Reduce, Reuse, Recycle, Pre-Cycle!

This series of on recycling provides an introduction to the concepts or "reduce, reuse and recycle" as well as the very important concept of "precycle".

Each “experiment” could be distributed a different teams who then reports to the class. Alternately, groups could work through each of the “experiments” over a series of days.

They can be adapted to suit almost any grade level. Primary students could do the experiments as a unit of study over several lessons, while Middle and Secondary students could do them in one class as an introduction to a unit on the environment and recycling.

Have Fun!

TONS OF TRASH

LET'S SEE:

How much garbage do we make?

YOU NEED:

- To count your family's full garbage bags

DO THIS:

1. Count the number of bags of garbage your family throws out in one week.

Write it here:

2. Add all of the bags for the whole class:

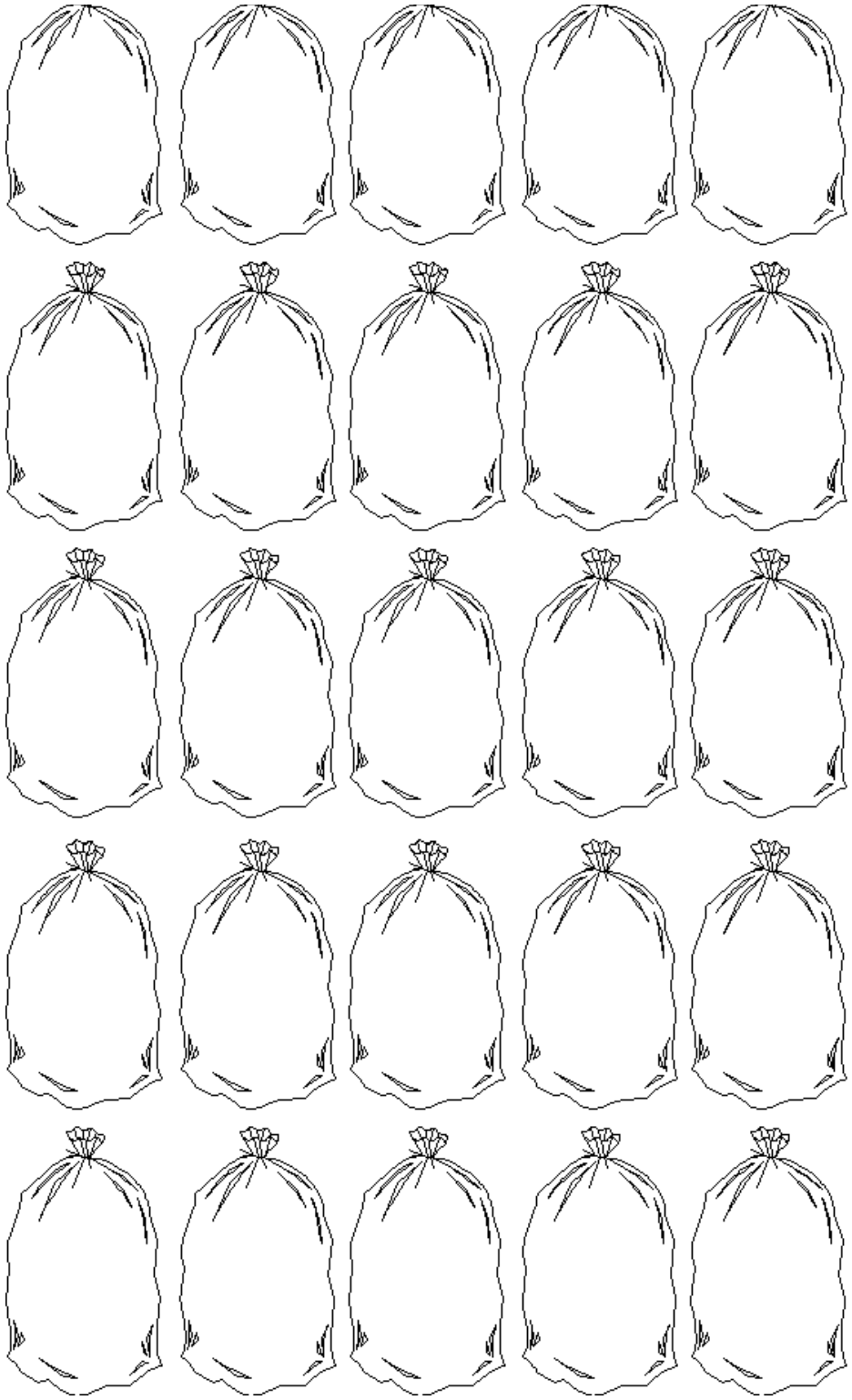
3. Put an X through one trash bag on the next page for every bag your class' family throws out.

