

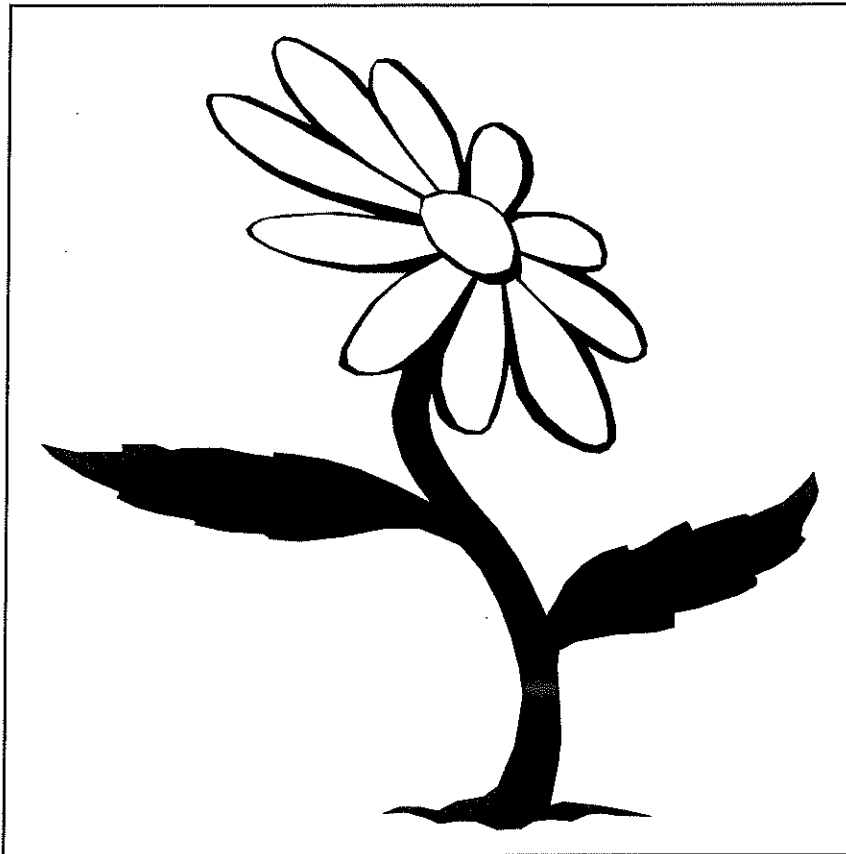


Mini 4-H



Plants & Flowers

All Divisions



Draft

Developed by

Purdue University Cooperative Extension Service

Area 7 Youth Educators

**(Blackford, Delaware, Fayette, Henry, Jay, Madison,
Randolph, Rush, Union and Wayne Counties)**

PURDUE UNIVERSITY, INDIANA COUNTIES AND U.S. DEPARTMENT OF AGRICULTURE COOPERATING
AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY INSTITUTION



Mini 4-H Parent's Page



Welcome to the Mini 4-H Program! Mini 4-H is designed for youth to explore a variety of project areas.

Your child received this project manual when enrolling in Mini 4-H. This manual will provide fun, age-appropriate learning activities throughout their year(s) in Mini 4-H and their interest in this project.

As a Mini 4-H parent, your job will be to guide and encourage your child through the activity. It is highly suggested that you do not complete the activities for them. Instead, help them, guide them, work with them, and let them do all that they possibly can. The 4-H motto is "learn by doing" ... and is the best educational tool that we can provide for youth.

Additionally, the Mini 4-H program is set up to allow your child to exhibit a project at the 4-H Fair. This project is based upon information within this manual.

The 4-H Fair is an exciting time for 4-H members and families. It is a week that allows community youth to showcase their talents, interests and enthusiasm for learning.

Mini 4-H is fun! Your child will certainly enjoy it. You can have fun too, by guiding and helping as your child participates in the program. Encourage and praise your child as he/she has fun learning and sharing with you.

If you have any questions regarding Mini 4-H or other 4-H programs, please feel free to contact your local Extension Office.



Mini 4-Her's Page



Welcome to Mini 4-H! You are now a member of the 4-H family. You are a special person.

Mini 4-Her's have lots of fun! There are lots of activities for you to explore. You can try new things. You can share it with your friends and family.

Mom, Dad or another adult can help you with your project. Bring your project to the 4-H Fair and lots of people will be able to see what you have done. You also get a ribbon made just for Mini 4-Her's.



Here are some things to know about 4-H.

The 4-H Symbol: A four-leaf clover with an "H" in each leaf



4-H Colors: Green and White

The 4-H Motto: To make the best, better.

The 4-H Pledge: I pledge my *Head* to clearer thinking,
my *Heart* to greater loyalty,
my *Hands* to larger service, and
my *Health* to better living,
for my club, my community,
my country, and my world.

✿ What Are Plants? ✿

Plants are living things that grow. We see plants all round us. Inside your house, you might have "house plants". These plants grow in small pots inside a building. Most plants grow outside your house. Look out your window. What kind of plants do you see? Let's make a list of them.

