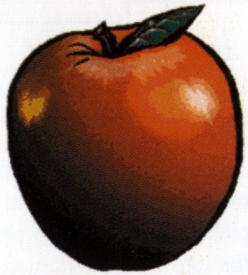
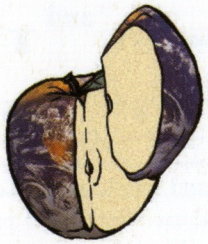
HOW MUCH SOIL IS THERE?



Try this activity at home or in class. You might be surprised to find out the small amount of soil we depend on to produce our food supply. Pretend this apple is the planet Earth. Notice its skin, hugging and protecting the surface.

Water from oceans, lakes, rivers and streams cover approximately 75% of the Earth's surface.
Action: Cut the apple in quarters. Toss three quarters (75%) away.



What is left (25%) represents the dry land on Earth. About 50% of that dry land is desert, polar, or mountainous regions where it is too hot, too cold or too high to produce food.
Action: cut that dry-land quarter in half, and toss one piece away.

You are left with approximately 7—10% of productive land. This fragment competes with other needs, such as housing, cities, schools, hospitals, roads, shopping centers, landfills, etc. Often, development wins out and we lose more productive land.
Action: peel the skin from the tiny remaining sliver.

When 50% is removed, we are left with 12.5% of the original apple. Of that amount, it is estimated 40% is severely limited by terrain, fertility or excessive rainfall. It is too rocky, steep, shallow, poor, or too wet to support food production.
Action: cut that 40% portion away.

The remaining small surface layer represents the productive, living soil that produces all the food we eat, along with our fellow six billion inhabitants on Earth. Quite an accomplishment by the farmers and ranchers who care for that productive soil.

(These figures are estimates—the scientific community has not established exact figures. Illustrations courtesy of NASA's Soil Science Education home page at: http://ltpwww.gsfc.nasa.gov/globe/index.htm)

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Soil painting by Jan Lang with actual soil of various colors mixed with clear acrylic

Activity Sheet

LIFE of the SOIL

People and other living things need **soil** to live. Each symbol in this **Code Key** stands for a letter. Use this Code Key to solve these two fun activities.

CODE KEY

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
✿	✓	✢	▼	✺	●	☆	❤	➚	✱	✪	◆	○	✚	☛	▮	✖	♣	◗	↔	➤	❃	■	❧	☎	❑

1. Soil helps make a home for people. Look at the people in this picture. They can do important things to live because of soil. Use the Code Key to fill in the words and complete each sentence. Then write the number of the picture it describes in the box at the end of the sentence.

- People need soil to grow _____ for _____.
- People grow plants in soil to feed _____.
- Soil gives us _____ for _____ and _____.
- Soil gives people a place to _____ their _____.

2. Many plants and animals live in and around soil. Use the **Code Key** to complete the name of each plant or animal. Then find each one in the picture. Write the letter next to the name of each living thing in the blank box near its picture.

A. _____ - Small but fierce mammal with a venomous bite.

B. _____ - Segmented animal that helps improve soil.

C. _____ - Only relative of crabs and lobsters that lives on land.

D. _____ - There are more kinds of this animal than any other.

E. _____ - This animal makes its own home to carry around.

F. _____ - May be more than **1 billion** in a teaspoon of soil!

G. _____ - A kind of worm without segments.

H. _____ - A kind of fungus that we can see.

I. _____ - Tiny plants that use sunlight to make food.

J. _____ - An important group of plants that includes wheat.

K. _____ - One living thing can make **miles** of these.