The following are instructions for setting up and playing games that emphasize the importance of reducing waste and increasing recycling. All of these activities have been designed to get kids moving and thinking about recycling. The activities can be set up outside or inside an auditorium or other large room. All of the games are designed for groups of up to 20 students, but can easily be modified for fewer players. The games should be set up far enough apart that there isn't overlap, but close enough that it's easy to get from one game to the next.

Note: These instructions are meant to be guidelines to help you, but if you find that another format/structure works better for your classroom, feel free to modify to accommodate all of your students and make the festival fun for everyone. The priority is that the kids get to learn about recycling, get some exercise and have some fun in the process!
1: Recycling vs. Landfill (Rolling Keep Away)

**Supplies:**
- 4 cones or any other easily visible marker, such as boxes or chairs
- Playground balls (e.g., rubber balls, soccer balls, volleyballs)

**Set up:**
- Create a game square about 20 ft. x 20 ft.
- Mark boundaries of square with cones or other marker.

**Playing the Game:**
- Divide the group into three even teams.
- Name two of the teams “Landfill” and the other “Recycle.”
- The two “Landfill” teams will spread out along two opposing sides of the square.
- The Landfill teams try to roll (underhand only) the balls across the square to the other Landfill team.
- The Recycle team will try to stop the balls from crossing the square.
- When a ball is stopped the Recycle group will put it to the side because the item is “recycled” and can be used again for the next game.
- When someone stops a ball and puts it in the recycle pile, they have to shout out one thing that can be recycled before going back to try to stop the other balls.
- The game ends when all the balls are “recycled.”
- Switch the groups and repeat until all groups are allowed to be the Recyclers.
- Repeat activity as long as time permits.
2: Water Bottle Bowling Relay

Supplies:
- 4 medium empty 2 liter bottles
- 4 balls

Set up:
- Fill the water bottles half full with water to weigh them down and put the caps on to prevent spilling.
- Place the water bottles in a line spaced 4-5 feet apart
- Place the balls 10 feet in front of each of the water bottles

Playing the Game:
- Divide the group into at least two teams with an even number of players on each team (i.e. four teams of five or three teams of four).
- Place one person from each team behind the water bottle.
- Have the rest of the team form a line behind the ball.
- The first person in line rolls the ball UNDERHAND toward the water bottle, trying to knock it down.
- Once the ball gets to the water bottle, the kid who rolled the ball runs down to the water bottle.
- The ball "thrower" and the ball "catcher" must tag hands behind the water bottle.
- The person who was standing behind the water bottle grabs the ball and takes it back to the next person in line and moves to the back of the line.
- The ball thrower sets the water bottle back up (if he or she knocked it down) and the next person in line bowls as soon as they get the ball back.
- Repeat until everyone has had a turn.
- Repeat activity as long as time permits.
3: Recycling Relay

Supplies:
- Assorted clean empty recyclable items (five different types) that are all different sizes (i.e. 2 liter bottle, yogurt container, milk jug, small water bottle, butter tub).
- Collect four pieces of each item to create four piles of the same five items in each pile
- Four cones/spot markers

Set up:
- Create four piles containing five recyclable items in each pile.
- Place a cone or marker 15-20 feet away from each pile.

Playing the Game:
- Divide the group into four teams of equal numbers on each team. Teams should not exceed 5 members.
- Have each team line up at a different cone.
- The first person from each team will run to the pile and pick out a recyclable item and bring it back to the group and hand it to the next person in line.
- The second person in line runs to the pile, carrying the first item and picks up a second item without putting the first item down.
- The second person in line carries both items back to the team and hands two items to the third person in line.
- The third person in line carries both items down to the pile and picks up a third item without dropping or putting down either of the first two items.
- The third person runs back to the team and hands all three items to the fourth person in line.
- The fourth person in line carries all three items down to the pile and picks up a fourth item (without putting down any of the three items) and runs back to the team.
- Repeat up to the fifth person in line who will pick up the last item, bring all five items back to the team and hand them off to the next person in line.
- The last person has to carry all five items back to the marker drop them all, then run back to the team.
- Repeat as time permits.
4: Recycling Toss

**Supplies:**
- 4 clean, empty trash cans or boxes to serve as the recycling bin
- 12 clean, empty water bottles/yogurt containers/or other recyclable plastic containers that can be thrown a short distance. Can be all different types of containers.

**Set Up:**
- Place the 4 trash cans or boxes in a straight line 4-5 feet apart.
- Make four piles of three plastic containers in each pile six feet in front of the recycling bins.

**Playing the Game:**
- Divide the group into at least 2 teams with an even number of players on each team (i.e. 4 teams of 5 or 3 teams of 4)
- Place 1 person from each team behind the recycling bin.
- Have the rest of the team form a line behind the pile of containers.
- The first person in line throws each container one by one, trying to make it into the trash can or box.
- As soon as they've thrown the third piece, the "thrower" runs down to the recycling bin.
- The container "thrower" and the container "catcher" must tag hands at the recycling bin.
- The person who was standing behind the "recycling bin" collects all three containers to take them back to the next person in line. That person hands off the containers to the next person in line and goes to the back of the line.
- The container thrower becomes the "catcher" for the next person in line.
- Repeat until everyone has had a turn.
- Repeat activity as long as time permits.
Background:
1. Plastics are polymers. What is a polymer? The most simple definition of a polymer is something made of many units. Think of a polymer as a chain. Each link of the chain is the "mer," or basic unit that is made of carbon, hydrogen, oxygen, and/or silicon. To make the chain, many links or "mers" are hooked or polymerized together. Polymerization can be demonstrated by linking strips of recycled paper together to make garlands or by hooking together hundreds of paper clips to form chains.
2. For example, silly putty is a polymer. It was originally called Nutty Putty because it can stretch to extreme lengths.

Activity: Polymer Tag
1. One student is "It" and his/her goal is to tag as many students as possible within given boundaries.
2. Once someone is tagged, he/she must link arms with "It" and they must travel together and continue to tag other kids.
3. As the game progresses and the chain grows longer the students create a "polymer".

Craft: Polymer Chain Bracelets

Supplies:
- Recycled paper to cut into 1" wide strips
- Scissors
- Stapler
- Markers/crayons

1. Pre-cut the paper for the students to decorate.
2. Students will decorate 5-10 paper strips to be linked together to form a chain. If appropriate, teachers can help staple.
3. Staple the strips into rings first, and then attach rings to ring to make a larger chain.
4. Hang the chain around your classroom or playground to demonstrate a polymer chain!