1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____

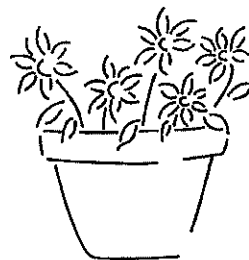
Plants need special thing to grow. They need sunlight, water and food (found in soil). They also breathe a special kind of air called *carbon dioxide*. Carbon dioxide is a gas that people exhale or breathe out of their lungs. Without these things a plant will not live very long ... just like you need water, food and oxygen to live.



Activity 1 — Plants have Special Needs

You will need these things:

- pencil
- four small pots or jars
- paper towels or napkins
- plastic wrap
- scraps of paper and tape
- soil ... you can use potting soil or dig some soil up outside. You will not need very much.
- 20 bean seeds or dried beans (You may not have this at home. Ask your parent or adult if they can get you some.)
- the "Water, Sun and Air" chart



Here is what you do:

1. Label each pot or jar. Use a scrap of paper and tape it to the jar. You will have a total of five labels. These labels will say:

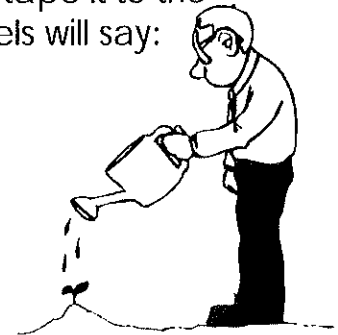
Jar #1 - No Water

Jar #2 - No Sun

Jar #3 - No Air

Jar #4 - Has Water, Sun, Air and Soil

Paper Towel #5 - No Soil



2. Get your pots or jars ready.

Jar #1 - Fill the jar half full with soil. Plant 3 to 4 seeds about a $\frac{1}{2}$ inch to 1 inch below the surface. Cover the seeds. DO NOT WATER THE SEEDS.

Jar #2 - Fill the jar half full with soil. Plant 3 to 4 seeds about a $\frac{1}{2}$ inch to 1 inch below the surface. Cover the seeds. Add water to make the soil moist (not a lot of water). Put the jar in a closet or another place where it will be in the dark.

Jar #3 - Fill the jar half full with soil. Plant 3 to 4 seeds about a $\frac{1}{2}$ inch to 1 inch below the surface. Cover the seeds. Add water to make the soil moist (not a lot of water). Cover the pot or jar with plastic wrap so it cannot get any air.

Jar #4 - Fill the jar half full with soil. Plant 3 to 4 seeds about a $\frac{1}{2}$ inch to 1 inch below the surface. Cover the seeds. Add water to make the soil moist (not a lot of water).

Paper Towel - Fold a paper towel or napkin in half ... and then half again. Place 3 to 4 seeds inside the folded paper towel. Wet the paper towel.

3. Put Jar #1, Jar #3, Jar #4 and the paper towel on a window sill or in a sunny place. Remember, you put Jar #2 in a closet.

4. Pick a good time of the day to check on your plants. Maybe it's when you get home from school or after dinner. You will be checking your plants for five days.
5. Check your jars and paper towel. What do you see? Write your observations or what you see in this "Water, Sun and Air" chart.

| Day | Jar #1 | Jar #2 | Jar #3 | Jar #4 | Towel |
|-----------|----------|----------|----------|----------|---|
| ex. Day 1 | no plant | no plant | no plant | no plant | seeds are wet, nothing is growing |
| Day 1 | | | | | |
| Day 2 | | | | | |
| Day 3 | | | | | |
| Day 4 | | | | | |
| Day 5 | | | | | |

Let's Grow!