TALK ABOUT:

How many weeks are there in a year?
How big would the heap be after a year?

CONCLUSION:

ONE WEEK OF TRASH



JUNK MAIL

LET'S SEE:

What is junk mail and what can we do about it?

YOU NEED:

your parents' help to save junk mail

DO THIS:

1. Save your family's junk mail at home for 1 week.
2. At the end of the week, count the number of pieces and write the total here: _____
3. Take one sheet from the box for every piece of junk mail.
4. Tape them together end-to-end.
5. Tape together all of the sheets for your class.
6. Now stretch it down the hallway.

CONCLUSION:

We each get a lot of junk mail. Can you think of ways to reduce, reuse or recycle it?

Reduce:

Reuse:

Recycle:

JUICE BOXES

LET'S SEE:

Are juice boxes easy to recycle?

YOU NEED:

___ 1 juice box ___ 1 small scrap of paper
___ 1 scissors ___ 1 wet paper towel

DO THIS:

1. Cut apart the juice box.

2. What is the inside layer made of?

3. Feel the outside layer. How does it feel?

4. Put a drop of water on the paper. What happens?

5. Put a drop of water on the outside of the juice box. What happens?

6. From your observations, can you guess what the outside layer is made of?

7. Now peel apart the inside and outside layers. What is the middle layer made of?

CONCLUSION:

Will a juice box be easy to recycle? ___ yes ___ no
What could you use instead of a juice box that is better for the earth?

SAVE THE TREES

LET'S SEE:

Are we making a difference by recycling paper?

YOU NEED:

- 1 yard stick
- your class recycle bin

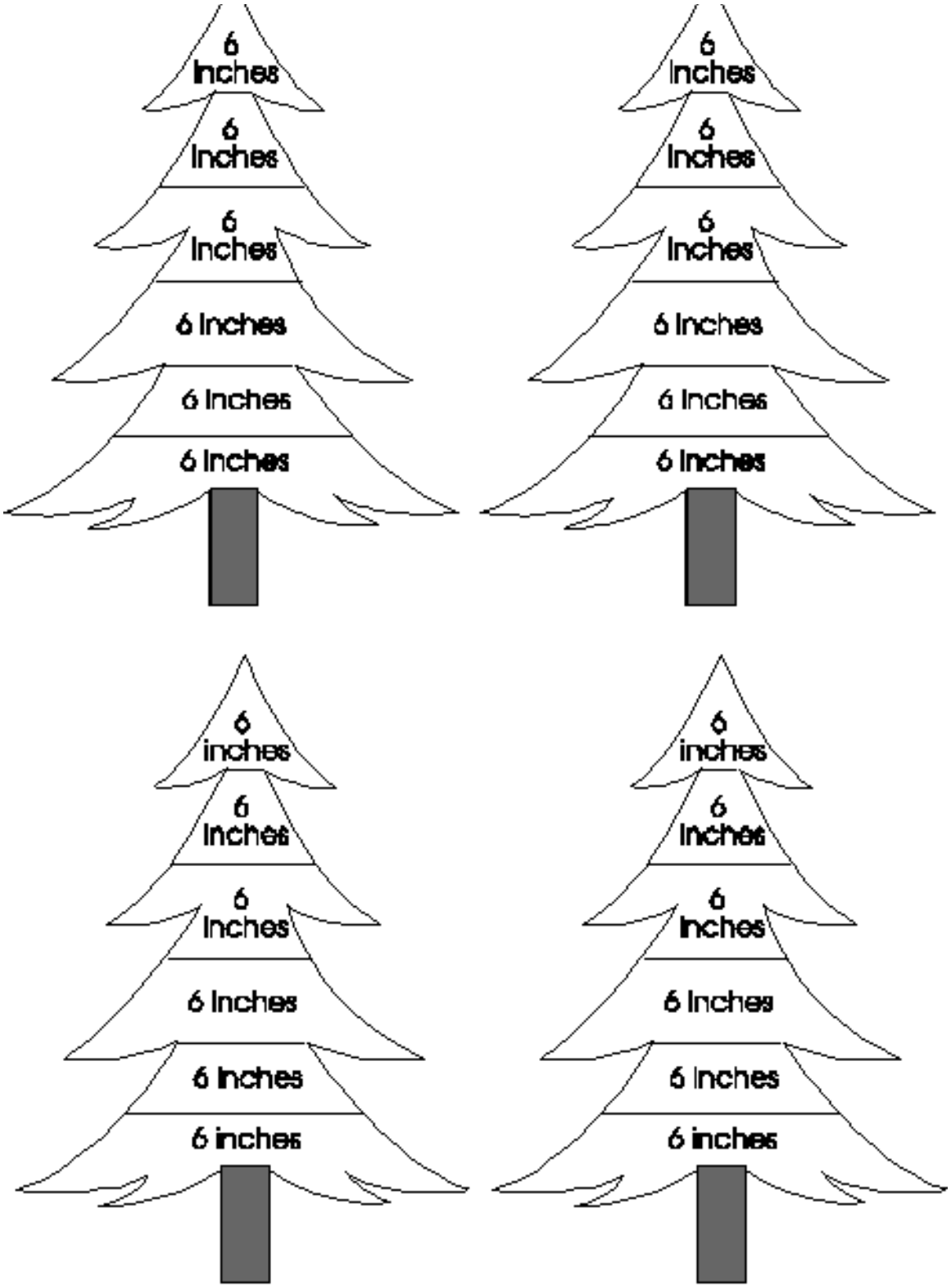
DO THIS:

