# Hillermann's Kids' Club Activity Book





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#### **Kids and Gardening**

#### A note for parents

#### Hillermann's Kids' Club

It's never to early to start your kids gardening! Children of all ages can learn to appreciate the beauty of nature and gain wonders from "getting their hands dirty." Children can learn responsibility and patience from caring for their gardens. They can experience success alongside of failure watching plants thrive and fail. You can virtually touch on every school subject while in the garden with your children.

- MATH: measure the amount of fertilizer used when planting or feeding.
   Track plant heights and plant growth. Measure even rows for your vegetable garden. Predict your harvest based on the number of plants and how much each should produce.
- SCIENCE: Conduct an experiment by using different fertilizers, seeds, lighting or media when planting. Discuss the circle of life. Talk about insects and how some actually help us. Teach your children how some plants are used as medicine.
- READING & WRITING: Share garden stories. Have your child keep a journal of your garden and how it progresses.
- ART: Discuss color combinations when planning a garden. Create colorful plant markers for your garden. Draw or paint your favorite gardens. Have your children actually map out their own garden on drawing paper.
- HISTORY: Teach your children about Native Americans and Pilgrims and how they taught each other how to grow different plants.
- SOCIAL STUDIES: Talk about how different plants grow in different parts of the world. Discuss how other cultures use plants in their everyday life.

#### \*\*Other tips for gardeners working with kids!\*\*

- 1. A picture is worth a thousand words. Never tell kids something you can show them.
- 2. Young kids have a very short attention span. Make sure that you have lots of options available so they can get started immediately and stay busy. Digging holes is one thing that seems to hold endless fascination.
- 3. Instant gratification helps a lot. Plant radishes even if you don't like them, they come in up in 3 or 4 days.
- 4. Growing their own will generally get kids to try eating things they otherwise wouldn't walk into the same room with.
- 5. GETTING DIRTY IS AN INTEGRAL PART OF GROWING UP!



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- 6. Your role should be as facilitator, rather than as a leader who imposes direction. Be a good model.
- 7. When giving out supplies to several kids, try to keep seeds, tools, etc. as similar as possible to avoid the inevitable squabbles.
- 8. After an activity, do something to reinforce what everyone has learned. Talk about what went on, who did what, who saw what. If you can, have them write things down or draw pictures. If they are too young, take direction.
- 9. Many kids who won't talk in a large group will often speak easily in a small group.
- 10. When working with older kids (past about 13), one-on-one works better than in groups, since gardening (and anything else that could get you dirty) is a remarkably un-cool and disgusting way to spend time. Try to add responsibility and ownership to projects. ("Jordan is in charge of the wheelbarrow today.") Try pairing up older kids with younger ones. Rest assured that if you give them a healthy respect for gardens and green things when they are young, it will stay with them throughout their lives.







## **Fun Club Activities!!!**

#### (some may take Mom and Dad's help!!)

Hillermann's You may need your mom or dad's help for some of these activities: Kids' Club

- Make garden journals to keep throughout the year.
- MAKE A SCARECROW!! Hammer 2 narrow boards in a cross. Use one of your old shirts, pants, shoes, mittens and accessories for the body. Head can be an old t-shirt stuffed and rubber banded.
- Plant a bulb here and there to have some early spring flowers.
- Transplant perennials. You'll love the soft leaves of lamb's ear.



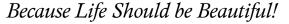
- Gather seeds from marigolds, native wildflowers, sunflowers to plant next year, or make a seed identification book, or use in a drawing or a collage.
- Build a community compost area and start composting the vegetable and fruit scraps from lunches.
- Adopt a plant and keep a journal on it (measurements, characteristics, what
  the kids like about it, drawings...). You may want to work with a sick plant and
  then revive it with worm castings, light and regular watering.
- Do an outdoor experiment. One favorite is to bury a nylon stuffed with natural and plastic materials. Dig it up again after months. Observe changes.
- Make a note card by folding white construction paper in half. Place dried flowers on front and cover with a sheet of clear contact paper. Write a note to someone special.



- Use the weather center. Check the temperatures and graph regularly. After a rain, check the rain gauge. Observe and discuss changes.
- Make a book out of zip lock bags. Collect treasures outside an dictate what they are on each page.
- Make a wreath for birds. Use a grapevine wreath and cool glue to add dried sunflowers, popcorn cobs, pinecones, and a few dried flowers to attract birds.
- Prepare soil by turning with a shovel for the spring planting.
- Make a wood chip garden. Collect rounds of trunks from Christmas tree sales.
   Cool glue gun on Spanish moss and small plastic animal. Poke in an air plant or succulents.
- Make a root view box by cutting a side of a milk carton. Line with overhead plastic film, fill with soil, and plant seeds close to side. Cover with black paper and take off to view.
- Expandable peat pellets are amazing. Use to start seed or propagate begonias, coleus, spider plants, etc......
- Provide the birds with nesting materials. Hang a mesh bag on a fence in an out of the way place and weave in a variety of materials (hair from brushes, yarn, string, dried grass.....). Watch these materials show up in bird nests.
- Plant lettuce in any creative container. Looks great and is fun to nibble.

Try a few of these ideas, and get reconnected with Mother Nature. Your kid's will Thank You for it!!









How do plants make their food?

# **PHOTOSYNTHESIS:**

Learn why plants are green and how water is transported in plants.