What did you see or observe? _____

Which seeds grew the fastest? _____

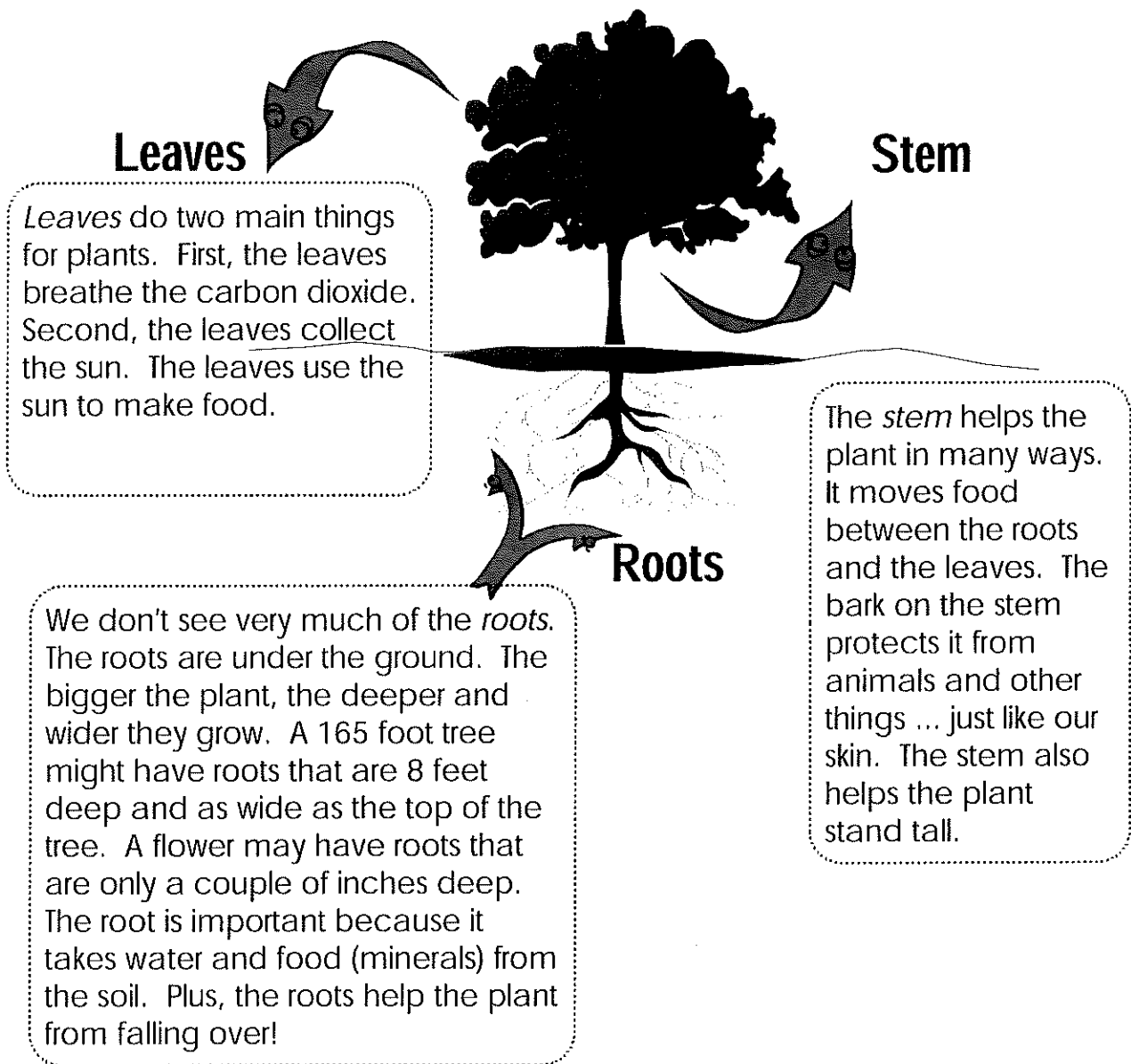
How did the seeds look in the paper towel? _____

Why is it important that plants have sun, food, water and air? _____

How are you like a plant? _____

✿ Parts of a Plant ✿

There are three main parts to a plant. They are roots, stem and leaves. Let's look at this tree and identify the parts. Plus will talk about what these parts do.





Activity 2 — Beans in a Baggie

You will need these things:

- pencil
- two clear plastic bags ... you do not need one that zips shut
- 8 to 10 bean seeds or dried beans (You may not have this at home. Ask your parent or adult if they can get you some.)
- 2 paper towels or napkins
- "A Bean Grows" charts



Here's what you do:

1. Fold the paper towel or napkin. It will need to fit inside the plastic bag. Wet the paper towel or napkin.
2. Place the seeds evenly inside the folded paper towel or napkin.
3. Carefully put the paper towel or napkin inside the plastic bag.
4. Put one plastic bag in a warm, sunny place. Put the second plastic bag inside a closet.
5. Check the seeds every 2 or 3 days. When you begin to see a small sprout, it is *germinating* or beginning to grow.
6. *Predict* or guess when you will begin to see a stem and root. Write this in the "predict" area on the chart. Check the seeds to see how close you came.
7. Keep checking the seeds until you can answer all of the questions on the "A Bean Grows" chart.
8. If the paper towel or napkin begins to dry out you will need to wet it again.

A Bean Grows - Seeds in the Sun

| | Predict | Observed | Date Observed |
|--|---------|----------|---------------|
| Which grows first, the stem or the root? | | | |
| How many days will it take to sprout? | | | |
| How many days before the leaves come out? | | | |
| How long is the root the first day it shows? | | | |
| How long is the stem the first day is shows? | | | |
| What color is the root the first day? | | | |
| What color is the stem the first day? | | | |

A Bean Grows - Seeds in the Closet

| | Predict | Observed | Date Observed |
|--|---------|----------|---------------|
| Which grows first, the stem or the root? | | | |
| How many days will it take to sprout? | | | |
| How many days before the leaves come out? | | | |
| How long is the root the first day it shows? | | | |
| How long is the stem the first day is shows? | | | |
| What color is the root the first day? | | | |
| What color is the stem the first day? | | | |

Let's Grow!

