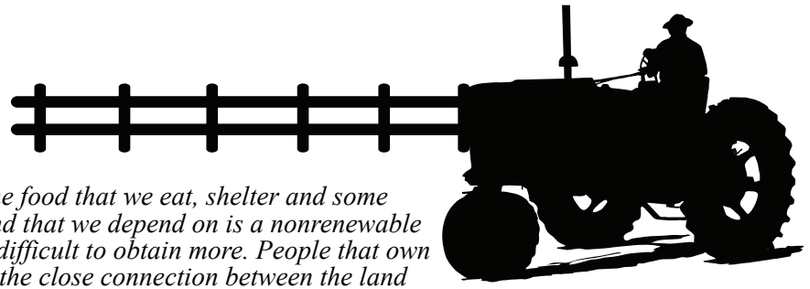
The Farm Charm



The farm is the source of most of the food that we eat, shelter and some of the clothes that we wear. The land that we depend on is a nonrenewable resource. Once it is gone it is very difficult to obtain more. People that own and work on the land are aware of the close connection between the land and the environment. They want to protect both the land and the environment for future generations.

This Farm Charm is to remind each of us of the importance of farms in our lives and the need to protect the environment. Drop a pinch of each of the following items into a small jewelry plastic bag with a whole punched in the top. Add a piece of yarn to make a necklace.

Materials Needed:
- Small Jewelry Plastic Bag
- One Coffee Bean, Peat Moss, Piece of Blue Shredded Paper, Confetti Trees, Corn Kernel, Soybean, Confetti Animals, Rock Salt, Pinch of Flour, and Gold Confetti

Soil ***(coffee bean)***: is the basis for growing animals and plants. Healthy soil is important in agriculture. It needs to be protected from abuse of erosion, over farming, and too many buildings.

Organic matter ***(peat moss)***: is old plant or animal material that is being broken down by composting or decomposing in the ground. Organic matter helps insure that the soils will absorb water and provide a habitat for soil organisms.

Soil organisms ***(blue shredded paper)***: are present in healthy soil. These plants and animals are important in the breaking down of organic matter and excessive fertilizers.

Plants ***(confetti trees)***: can be trees, shrubs, grass, or other crops. Plants provide food for humans and wildlife, help prevent the soil from washing away, and add to the beauty of our habitat. They are important in producing oxygen for us to breathe.

Corn ***(corn kernel)*** : is a basic crop that feeds humans and animals. Many other products are made from corn (i.e. plastic, fuel, sweeteners, oil). Fuel made from corn helps conserve the fuel (gasoline) that cannot be renewed.

Soybeans ***(soybean)***: are as important as the other grains in world food production. Modern technology has developed many uses for this crop. Soybeans are now made into building products and used as a diesel fuel. This crop contributes to the conservation of nonrenewable resources and helps decrease pollution of the earth and atmosphere.

Animals ***(confetti animals)***: contribute to the welfare of humans. They provide power in some countries. Food and clothing are products that are used by humans.

Fertilizer ***(rock salt)***: is necessary to produce plants. The result is healthy plants for human and animal consumption. All plants need nutrients. Many times the soil cannot supply enough for human growth so fertilizers are applied. Farmers have learned to use fertilizers properly.

Pesticides ***(flour)***: are used to control insects, weeds, and diseases. Farmers are using less pesticides than ever before in modern agriculture history. Most farmers are using Integrated Pest Management practices. These practices require much less chemicals than previously used. Integrated Pest Management uses many predators, insects, disease resistant varieties and genetically engineered plants.

Water ***(blue confetti)***: is necessary for plant and animal life. It must be conserved in order to have what we need.

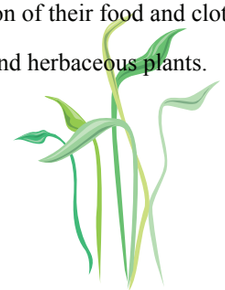
Sunlight ***(gold confetti)***: is important in the process of photosynthesis that helps provide the oxygen that the animals need. Plant growth depends on sunlight.

AG Class Room ·tivities

for all ages

Research

1. Pick one or two of Texas' crops. Outline the steps from farm to table, including research.
2. Write a 500-word essay on how agricultural research affects your daily life.
3. Plan a poster contest that encourages students to think about the research behind production of their food and clothes.
4. Look through a nursery catalog. Make a scrapbook featuring recently introduced woody and herbaceous plants.
5. Identify new traits developed through hybridization and selection.
6. Study integrated pest management (IPM). Develop an IPM plan for your home garden.
7. Identify important issues involving soil erosion, waste disposal, and water management.