1. At the end of the day, stack the papers from the recycle bin neatly.
2. Measure how tall the stack is: _____ inches
3. Color one stripe on the next page for every 6 inches.
4. See how many trees you are saving each week by recycling paper.

CONCLUSION:

We save about _____ trees each week by recycling paper.

TREES WE SAVED IN ONE WEEK



PAPER FROM PAPER

LET'S SEE:

How is recycled paper made?

YOU NEED:

- 1 plastic container
- 1 cup of water
- 2 screens
- 10 sheets (recycled) toilet paper
- 1 fork
- 1 clothes pin
- newspaper

SHARE WITH YOUR PARTNER:

- 1 rolling pin
- 1 foil pan

DO THIS:

1. Put one cup of water in the container.
2. Tear the toilet paper into little pieces (the size of a dime) and put them in the container.
3. Mix up the toilet paper and water with the fork for a long time to make pulp. Try to make the pulp smooth, not lumpy.
4. Put one screen flat in the pan.
5. Pour the pulp slowly onto the screen.
6. Spread the pulp so it covers the whole screen evenly.
7. Lift the screen and pulp out of the pan and put it on a thick pile of newspaper.
8. Put the other screen on top.
9. Put more newspaper on top.
10. Roll a few times each way with the "rolling pin".
11. Take out your paper, screens and all, and hang it up to dry.

Why?

Why do we need the newspaper?
Why do we need the screens?

LEACHING LANDFILLS

LET'S SEE:

What does buried garbage do to our drinking water?

YOU NEED:

- 2 soda bottles cut in two
- 2 filter papers
- 1 paper towel
- 1 cup
- sand
- water
- paint

DO THIS:

1. Put the bottles together as shown in the picture.

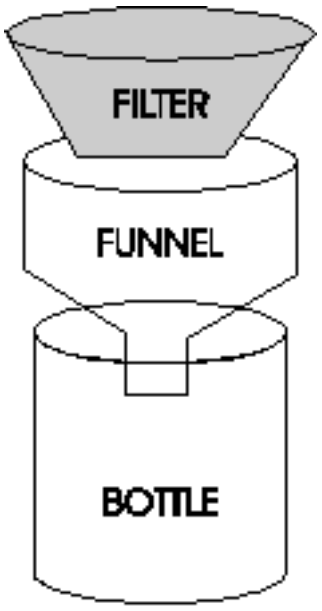
2. Fill the filters with sand.

