

# The Earth As An Apple

## How Much Land Is There to Grow Food?

*A lesson from the New Jersey Agricultural Society  
Learning Through Gardening program*

**OVERVIEW:** The Earth may seem like a big place, but the small amount of land available to grow food will surprise your students. This simple activity will demonstrate to them how little land can be used for farming and start a discussion about why this land needs to be preserved.

**GRADES:** 3-5, *can be done as a demonstration for younger students*

**OBJECTIVE:** The student will be able to

- Explain how little land there is on earth for food production and why it is necessary to protect that land.



### **MATERIALS:**

An apple for every student or pair of students  
One heavy plastic knife for each child

*NOTE: Activity can be done in small groups or by pairs of students.*

### **PROCEDURE:**

Explain that by using an apple, we will see how much of the earth's surface can actually be used for food production, and why it is everyone's responsibility to protect this soil wisely to make sure it is available to use in the future.

Teacher tells the students to:

1. Cut the apple into four equal parts.

*Three parts represent the area of earth that is covered by water. Hold up the fourth quarter, which represents the land.*

2. Cut the land quarter into four equal parts:

*$\frac{1}{4}$  represents deserts*

*$\frac{1}{4}$  represents mountains*

*$\frac{1}{4}$  represents land too cold to grow food*

*$\frac{1}{4}$  represents land where man can live.*

3. Cut the section of land on which we live into quarters:

*Of the land on which we live,*

*¼ is too wet for food production*

*¼ is too dry for food production*

*¼ is too rocky or steep for food production*

*¼ is available for food production*

4. Hold up the section the IS available for food production

*The flesh of this piece of apple represents the land we have paved over or destroyed with toxic and nuclear waste.*

5. Peel this last piece of apple and hold up the peel:

*This small bit of peel represents the amount of land available to produce all the food that feeds the world!*

*Class discussion:*

Ask students what does this activity tell us? Were you surprised by the results? Given the small piece of land on which we can grow food, what do you think we should do?

**EVALUATION:**

Students write a paragraph explaining the results of the activity and what people should do as a result.

Have students wash and then eat the apples!

**New Jersey Learning Standards**

*Science: 3:LS2.C, 3:LS4.C 4:ESS2.E 5:ESS2.A,C, 5:ESS3.C*

*English Language Arts: 3:W.3.2.A-D, W.3.4,8 4:W.4.2.A-E, W.4.4,8  
5: W.5.2.A-E; W.5.4,8*