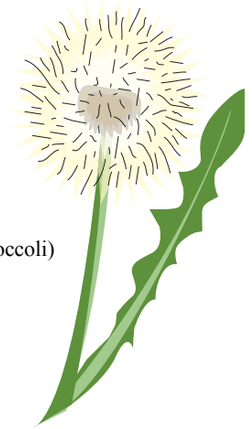
Experiments

1. What kind of soil is best for water retention?
2. Is soil necessary for plant growth? (hydroponics study)
3. What is the relationship between root and stem growth?
4. How do worms affect plant growth?

For more ideas call
254.742.9800 or
visit our website
www.tx.nrcs.usda.gov

United States Department of Agriculture
NRCS
Natural Resources Conservation Service

Garden in a Glove

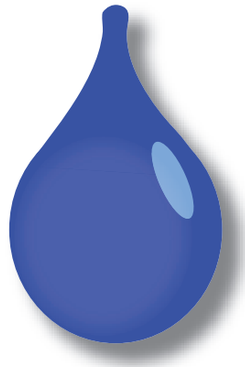


Resources Involved: Soil, Plants & Water
Teach students about seed germination using gloves and cotton balls.

Materials Needed:
- Clear plastic glove
- 5 cotton balls
- 5 types of seeds, 3-4 seeds of each (examples: lettuce, carrot, cucumber, tomato, broccoli)
- Pencil
- Water
- Marker

1. Write your name on a clear plastic glove.
2. Wet five cotton balls and wring them out.
3. Place 3-4 seeds of the same type on each cotton ball (or dip the cotton balls in the seeds to pick them up). You may want to keep track of which seed is in which finger by labeling the finger.
4. Put a cotton ball with the seeds attached into each finger of the glove. Hint: You may have to use a pencil to get the cotton ball all the way to the tips of the glove fingers.
5. Blow up the plastic glove and close it with a twist tie.
6. Tape the glove to a window, chalkboard, or wall. You may want to hang a clothes line under a chalk tray and use clothes pins to hold the gloves on.
7. The seeds will germinate in 3 to 5 days. Keep a plant diary and look at the seeds under a microscope.
8. Transplant the seeds in about 1 ½ to 2 weeks by cutting the tips of the fingers off the glove. Transplant the cotton ball and small plants into soil or sphagnum moss.
9. After growing to full size, plants can be made into a salad.

Water Cycle Bracelet



Resources Involved: Soil, Plants & Water
This activity uses 10 beads that represent the water cycle, or the hydrologic cycle. The beads are used to show the paths water takes through its various states -solid, liquid and vapor, as it moves throughout Earth's systems- oceans, atmosphere, ground water, rain, streams, etc.

Materials Needed:
- Piece of yarn, leather, or rope
- Beads- One of each of the following:
  Yellow, Clear, Sparkling Clear, White, Brown, Dark Blue, Sparkling Blue, Sparkling Brown, and Green Bead

1. Read the book, *Water Dance,* by Thomas Locker. This has a great explanation of the water cycle.
2. Give each student a piece of yarn, leather, or rope.
3. Show the students that each colored bead represents a different stage of water in the Earth's systems.
4. Ask the students to string one of each colored bead on their bracelet. Tell them to string the beads in any order they like.
5. After the bracelets are complete, ask the students to show you their personal water cycle. For example, if their beads are in the following order: clouds, puddles, plants, etc., the students explain that the water started in the clouds, then it rained and fell into puddles on the sidewalk, then the water evaporated and collected on the plants overnight. Each student will have a different water story to tell.
   The beads and what they represent are as follows:

   Sun *(yellow)*: The sun is the source of all energy on earth and powers the water cycle.

   Water Vapor *(clear)*: The part of the water cycle where water is suspended in the air or is steam and humidity.

   Clouds *(gray)*: When water vapor condenses but is still in the air.

   Rain *(sparkling clear)*: Moisture from clouds falls to the earth as a liquid.

   Snow *(white)*: Moisture falling as a liquid in the frozen state.

   Erosion *(brown)*: Rain causes erosion where soil is unprotected by vegetation. Soil particles are suspended in the water run off.

   Oceans *(dark blue)*: The earth's weather factory. Moisture evaporates from the oceans by the sun's heat and is carried around the earth by winds.

   Lakes *(sparkling blue)*: Collects water from streams, and also evaporates water into the atmosphere.

   Puddles *(sparkling brown)*: Rain water collects in low spots, streets, sidewalks, and also collects pollutants (dirt, trash, automotive fluids, etc.) Puddles evaporate or go into storm sewers.

   Plants *(green)*: Plants take in water through roots and evaporate water into the atmosphere through leaves – a process called transpiration.