- What happens inside plants when the sun is shining or when it is raining?
- How do plants in the desert survive?
- How important are plants to our environment?

Of all the organisms in the natural world, green plants are the only ones that manufacture their own food. This process is called **photosynthesis** and begins when light strikes the plant's leaves (both sunlight and artificial light can help this process). Cells in the plant's leaves, called **chloroplasts**, contain a green pigment called **chlorophyll**, which interacts with sunlight to split the water in the plant into its basic components.



Carbon dioxide enters the leaf through holes called **stomata** and combines with the stored energy in the chloroplasts through a chemical reaction to produce a simple sugar. The sugar is then transported through tubes in the leaf to the roots, stems and fruits of the plants. Some of the sugar is used immediately by the plant for energy; some is stored as starch; and some is built into a more complex substance, like plant tissue or cellulose.

Fortunately for us, plants often produce more food than they need, which they store in stems, roots, seeds or fruit. We can obtain this energy directly by eating the plant itself or its products, like carrots, rice or potatoes. Photosynthesis is the first step in the food chain, which connects all living things. Every creature on earth depends to some degree on green plants. The oxygen that is released by the process of photosynthesis is an essential exchange for all living things. Forests have been called the "lungs of the earth" because animals inhale oxygen and exhale carbon dioxide in the process of breathing, and plants take in carbon dioxide and give off oxygen in the process of photosynthesis.

- Chlorophyll--A green substance that gives leaves their color. Chlorophyll absorbs energy from sunlight, which a plant uses to make food.
- Chloroplast--A plastid that contains chlorophyll and is the site where photosynthesis and starch formation occur.
- **Photosynthesis**--The formation of carbohydrates in the chlorophyll-containing tissues of plants exposed to light.
- Stomata--A very small hole in the surface of a leaf. Oxygen and carbon dioxide from the air enter through the stomata; oxygen, carbon dioxide and water vapor leave through the stomata.

Try the cool activity on the back of this page!



#### **Photosynthesis Activity**

#### **LIGHTS OUT!**

Discover what happens if you change the patterns of a plant's light source. Without enough sunlight, plants cannot use the process of photosynthesis to produce food.

#### **Materials:**

- Small shrub, tree or house plant
- Cardboard or aluminum foil
- Scissors
- Paper clips
- 1. Pick a shrub, tree or houseplant that you can use for an experiment.
- 2. Using the cardboard or aluminum foil, cut out some geometrical shapes like a circle, square or triangle. Make sure your shapes are big enough to make a patch that will cover nearly half of the plant leaf.
- 3. Paperclip each shape on a different leaf.
- 4. If you use a houseplant, place it near a south, west or east window were it will get plenty of sunlight. Make notes about the weather each day and add them to your observations.
- 5. After four days, remove the shapes from the leaves and observe each of the leaves that had a shape covering it.
- 6. Compare the areas on the leaf that were covered with the shape to other parts of the leaf.

#### **Questions**

- 1. What has happened to the leaves? Describe the effects that the lack of sunshine has on leaves. What has or hasn't happened in the different parts of the leaf?
- 2. What is the best environment for a houseplant? Why?
- 3. Where have you seen effects like these in nature?
- 4. Where would you expect to find fewer plants outside because of a lack of sunlight?





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### **All About Rain**



Everybody knows that rain comes from clouds. But where do clouds come from? And why does rain fall from them? Clouds are actually made up of trillions of tiny drops of water. Water is always in the air, in the form of an invisible gas we call water vapor. The warmer the air, the more water it can hold as vapor. The colder the air, the less water it can hold. Whenever there's more water in the air than the temperature will allow it to hold, the water vapor condenses: It changes from gas to very small droplets of water. Together, those droplets make a cloud. That's why you can see your breath in the winter when you breathe out, but not during the summer. On a cold day, the air can't hold all the Water in your breath, so the vapor condenses and makes a little cloud.

The same thing is going on when clouds form in the sky. Have you noticed that there are usually more clouds over mountains and hills? That's because when air passes over mountains, it's swept upward. The higher it gets, the colder it gets. The air can't hold as much water. So the water condenses and creates clouds. The ocean is another place where you see a lot of clouds. That's because the air is so full of water from the sea that it condenses even when the air is guite warm.

Rain happens when water droplets in a cloud become heavy enough to fall. Sometimes enough cloud droplets bump into each other and stick together to make larger, heavier droplets that fall. That's usually the cause of short, hard showers during the summer or in tropical places. Long periods of rain or drizzle happen when the water vapor in very high, cold clouds stick to ice particles and freezes, making heavier ice crystals and snowflakes. When the flakes drop down through warmer air, they melt and fall as rain. (Of course, in cold weather they don't melt, and drift to the ground as snow).

- It takes about nine days for water to evaporate from the oceans or the surface of the earth, condense as part of a cloud, and fall to earth again as rain or snow.
- There are about one million cloud droplets in one raindrop.
- The biggest raindrops measure about 1/4 of an inch across.
- Scientists estimate that 40 million gallons of water in the form of rain, snow, or freezing rain fall on the earth every second.
- One inch of rain over one square mile weighs about 72,000 tons.
- The wettest place in the world is Mount Waialeale, on the island of Kauai, Hawaii. It rains there an average of 335 days a year, and sometimes as often as 350 days. The total amount of rain each year averages 460 inches, or more than 38 feet!
- The driest places in the world are in Chile, South America. In Desierto de Atczcamo, virtually no rain fell for more than 400 years. In 1972, though, a downpour swept through and caused heavy flooding & mud slides. The village of Arica, in northern Chile, is almost always rainless. It gets an average of 3/100 of an inch of rain a year.



