# Math and Nature

## Activity 2 - Trash Math

Did you know that North Americans produce enough garbage each day to fill 70,000 garbage trucks? Lined up bumper to bumper, over a year, they would stretch halfway to the moon! When our trash disappears off the curb it is buried in the ground where it can remain, unchanged for centuries. More than 20% of the garbage thrown out by the average Ontario household is packaging.
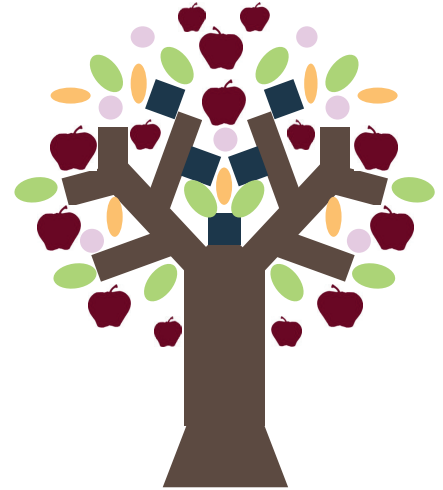
If everyone on the earth lived like the average Canadian, we would need at least four Earths to sustain our lifestyles and provide all the materials and energy we currently use. We create well over 250 kilograms of waste per person in our homes every year! However, much of the garbage collected isn't garbage at all. As you will find in this activity, litter around our schools and neighbourhoods can be recycled or composted, both of which will help sustain our environment!

**In this activity you will need:** Garbage bags, a scale and rubber gloves.

**Activity Instructions:**

- Estimate the amount of garbage (in weight) that can be found in a nearby park or around your neighbourhood. Record your estimate: I think that there is/are _____ kgs of litter in my neighbourhood/local park.

- Go for a walk in the area you selected and pick up any litter that you see. Place all the litter into garbage bags.

- Weigh the total amount of garbage collected. Use the chart on the following page to record your results.

- Sort the garbage into groups (compost, recyclables, garbage, other) and weigh the amount of garbage collected in each group. Record your results.

# Can you believe THIS is math?

# Math and Nature

## Activity 2 - Trash Math - *continued*

- Determine which percent of the total amount of garbage each group composed.
  For example: If total garbage collected weighs 5 kgs and the weight of the recyclables collected weighs 2 kgs, the percentage of garbage that is made up of recyclables is:

$$(2/5) \text{ x } 100 = 40 \text{ %}$$

- Create a circle graph or table to illustrate these results. Multiply the percent of total garbage collected by 360. Then divide the result by 100 to tell you how many degrees of a circle would be represented by that type of garbage.

$$40 \text{ x } 360 / 100 = 144$$

| Group | Weight | % of Garbage Collected | Calculation % x 360 | Degrees of Circle |
|---|---|---|---|---|
| Trash | | | | |
| Recylables | | | | |
| Compost | | | | |
| Other | | | | |
| Totals | | 100 | | |

# Can you believe THIS is math?