Recycling

Environmental Science

- Introduction (~5 minutes)
  - What is recycling? Why is recycling good?

- Fun Facts (~5 minutes)
  - In the United States, we produce 4.6 lbs of garbage per person per day
  - 75% of this could have been recycled instead of going to a landfill!
  - Plastic bags are the second most common waste found on beaches
  - The aluminum can industry can make up to 20 cans from recycled aluminum with the same amount of energy it takes to make 1 completely new can
  - Because plastic water bottles are shielded from sunlight in landfills, they will not decompose for thousands of years

- Recycling Process (~10 minutes)
  - Used paper is put into recycling bin and taken to recycling center
  - Sorted into different grades (based on quality)
  - Compacted into large bales and taken to paper mill
  - Shredded and mixed with water and chemicals to make a pulp (paper fibers)
  - Washed (through screens) and cleaned
  - Deinked- via shredding and chemicals
  - Refined- pulp beaten (fibers swell), dye removed (bleached to make white paper)
  - Pulp made into 95% water mixture and sprayed in a continuous jet onto a huge wire mesh like screen
  - Water drained from pulp (fibers bond together)
  - Bloated/squeezed dry (via felt and rollers)

- Recycling in Nature (~5 minutes)
  - In nature, everything is recycled and reused.
• When plants die, they are decomposed by bacteria and become soil which can be used by other plants.

• When animals die, they are either eaten by other animals or decomposed and reused as soil.

• Composting is an example of how plant matter and food waste can be recycled and then reused as soil

- The Three Rs
  • Reduce: try to minimize the amount of garbage you produce
  • Recycle: make sure that all recyclable things are recycled
  • Reuse: if things can be used again, then use them again instead of buying new stuff

- Activity: making your own paper
  • See directions on worksheet to make paper! Make sure to have students record observations about their paper versus paper you buy at the store!

  • Materials:
    - Frames (popsicle sticks, mesh, wood glue)
    - newspaper, colored paper, water, blender, 13X9 baking pan, seeds, towels, sponges, scissors