### Let's Measure the Rain

#### What You Need:

- A container that you can see through, such as a small clear jar or glass beaker
- A coat hanger or wire
- Stapler
- Small piece of wood (a wooden garden marker would work)
- Waterproof marker



#### **What You Do:**

- 1. Hold a ruler straight up inside of your container so that the end is touching the bottom. Use a waterproof pen to mark lines an inch apart on the outside. Write the numbers next to the lines on the outside.
- 2. Create a loop with the wire around the top of your container, leaving enough wire to bend down to attach to the small piece of wood.
- 3. Attach the straight piece of wire to the wood with staples.

Since most rain showers are windy, you'll want to either sink the small piece of wood in the ground or attach it somewhere the wind won't blow it over. Some good places are fences, decks and even wooden swing sets.

To make sure you get a good reading of the rain that has fallen, make sure nothing is over you rain gauge like trees, electric wires or the edge of a roof.





# **Animal Tracks**



**RACCOON** 



COYOTE



**COTTONTAIL RABBIT** 



**DEER** 



MUSKRAT



**FOX** 



**OPOSSUM** 



SKUNK



**BOBCAT** 





# **Bugs, Bugs And More Bugs!**

They're here! Those nasty little bugs that eat everything in your garden have arrived and it's time to mount your attack! However, when making your plans, remember that not all bugs are bad for your garden. Many bugs and insects can be helpful to us humans and can even help your plants grow! The real trick to a bug free garden is to keep them out in the first place.

#### Invite Helpful Frogs, Birds and Bugs

Frogs and toads love nasty cutworms, while birds think white flies are a delicacy.

Chickadees, Nuthatches and Woodpeckers are famous for their bug appetites. Add a birdbath or birdhouse and you have a bird paradise!

#### Plant Herbs & Flowers the Bugs Hate

Bugs hate marigolds! Many people plant marigolds around their tomatoes to keep bugs away. Have fleas? They can't stand the smell of lavender. Aphids? Try planting Nasturtium or parsley. And if you can't stand potato bugs... plant a bit of horseradish.

#### Defense!

Make sure your garden is clean, clean, clean! Remove dead leaves & branches. Be sure to clean up good after you work in the garden. The second you see any unwanted bug guests, get out the water hose. A really cold blast of water is sure to keep your bug population down.





#### Organic Bug Control ——What You Need:

- A Few cloves of garlic, mashed
- Several Onions, chopped
- Hot Pepper (5 or 6 dashes)
- Water

Combine the above ingredients and soak overnight. By the next morning, this concoction will be strong enough to make a grown bug cry! Strain this mixture and fill a sprayer with the bug juice. This spray will kill existing bugs and will help prevent new ones from coming around.





# The Wonder of Earthworms

Kids' Club

Earthworms are more than fish bait and they could use a little more respect. These hard-working garden buddies are a gardeners best friend!

At this very moment, thousands of these little guys are busy making gardens healthy by digesting organic and mineral matter and making tunnels in the soil so air and water can move easier.



They eat the soil's organic materials and leave behind castings. (Castings is a polite, grown-up name for worm poop!) Castings are guite rich in nutrients and help to make the soil better for growing flowers or vegetables.

Look at your soil; if it is pure sand, heavy clay or soil starved for organic matter, it won't have many (if any) earthworms.

However, you can build your soil up by adding compost or other organic mulch and earthworms will move right in, making the soil even better. They will break down leaves, grass clippings, animal manure, and kitchen scraps into nutrients your garden can use.

At this very moment, thousands of these little guys are busy making gardens healthy by digesting organic and mineral matter and making tunnels in the soil so air and water can move.

Turn this page over for some really cool facts about earthworms!



# Fun Facts About Earthworms

A single Earthworm will produce 1/2 a pound of soil a year!

- There is an estimated 50 thousand Earthworms in any given acre of ground. These same 50 thousand Earthworms produce approximately 18 tons of fertilizer (castings) per acre, per year!
- Earthworms produce their own weight in excrement (castings) everyday!
- Earthworms have 5 hearts!
- Earthworms are completely deaf but are sensitive to vibrations!
- Earthworms have no eyes, but can tell the difference between night and day!
- Earthworms breathe through their skin!
- There are over 3,000 species (kinds) of Earthworms!
- The largest kinds of Earthworms come from South Africa (*Microchaetus rappi* or the African giant earthworm); their average length is 4  $\frac{1}{2}$  feet!
- Earthworms are actually a truer indicator of Spring than any other animal They don't appear until the ground thaws!
- Earthworms are natures best soil aerators. The tunnels that they dig allow deep and even water penetration and air circulation!