3. Put paint on the paper towel. This will be our garbage.

4. Bury the garbage in the sand in one funnel.

5. Let it rain - pour water on top of the sand in both set ups.

6. Look at the water that falls into the bottles.



TALK ABOUT:

Why does the water in the "garbage bottle" turn color?

OVERPACKAGING

LET'S SEE:

Does it matter how food is packaged?

YOU NEED:

- large bag of popcorn
- small bag of popcorn
- tape

DO THIS:

1. How much popcorn is in: a small bag? a large bag?
2. How many small bags are the same as one large bag?
3. Eat the popcorn.
4. Lay the empty bags flat.
5. Tape all of the small bags from the class together.
6. Measure it against the large bag of popcorn.

CONCLUSION:

Which way of packaging makes more garbage?

- lots of little bags
- one big bag

How could you take some popcorn for lunch without buying little bags?

BIODEGRADABLE?

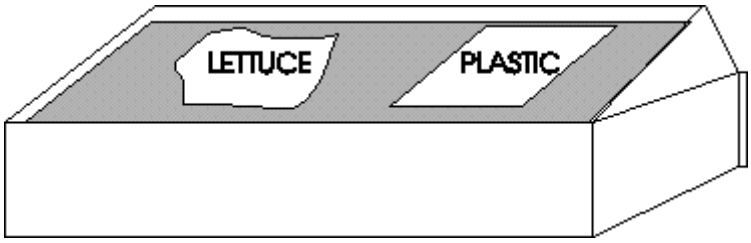
LET'S SEE:
What happens to buried garbage?

YOU NEED:

- 1 milk carton
- 1 piece of plastic bag
- 1 piece of lettuce
- 1 cup of water
- dirt
- fork (next week)

DO THIS:

1. Fill the milk carton half way with dirt.
2. Lay the lettuce and the plastic on top of the dirt.
3. Cover the "trash" with more dirt.
4. Water your garbage dumps.
5. Wait a week . . . . . then use a fork to dig out your trash.



RESULTS:
Has the trash changed?
lettuce ___ yes ___ no
plastic ___ yes ___ no

How?

CONCLUSION:
_____ decomposes faster than _____.
(food/plastic) *(food/plastic)*

TRASH OR TREAT

LET'S SEE:

How can we reuse things that we used to think of as trash?

YOU NEED:

- 1 paper grocery bag
- your imagination
- trash
- paint
- scissors
- glue
- tape

DO THIS:

1. Make a mask out of the bag. It can be a mask for Halloween or perhaps an Earth Day parade.

2. Find out how much a Halloween mask costs to buy:

3. How much did your mask cost to make: _____

CONCLUSION:

Making your own mask costs *(more/less)* and *(is/is not)* better for the earth than buying a mask.

TRASH TRIP

LET'S SEE:

Is there anything more we could do to make less trash at lunch?

YOU NEED:

- the cafeteria's garbage

Field Data:

1. Count the number of bags for one day:
   - bags of garbage
   - bags of cans
   - bags of glass

2. What's in a bag of garbage?

_____ _____

_____ _____

_____ _____

_____ _____

Garbage Analysis:

Are there any cans or glass? ___ Yes ___ No

What is there the most of?
Why isn't this recycled?
What else can be recycled?

Recommendation:

How can our cafeteria reduce the amount of garbage?

PLASTIC PARADE

LET'S SEE:
Are most plastics recyclable?

YOU NEED:

- 10 plastic containers

DO THIS:

1. Look for the recycle number on the container.
2. Make a tally mark next to that number in the table on the next page.
3. Add up all the tally marks for the class and write the total.
4. Circle the totals for the plastics that can be recycled.

Recycle Number	Tally Marks	Your Total	Class Total
1			
2			
3			
4			
5			
6			
7			
No Number			

SUMMARY:
How many containers does the class have? _____
How many are recyclable in your town? _____
How many are NOT recyclable in your town?_____

CONCLUSION:
Most of the containers *(are/are not)* recyclable.