Which seeds germinated the fastest? Why? _____

How did you know if the stem or the root grew first? _____

What did the root look like when it started to grow? How was it different from the stem? _____

What was the difference between the seeds in the sun and the seeds in the closet? Why were they different? _____

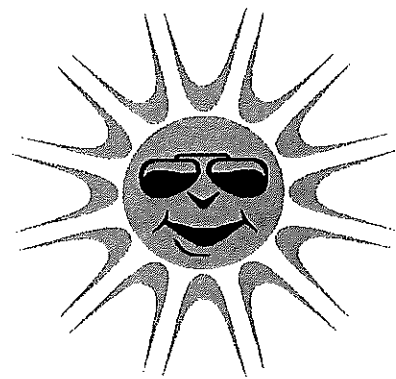
What did you learn from this experiment that will help you start seeds in the future? _____



Activity 3 — Sun Power

You will need these things:

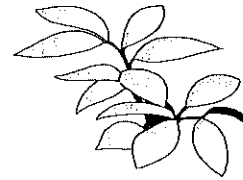
- shoebox with a lid
- paper cup
- 3 pinto beans or another kind of bean
- cardboard
- scissors
- tape
- soil



Here's what you do:

1. Fill the cup with soil.
2. Plant the beans in the soil, about a ½ inch or inch from the top.

3. Add water to the soil. (Don't add too much. Just enough to make it moist.)
4. Allow the bean to sprout. It will take about 5 to 7 days. Don't forget to keep the soil moist. You may need to water the soil.
5. Cut a holes in one end of the shoebox.
6. Place the bean plant (remember, let it sprout with good leaves and a stem) on the end of the shoe box without the hole. Put the lid on the box.
7. Allow the plant to grow from one end of the box to the other.
8. Open the lid each day to check to see how much the plant has grown.
9. Water the soil as needed.



Let's Grow!

How many days did it take for the plant to grow from one end of the box to the other? _____

Why did the plant grow this way? What did it need? _____

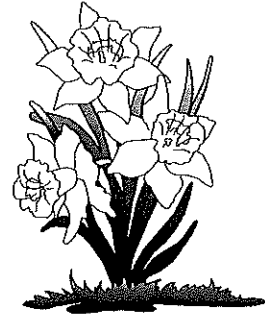
If you are growing plants inside, where is a good place to put them? Why? _____

The Pretty Flower

If you look at a flower, on it you will see that there is another part of a plant. This plant has leaves and a stem. If you took the plant out of the soil, you would see roots. Why is a flower important?

A flower is very special because it makes seeds. These seeds fall to the ground and will grow into flowering plants.

People like flowers because they have a bright color. Some have a very pretty smell to them. A popular flower is a rose. It comes in a lot of colors (red, pink, white and many more). The rose also has a special smell. Perfumes are made from roses because people like to wear the special smell. What is your favorite perfume?



Activity 4 — Flower Power

You will need these things:

- pencil
- four different types of flowers or flowering plants
- "Petal" chart

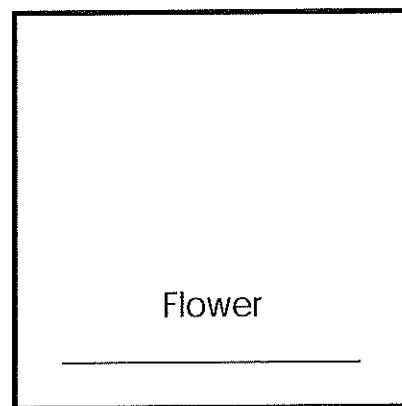
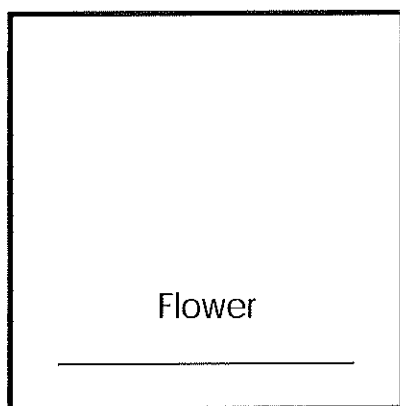
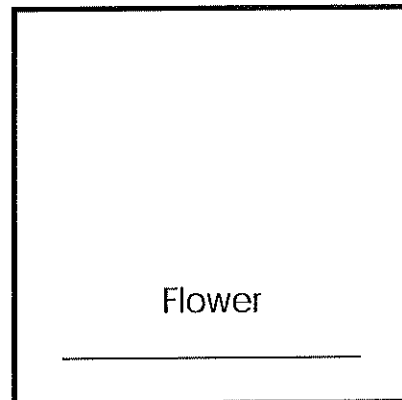
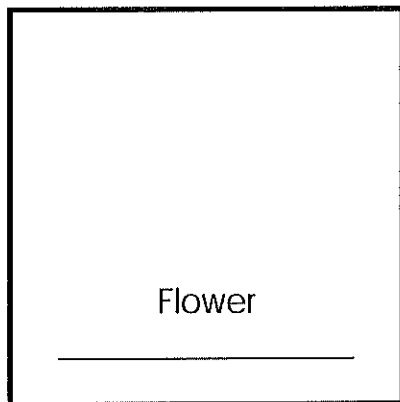
Here's what you do:

1. This is an activity that is easier to do in the Spring and Summer when there are a lot of flowers around.
2. Find four different flowers or flowering plants.
3. Look at each of the flowers. Count the number of petals. What do the petals look like?