### **Earthworm Farms**

#### What you will need:

A shoebox or other covered container
Black plastic bag to line box
Shredded newspapers
Soil to start the bin
Earthworms
Supply of moist kitchen scraps



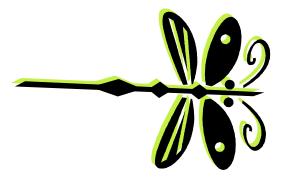
#### What to do:

- Line your box with the black plastic. Put a thin layer of the shredded newspaper on the bottom of the box.
- Fill the box halfway up with soil and put a few worms the box. Say "Later dudes" to the little guys because they will start to dig in and head to the bottom of the box.
- Make sure the kitchen scraps are fairly small. You can tear them a bit and then add the scraps to the box for the worms to eat. Cover with dirt and put the lid on the box.
- Keep your worm home in a shady spot. Worms do not like sun or heat. You may want to mist the soil every other week or so and add shredded kitchen scraps from time-to-time. Your worm population should start to grow.
- Every few weeks take out the fresh castings for the garden or to use on your houseplants. As your worm population begins to grow, you can add some of the worms to the garden, too.





## **Insect Songs**



It's easy to make bugs look bigger with a magnifying glass, but how do you hear the noises that insects make? Here's a quick and fun way to amplify insect sounds!

#### **WHAT YOU NEED:**

A piece of waxed paper, a paper cup, and a rubber band.

#### WHAT TO DO:

Trap any bug you choose in a paper cup. Slide a piece of waxed paper over the top of the cup and secure it with a rubber band. Hold the waxed-paper side of the cup to your ear and listen to the flying, flapping, jumping, and buzzing of your bug. Isn't it fun to hear their sounds? Now you can release the bug, and catch another to compare their sounds!





### **SPIDER WEBS**



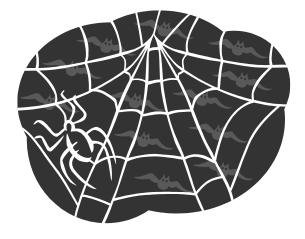
#### PRESERVE A SPIDER WEB

Next time you're outside, locate a spider web. Look for webs with no spiders nearby and no insects caught in them. It's a good idea to return to the web for several days in a row to make sure it's not being used.

WHAT YOU NEED: Scissors, a piece of dark construction paper, and a bottle of non-aerosol hairspray.

#### WHAT TO DO:

- 1. Cover the ground under the web with newspapers so the hairspray doesn't harm anything nearby.
- 2. Gently and lightly spray the spider web with hairspray on both sides.
- 3. Touch the middle of the dark-colored paper to the center of the web. Because the web is wet with hairspray it will stick to the paper.
- 4. The web will probably be attached to something at the corners. Gently pull the web loose and let it fall onto the paper. You may need to cut it loose at the corners with scissors.
- 5. After the web is on the paper, spray the web with another light coat of hairspray and set the paper aside to dry. Examine the intricate workmanship and the delicate beauty of the web.







# **Growing Citrus Trees**

Citrus plants are slow to grow, but even when small they're appealing, with glossy, oversize leaves topping slender "trunks." And given a modest amount of TLC, they can develop into lovely indoor trees, growing very tall, and producing an annual display of delicate white blossoms and even fruit of their own.

#### **MATERIALS:**

- A selection of citrus fruits—oranges, lemons, tangerines and grapefruit
- Peat pots
- Soilless potting mix
- Ziptop baggies
- Houseplant fertilizer

You should also keep some 6-inch terra cotta pots on hand for later transplanting.

#### WHEN PLANTING:

Fill each peat pot almost to the top with soilless potting mix, and then add water until the mix is moist throughout. In each pot, press three or four pits of the same type about 1/4 inch into the mix, making sure that they're well covered. Slip each pot into a ziptop bag, labeling it to avoid confusion. If possible, place the bags near a source of heat (the radiator in



winter, or a warm corner in summer). As soon as sprouts appear, remove the pot from the bag and set it on a sunny windowsill.

#### **DAYS TO SPROUTING:**

On average, citrus seeds take about 14 days to sprout. Try not to lose patience (though after six weeks, you might unearth a few seeds to make sure that they haven't rotted).

#### **LONG-TERM CARE:**

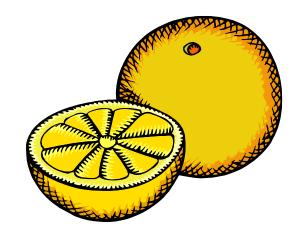
When the plants have produced two sets of leaves, choose the strongest seedling in the pot and remove the others. This is also the time to start feeding with a soluble houseplant fertilizer diluted to half strength. Continue to keep your citrus plant moist. When roots begin to protrude through the peat pots, transplant the entire pot and seedling into the terra-cotta container (the plant's roots thus remain undisturbed; the peat pot eventually degrades).



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# **Grapefruit Bird Feeders**



#### **GRAPEFRUIT BIRD FEEDERS**

#### **What You Will Need:**

1 grape fruit half

3 pieces of string

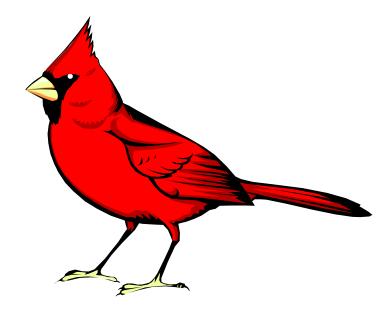
A sturdy spoon (to hollow out grapefruit)

Birdseed (Cardinals especially like sunflower and safflower seeds)

#### What to Do:

- 1. Cut one grapefruit in half and scoop out the fruit.
- 2. Place the bottom half of the grapefruit on a level surface, with the cut edge up. Have an adult help you poke three evenly spaced holes in the skin, about  $\frac{1}{2}$  inch from the top edge.
- 3. Then take three pieces of string, each about two feet long, and knot them together near one end, leaving the other end loose.
- 4. Place the bottom of the grapefruit skin on the knot and thread the other ends of the string through the holes. Tie the loose ends together.
- 5. Place a big scoop of birdseed in the grapefruit and hang it from a tree.

