

## The world is an Apple

**Objective:** The following exercise compares the world to an apple. It helps students understand the small amount of land that we depend upon, and how important it is to protect what is left.

**Materials:** An apple

### Procedure:

#### Step 1

It can be difficult for anyone to comprehend the relatively small area of land on which humans rely. However, through the comprehension of this concept, we realize how important it is to preserve what we have left. When students understand what little we have to preserve, it will be apparent that any sustainable action, no matter how small, will have a significant effect on the environment around us, and will be beneficial to future generations.

Introduce the concepts of habitable space, carrying capacity, and sustainability. Create a discussion in your class about what these terms mean, what they have in common, and what consequences they pose for us as humans.

#### Step 2

To bring these concepts to life, and to visually demonstrate our limited access to finite resources, follow the guidelines given below.

Show the students an apple, and explain that it represents the earth

Slice the apple into quarters.

Set aside three of the quarters.

Ask the students: What do these represent? (They represent the oceans of the world)

What fraction do you have left, and what does it represent? ( $1/4$ , representing land)

Slice this land into half.

Set aside one of the pieces.

The portion set aside represents the land area that is inhospitable to people: the polar areas, deserts, swamps and large mountains.

What fraction do you have left? ( $1/8$ )

The piece that is left is the land area where people live, but do not necessarily grow the foods needed for life.

Slice the  $1/8$  piece into four sections.

Set aside three of these sections.

The portion set aside represent the areas that are too rocky, too cold, too steep, or with inadequate soil to produce food. These sections also represent areas that contain cities, urban sprawl, shopping centres, schools, parks, factories, parking lots, and other places where people live, but where they do not necessarily grow food.

What fraction do you have left? ( $1/32$ )

Carefully peel the  $1/32$  slice of the earth.

This tiny bit of peeling represents the surface, the very thin skin of the earth's crust, or topsoil, upon which humans depend. It is less than five feet deep. Due to erosion and overfarming, we lose 25 billion tons of it per year. It takes 100 years for one inch of topsoil to form.

Having shown how little of the earth's surface is arable, you can now discuss the world's increasing population. Remember to discuss the growing importance of sustainability.

Source: Teaching about Sustainability: Some strategies - Global insights, by Larry Parker and Bayne MacMillan <http://www.schoolnet.ca/learning/down/nb.nb-insights.en.pdf>