4. Complete the Petal Chart.

| Flower | Number of Petals | What do the petals look like > |
|--------|------------------|--------------------------------|
| | | |
| | | |
| | | |
| | | |

5. Draw a picture of the different shapes of petals.



Let's Grow!

Which flower had the most petals? _____

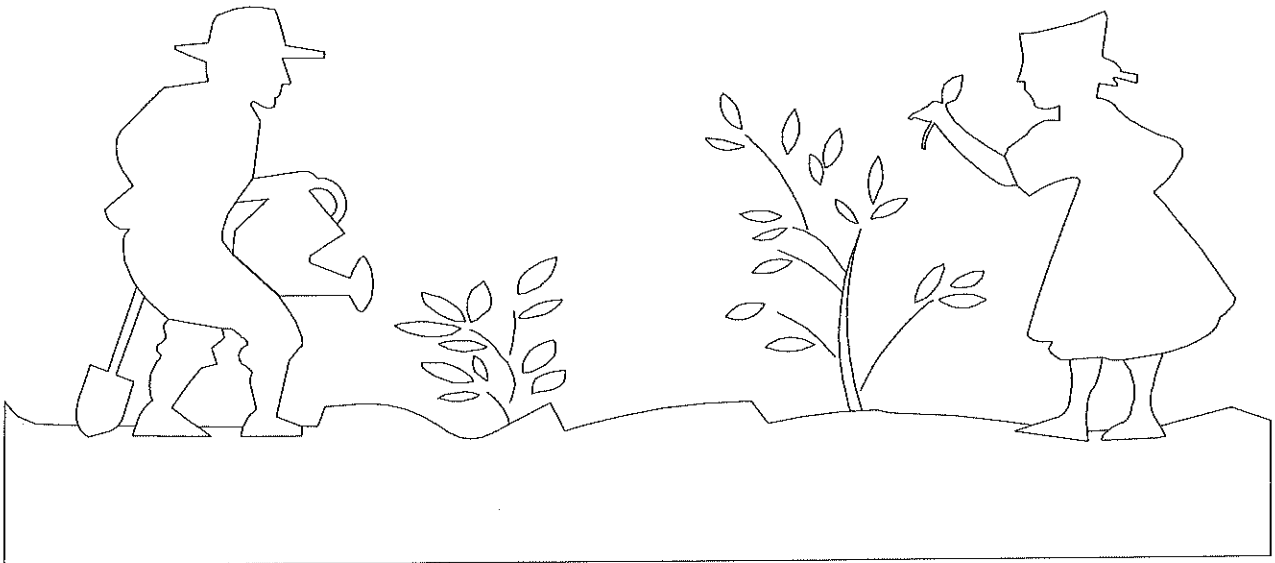
Which flower had the least amount of petals? _____

Which petals were the largest ... the ones from the flower with the most petals or the one with the least? _____

Which flower is your favorite? _____

If you were putting flowers in a vase, what flowers would you use and why?

Color Me!





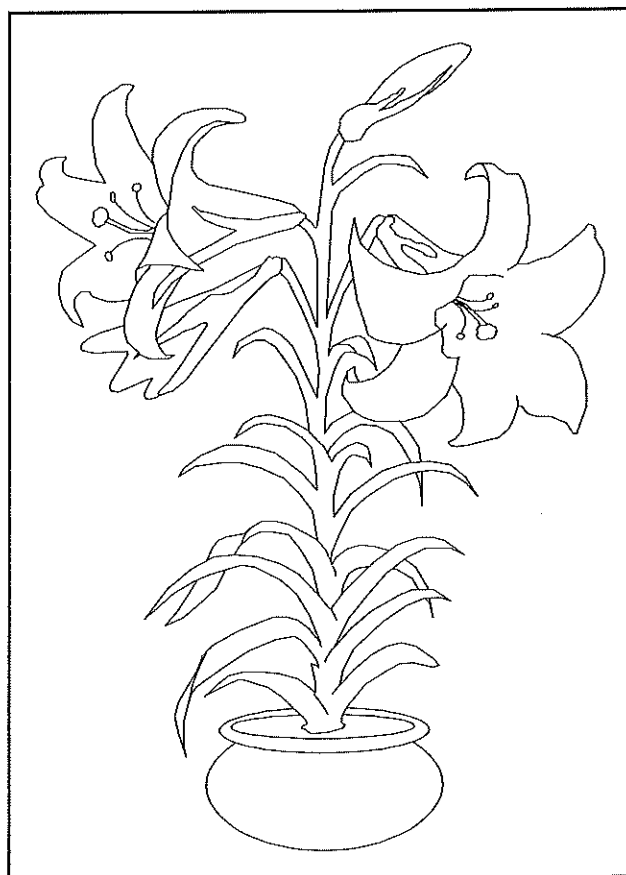
Activity 5 — Name that Flower!