Enjoy watching the birds and count how many Cardinals come for lunch!





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# Fruit Prints



When you cut a fruit in half, you will find a beautiful design of seeds and sections inside. Many of these designs can be saved by using the fruit to make prints.

#### **What You Need:**

- knife
- apples, oranges, lemons (Vegetables can also be used... be creative!)
- poster paints
- tinfoil pie plate
- white drawing paper

#### What to Do:

- 1. Cut a fruit in half. Cut oranges and lemons through their middles. Cut apples lengthwise.
- 2. Pour some poster paint into the pie plate. Pour just enough to cover the bottom of the plate. Tilt the plate until it is evenly covered with paint.
- 3. Press the cut side of the fruit into the paint.
- 4. Press the paint-covered side of the fruit onto the drawing paper. Be very careful not to move the fruit as you make your print. (If you move the fruit, your print will smear.)
- 5. Carefully lift the fruit and see a beautiful design. Can you see where the seeds were stored inside the fruit? If you have some large sheets of paper, you can make a repeat design to use as gift wrap.

#### **HAVE FUN!!!**



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### **Ornaments for the Birds!**

#### **EDIBLE BIRD ORNAMENTS**

#### **What You Will Need:**

1 slice of bread Cookie cutter A plastic knife or spoon Peanut butter Bird seed Raffia



- 1. Put the cookie cutter on your slice of bread, and cut out the shape.
- 2. Poke a hole in the top of the bread ornament. This will make it easier to hang on your tree.
- 3. Either bake the ornaments in an oven at 250 degrees or leave out over night so that it gets dry and crusty.
- 4. When it's dry and crusty, spread on the peanut butter.
- 5. Add the birdseed.
- 6. Run the raffia through the hole on top, and hang on a tree outside.







# Pine Cone or Bagel Bird Feeder

# PINE CONE/BAGEL BIRD FEEDERS

#### **What You Will Need:**

1 pine cone or 1 bagel half 1 piece of wire or string Plastic spoon or knife Peanut butter Birdseed



#### What to Do:

- 1. Wrap the top of the pinecone or bagel with the wire or string to make a loop.
- 2. Pack the cone with peanut butter (or spread peanut butter on the bagel) using your spoon or knife.
- 3. Roll the covered pinecone in birdseed (or press the seed into the peanut butter on the bagel). The peanut butter will hold the birdseed.

We recommend using lighter colored seeds, such as a mix of seeds because they show up better on a tree. Once you've made the cone or bagel, hang it on a tree and wait for the birds to come.

**ENJOY THE SHOW!!!!!!!** 







### Let's Make a Flower Press



Pressing flowers is an very old art. Flowers and plants with thin petals, such as violets, pansies and ferns press the best. Flowers with thick petals that hold lots of water are harder to press and don't turn out as pretty. Hydrangeas (best as individual petals), lavender, roses, salvia, artemisia and bleeding hearts also press well. But always remember it is best to pick the flowers early in the morning, after the dew has dried off of them.

#### What you need:

- Flower blossoms or petals
- Two pieces or corrugated cardboard
- Two pieces of flat cardboard
- Pretty wrapping paper
- Tape
- Newspaper
- Ribbon or string

#### What to do:

- 1. Take the two pieces of flat cardboard, and cover them with the pretty wrapping paper. Attach the wrapping paper with tape.
- 2. Use two same size pieces of corrugated cardboard. The crinkles in the cardboard allow air to slowly circulate around the drying flowers.
- 3. Build the layers of your press! Put one piece of the wrapped cardboard on the table, the prettiest side down. Then lay a piece of corrugated cardboard on top of it, then some thick layers of newspapers (cut the same size as the cardboard pieces). Lay your flowers on top. Then cover with more newspaper, a second sheet of corrugated cardboard and finally a top layer of wrapped cardboard, the prettiest side up.
- 4. Tightly tie two pieces of ribbon around the press and keep it in a warm, airy place for several weeks. When the flowers are dry, you can use them to make cards, bookmarks, picture frames or other crafts.





### **Leaf Prints**

You can learn to recognize trees by the shape of their leaves. Chestnut tree's leaves have tiny teeth along their edges. Most Oak tree's leaves have rounded edges. A Maple tree leaf has five points. In autumn, these trees' leaves will turn bright shades of orange, yellow and gold! As winter comes, these leaves will begin to fall to the ground.

Evergreen trees stay green all year long. Their leaves are sharp and do not fall in the autumn. These leaves are called needles. The Christmas tree that you may have in your house is an evergreen!

#### **Leaf Drawings**

Use leaves to make really cool wrapping paper, greeting cards or posters!

#### What you need:

A nice leaf Piece of paper Crayons



#### What to do:

- 1. Take your leaf and lay it on a flat surface, like a desk or table.
- 2. Cover your leaf with a piece of paper.
- 3. Color on the paper over the leaf, and magically, the leaf will appear!
- 4. Repeat this process, over and over again with different leaves and different color crayons to create a really cool design!





# **Solar Graphics**

**Making Blueprints from the Garden** 

The sun is a mighty powerful energy source. Its warmth and light give your plants the energy they need to grow.

Most plants need about six hours of bright, direct sunlight each day. Marigolds and petunias love the sun. Other plants, like impatiens and fuchsias, like shadier spots.

Today, we're going to do an experiment to demonstrate how powerful the sun is, even though it is about 91.4 MILLION miles away.



#### **WHAT YOU NEED:**

- Solar Graphics Sun Sensitive paper
- Leaves, flowers and other natural objects
- Your creativity!

#### WHAT TO DO:

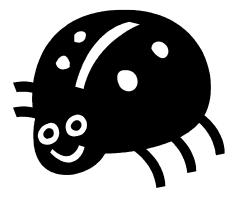
Take a piece of the special, sun sensitive paper. Lay it flat on the table, white side down, blue side up. Arrange several of the items from the garden on the paper. Expose to sunlight, usually about 3-7 minutes. Then, in the shade, "fix" the photographic paper in a tray of water for at least 2 minutes. You'll be able to watch the color fade. Dry on a flat surface.

You can rubber cement your artwork to a stiff piece of color cardboard and make a frame for it. You'll have a cool nature picture





# A Ladybug Rock!



Many people believe that if a ladybug lands on you, you will have good luck! We're not sure about that, but we do know that ladybugs can be great for your garden! For Mother's Day, create your own ladybug for your Mom or Grandmother.

#### What you need:

A Rock
Red and Black Tempura
Paint
Brushes
Clear Coat Spray

#### What to do:

- 1. Select a rock.
- 2. Wash and dry the rock.
- 3. Become a scientist and discover how rock lies best.
- 4. Paint the rock red.
- 5. While drying decorate a Mother's Day Card.
- 6. Once your card is decorated and the red paint is dry, add black features to your ladybug.

Use this to decorate your garden, a flower pot, or as a paperweight.





# **WINDOW CLINGS**



You can make decorative window art for your bedroom.

These make great gifts for mom and grandma, too! Or how about someone's birthday?

### **Window Clings**

#### What you need:

- · A Plastic Baggie
- Paper
- Fabric Paint w/ glitter

#### What to do:

- 1. Cut the paper so that it can lay flat in the baggie.
- 2. Draw a flower on the piece of paper.
- 3. Lay the paper flat inside of the baggie.
- 4. Trace & color in the flower on the outside of your baggie with the fabric paint.
- 5. Once the fabric paint dries, you will be able to peel the picture off of the baggie and place on your window!

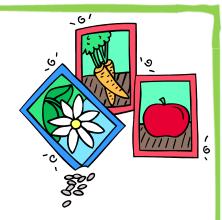
Be creative! You can make snowflakes, hearts and all kinds of other designs with this project.







# **Starting Seeds**



#### You will need:

- Seed-starting medium (soil)
- Seed-starting trays or flats that do not leak water, pots, inserts trays or plug trays. If you are reusing these things make sure you wash and then have an adult help you sterilize them using a bleach mixture 1-part bleach to 10 parts water. Let air dry.
- Warm water (not softened)
- Seeds for what you plan to grow and directions for the particular seed you are starting. Sometimes good directions are on the back of the seed packet.

#### To get started:

- 1. Dampen soil.
- 2. Once the soil mix has absorbed the water you are ready to plant. Keep in mind whether your seed needs light or darkness to germinate. Also think about seed size and how deeply the seed needs to be planted. Very fine seed often is sprinkled on top of the soil mix and often (not always) requires light to germinate. Bigger seeds are usually buried 1/4 inch to 1/2 inch under the soil. Follow the depth of planting, spacing suggestions, and the light requirements on the seed packet for each different variety of seed. If starting in pots, you may want to put 2-3 seeds in each pot to be sure to get at least one to germinate.
- 3. Once seeds are planted, water from the bottom. Remove seed tray inserts and set them in a pan of warm water (70-80 degrees). After they have absorbed a good amount and are quite damp, lift out the inserts and set them back in their flat. Cover your newly planted seeds with plastic until they sprout. If they require light to germinate, place the light 2-3 inches above the flats and be sure to use clear plastic. If they require darkness, use black plastic and set where it is dark.
- 4. Once sprouted, remove plastic. Set plants under the lights (always keeping light 2-3 inches above the plants you will have to adjust them as they grow).
- 5. As soil-less mix contains no food for seedlings, you will need to add a mild fertilizer solution to the water that you dip your plants into. Use at 1/2 to 1/4 the normal strength. Water when the soil mix begins to dry, but do not let it dry completely. If using Peat pots, keep some water standing in the tray so the pots don't dry out.
- 6. Enjoy! Remember to start perennials early as it takes them a long time to grow. Many annuals can be started 4-6 weeks before your last frost date.





# Making Seed Tapes Let's get Gardening!

#### **What You Need:**

Newspapers Seeds Stirring spoon

Flour Ruler or tape measure A friend

Water Waterproof marker

Mixing bowl Narrow stick or cotton swabs Spacing & planting information from your seed packets A roll of plain white, unscented toilet paper or paper towels

#### What to Do:

- 1. If your work surface needs to be protected, cover it with newspaper.
- 2. In your bowl, mix up the flour with just enough water to make a thick mush. When the mixture feels and looks like soupy mashed potatoes, it's perfect.
- 3. Choose a packet of seeds, and decide how long you want the row of that vegetable or flower to be.
- 4. On top of your work surface, unroll a strip of toilet paper or paper towels the length of your planned garden row.
- 5. Find out how far apart these particular seeds should be planted (this will be on your seed packet.) Then, with your ruler and marker, measure down the center of the strip, and make a mark at the place each seed should go. If you're making a carrot-seed tape, for example, make marks every 2 to 3 inches.
- 6. Dip a cotton swab or narrow stick into the paste mixture, and dab a drop or two of it onto every mark on the tape. (If you're too impatient to bother with dabbing, just dribble a thin line of paste all the way down the strip.)
- 7. Place the seeds onto the paste, one at each mark you made. Then let the paste dry.
- 8. When it's time to plant, make a trench in your garden soil as deep as the planting depth for your seed (For carrots, the trench should be about  $\frac{1}{2}$  inch deep.)
- 9. Have a friend help you set the tape down into the trench.
- 10. Cover the seed tape with fine soil and an orderly row of plants will sprout up in no time at all.





# Planting Wildflowers With Soil Marbles

#### Play Ball!

An easy and fun way to scatter wildflower seed is to mix the following ingredients, roll it into balls, and pitch the balls into a sunny spot. Besides being fun to make and toss, the balls protect the seeds from hungry birds and from being washed away by heavy rains.

#### What you need:

5 parts of sticky soil

1 part dry humus or compost

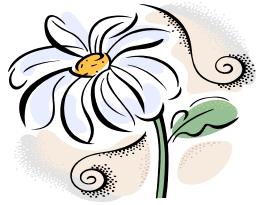
1 part mixed wildflower seed

1 part water

With your hands, mix the above ingredients (Remember making mud pies? That's the consistency you're after) into small balls, each slightly larger than a marble. Let the seedballs dry for at least 24 to 48 hours, rotating them once halfway through so that all surfaces dry evenly. Toss the seedballs randomly over a sunny spot that has been mowed or tilled and raked smooth. Now, let nature take its course: Rain will "melt" the clay and the seeds will germinate and take root, growing into colorful blooms.

Enjoy!!







# Forcing Bulbs Indoors



Hillermann's Kids' Club

Tulips are usually the first sign of spring, but did you know that with a little planning and preparation, you could have these beauties blooming indoors?

#### What You Need:

Planting Mix Tulip or Daffodil Bulbs Pot Black Plastic Bag



What do you do?

1. Fill your pot half way with planting mix. Do NOT pack the soil down. Leave it loose.

2. Place your bulb(s) in the soil. Make sure you put the pointy end facing up and the fat end down.

3. Cover your bulb(s) with more soil. You want to leave room for water, so do not fill the pot up all the way with soil. If you do, the water will overflow when you water your bulb.

4. Now you need to water your bulbs! You want the soil to be just damp. Make sure you do not over-water and make the soil soggy.

5. Place your pot in a dark plastic bag and place the bag in a cold, dark place. A basement or refrigerator will work well for you.

6. Check your soil every two weeks. If it feels dry, add a little bit of water.

Remember... we want damp soil, NOT soggy.

7. When the bulbs start to send up shoots that are two inches high (8-10 weeks), remove the bag and place the pot in a sunny windowsill for a week to 10 days. Congratulations, your plant is growing! Only water if the soil is dry. (Remember... damp soil.) Before you know it, the shoots will turn green.

8. When the shoots are four inches high, move the pot to a warm, bright spot.

9. In about two to three weeks, your flowers should be blooming!

10. Turn the pot every three days so each side gets the same amount of light. Keep your plant away from drafts, fireplaces or heaters.

#### \*\* These forced bulbs make great gifts!

Decorate your pot with ribbon, bead, fabric or paint. Share your plant with someone you love!





# **History of Groundhog Day** February 2nd

(Adapted from "Groundhog Day: 1886 to 1992" by Bill Anderson)

Groundhog Day, February 2nd, is a popular tradition in the United States. It is also a legend that traverses centuries, its origins clouded in the mists of time with ethnic cultures and animals awakening on specific dates. Myths such as this tie our present to the distant past when nature did, indeed, influence our lives. It is the day that the Groundhog comes out of his hole after a long winter sleep to look for his shadow. If he sees it, he regards it as an omen of six more weeks of bad weather and returns to his hole. If the day is cloudy and, hence, shadowless, he takes it as a sign of spring and stays above ground.

The history of Groundhog Day stems back to European tradition. The idea and date came to the United States, because Pennsylvania's earliest settlers were Germans. They found groundhogs in great numbers in many parts of the state. They determined that the groundhog, resembling the European hedgehog, was a most intelligent and sensible animal and therefore decided that if the sun did appear on February 2nd, so wise an animal as the groundhog would see its shadow and hurry back into its underground home for another six weeks.

In Punxsutawney, Pennsylvania, early observances of Phil's predictions were conducted privately in the wooded areas that neighbor the town. In 1886, The Punxsutawney Spirit newspaper printed the news of the first Groundhog Day celebration. This was the start of the national holiday and the naming of Punxsutawney Phil, the famous groundhog that comes out of his hole each year! Today's celebration sees tens of thousands of visitors from all over the world reveler's await Phil's appearance.





Because Life Should be Beautiful!



# The First Thanksgiving



After the pilgrims arrived at Plymouth Rock, the first winter was devastating. The cold, snow and sleet were exceptionally heavy, interfering with the workers as they tried to construct their settlement. March brought warmer weather and the health of the Pilgrims improved, but many had died during the long winter. Of the 110 Pilgrims and crew who left England, less that 50 survived the first winter. On March 16, 1621, an Indian brave walked into the Plymouth settlement. The Pilgrims were frightened until the Indian called out "Welcome" (in English!).

His name was Samoset and he was an Abnaki Indian. He had learned English from the captains of fishing boats that had sailed off the coast. After staying the night Samoset left the next day. He soon returned with another Indian named Squanto who spoke better English than Samoset. Squanto told the Pilgrims of his voyages across the ocean and his visits to England and Spain. It was in England where he had learned English.

Squanto's importance to the Pilgrims was enormous and it can be said that they would not have survived without his help. It was Squanto who taught the Pilgrims how to tap the maple trees for sap. He taught them which plants were poisonous and which had medicinal powers. He taught them how to plant the Indian corn by heaping the earth into low mounds with several seeds and fish in each mound. The decaying fish fertilized the corn. He also taught them to plant other crops with the corn.

The harvest in October was very successful and the Pilgrims found themselves with enough food to put away for the winter. There was corn, fruits and vegetables, fish to be packed in salt, and meat to be cured over smoky fires. The Pilgrim Governor William Bradford proclaimed a day of thanksgiving to be shared by all the colonists and the neighboring Native Americans. They invited Squanto and the other Indians to join them in their celebration. Their chief, Massasoit, and 90 braves came to the celebration which lasted for 3 days. They played games, ran races, marched and played drums. The Indians demonstrated their skills with the bow and arrow and the Pilgrims demonstrated their musket skills. Exactly when the festival took place is uncertain, but it is believed the celebration took place in mid-October.

#### **Indian Corn Napkin Rings**

- Empty rolls of paper towels or toilet paper (cut into 1-1/2" wide pieces)
- White Glue
- · Indian Corn off of the ear

Take your pieces of paper towel rolls and roll the outside surface in glue. Roll the glued side in the Indian corn. You're done! Enjoy your Thanksgiving Holiday!





# Recipe for a Snowman



#### Ingredients:

1 Generous Helping of Wet Packing Snow 1/4 Cup of

**Round Nuts in the Shell** 

2 Larger Nuts 1 Large Carrot

2 Old Gloves or Mittens 1 Old Hat

2 Fallen Branches 1-4 Well-Bundled Children

2 Scoops of Imagination 1 Dash of Good Humor

- Preheat a winter's day to 32 degrees F.
- Firmly pack a ball of snow between your two hands and place upon the ground. Continue to roll on snow covered ground until the ball gathers enough snow to measure about three feet. This will form the base of your snowman.
- Roll and shape two additional snowballs. The first will be approximately one foot in diameter and the second will be two feet. Place the second largest ball on top of the base. The smallest is the head and goes on top.
- Press in the smaller nuts to form the teeth. To give the snowman a smile, nuts should be placed higher on the outer corners of mouth.
- Center a carrot above the mouth for the nose. Push in the larger end with pointed end out The two largest nuts form the eyes and are to be placed above the carrot nose.
- Attach fallen branches to the middle ball of snow on either side for the arms. Add gloves or mittens on the ends of the sticks. Top him off with an old hat and sprinkle with laughter.
   Toss in a brief snowball fight for excitement. Garnish with seeds on top of hat and scatter corn around snowman for additional enjoyment.

#### **Snowman Necklaces**

What you need
A big handful of Cheerios
String

#### What to do:

Simply slide the string through the Cheerios to create a necklace for your snowman!





Because Life Should be Beautiful!



Snowman Bird Feeder

Inspired by the book *Stranger in the Woods* 

#### What you need:

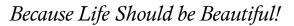
- A Piece of flat cardboard
- Non-toxic white glue
- Popped popcorn
- Sunflower seeds
- Ornamental pepper
- 2 Peanuts

#### What to do:

- Draw a snowman on a piece of flat cardboard.
- Spread the non-toxic glue all over the snowman that you drew.
- Stick the popped popcorn on to the snowman to fill in his body and head.
- Add 2 peanuts as eyes.
- Place the ornamental pepper for the nose.
- And create a mouth out of the sunflowers.
- Hang outside for the birds to snack off of!









# Make Reindeer Food!

Sprinkle on the lawn at night.
The moon will make it sparkle bright. Santa's reindeer fly and roam. This will help guide them to your home!

#### What you need:

- ¼ cup of oatmeal
- 1/4 cup of birdseed
- Colored sugar crystals (used to usually decorate sugar cookies!)
- . Plastic baggie

#### What to do:

Mix all the ingredients together in the plastic baggie. Sprinkle on your lawn or sidewalk on Christmas Eve to help guide Santa's reindeers to your home.

Happy Holidays from all of us at Hillermann Nursery & Florist!