You will need these things:

- crayons, colored pencils or markers

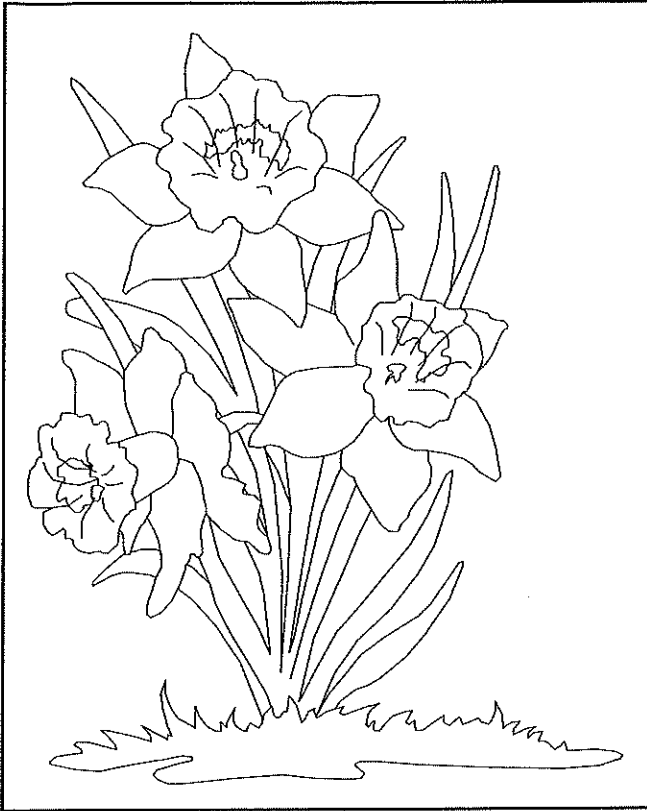
Here's what you do:

1. Match the flower with the name and color them.



1. _____

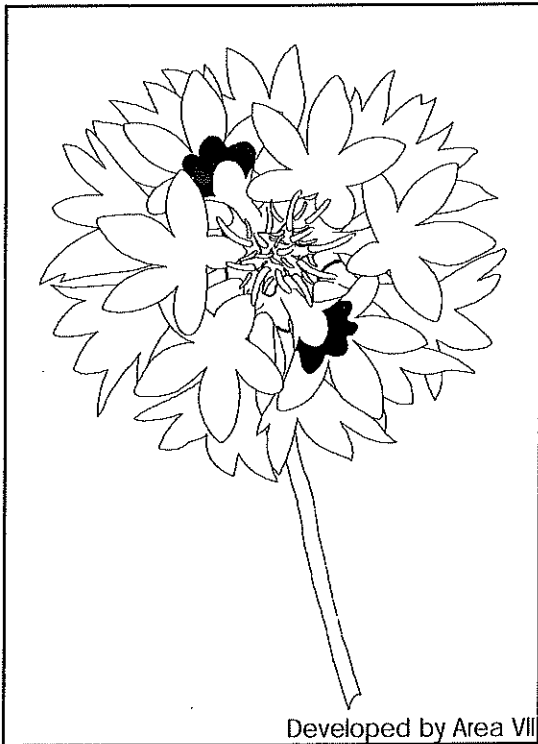
2. _____



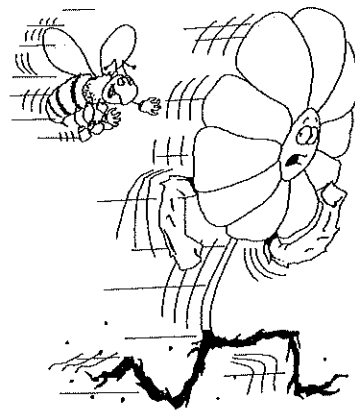
3. _____

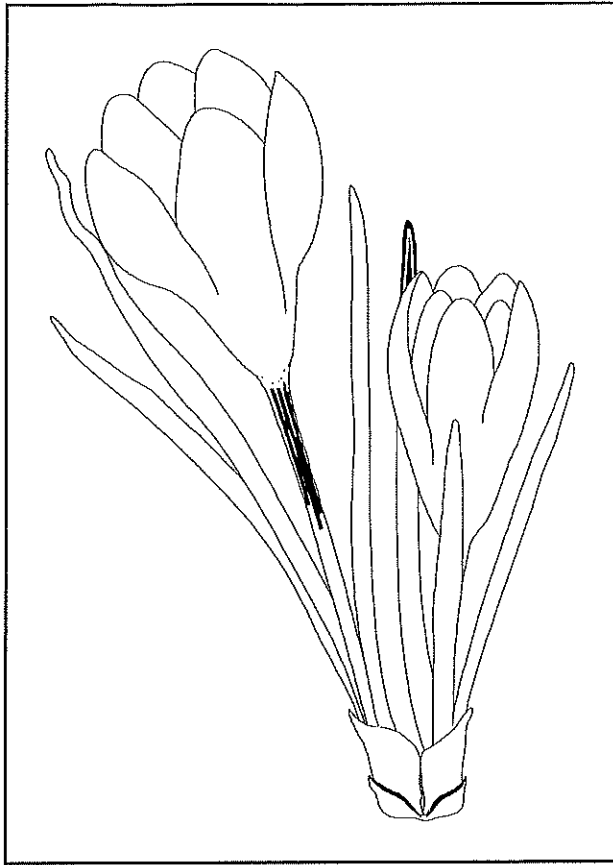


4. _____

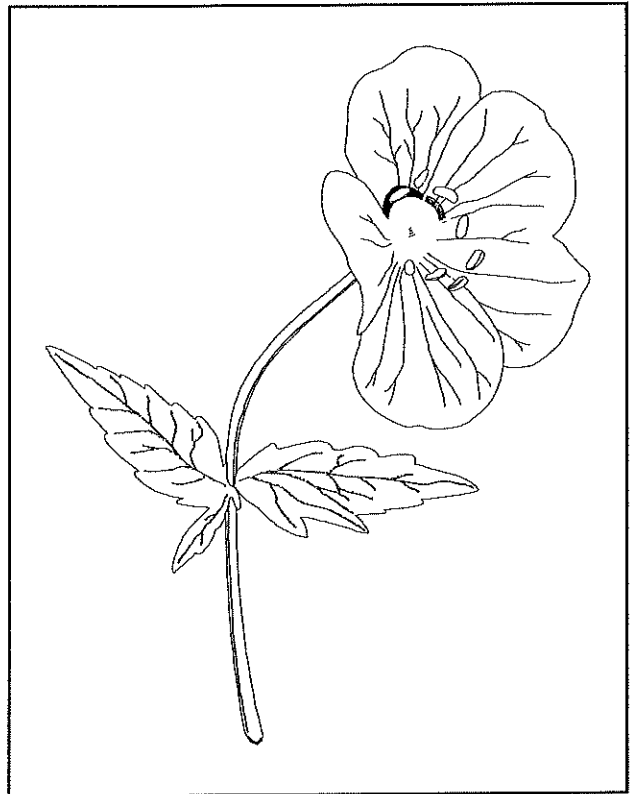


5. _____

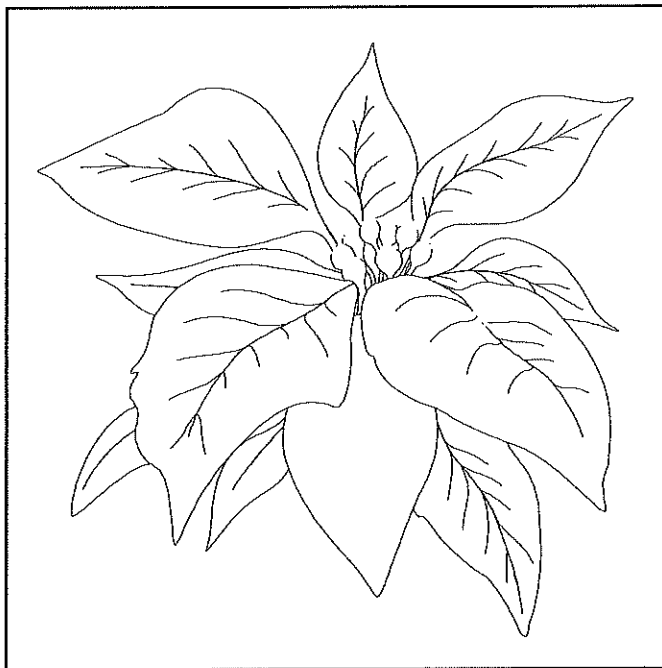




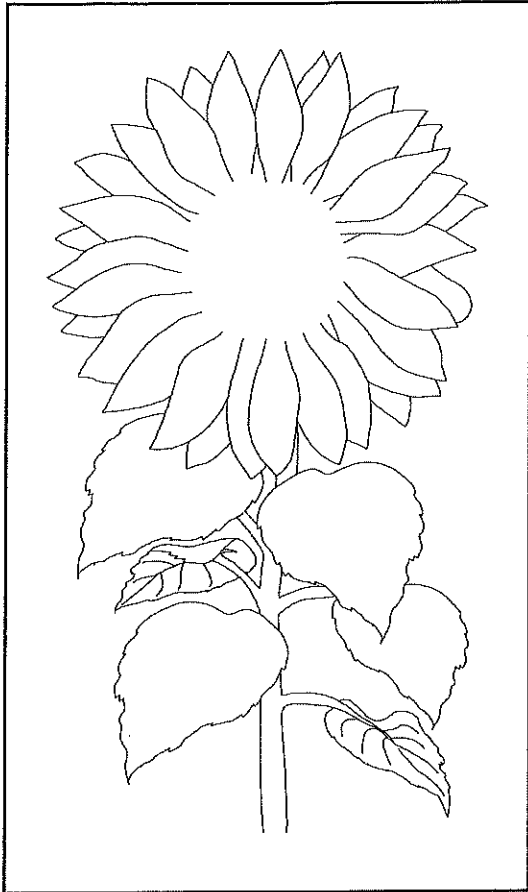
6. _____



7. _____



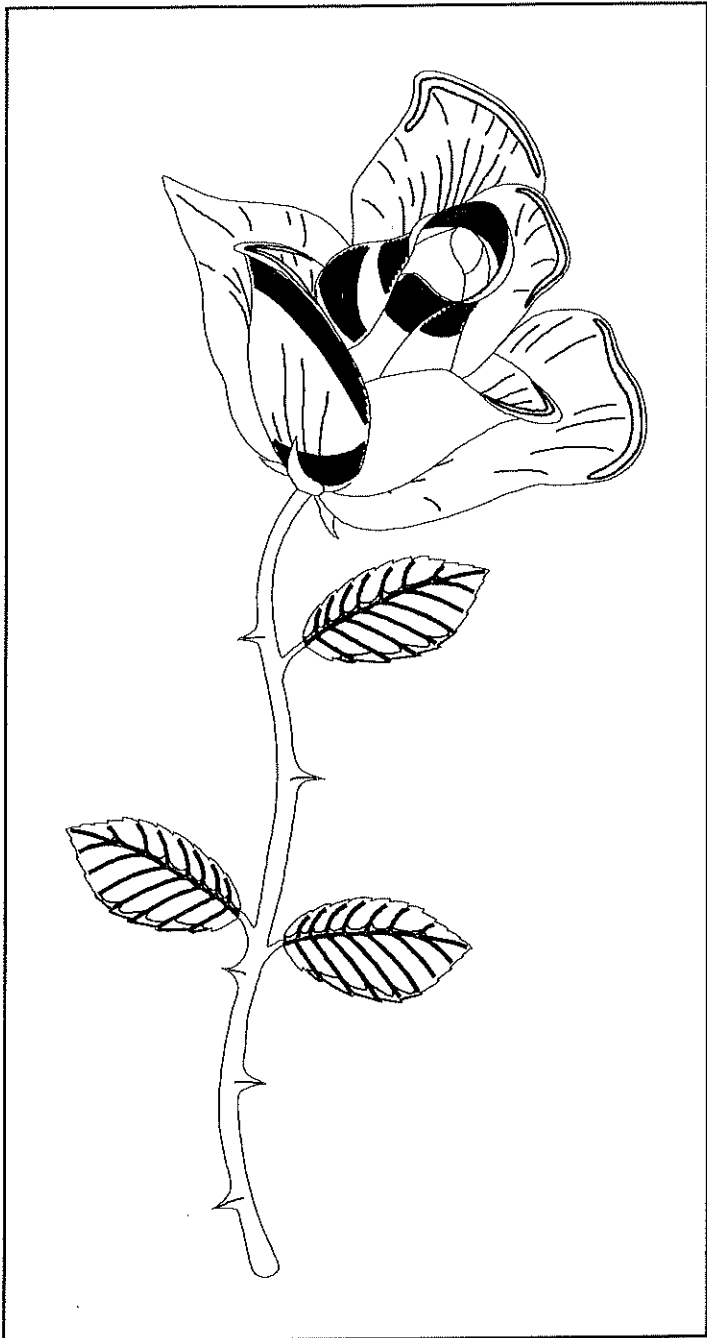
8. _____



9. _____

Pick from this List

- ✿ Bluebell
- ✿ Lily
- ✿ Bachelor Button
- ✿ Daffodil
- ✿ Rose
- ✿ Crocus
- ✿ Iris
- ✿ Geranium
- ✿ Poinsettia
- ✿ Sunflower



10. _____



Activity 6 — Where Did All the Water Go?

You will need these things:

- one jar filled with water
- a white flower ... a carnation works the best
- food coloring (Ask a parent or guardian before you use this. It can make a stain)



Here's what you do:

1. Fill your jar with water.
2. Carefully, add 4 to 5 drop of food coloring. Mix the food coloring with a metal spoon (it won't stain the spoon).
3. Cut the stem of the flower at an angle. This will help the flower absorb the colored water into its stem.
4. Let the flower stand in the jar until the petals of the flower turns color. Try something fun ... want a flower with two colors. Split the flower stem about halfway up and place two pieces of the stem in two glasses (next to each other)

Let's Grow:

Why did the petals turn color? _____

What color did it turn? Did it match your food coloring? _____

How could you use this activity in the future? _____



What to Exhibit



Here is a list of projects that can be shown at the 4-H Fair. Choose ONE project you would like to try. You do not have to complete them in any order. If you have any questions, please call the Extension Office. There are people there who can help you.

- * Three cut flowers in a vase. The flowers can be the same kind or different kinds. Attach a small label that tells the kind of flower.
- * A flowering plant in a pot. Attach a small label that tells the kind of flower plant.
- * A house plant. Attach a small label that tells the kind of plant.
- * A cacti. Attach a small label that tells the kind of cacti.
- * Exhibit a colored flower. (See Activity 6 for directions).
- * Make a poster that shows the different parts of a plant.
- * Find at least three pictures of flowers. Write the name of the flower next to it. You can use the flowers in this book. Put the pictures in a self-made notebook.
- * Make a plant maze. Bring the shoebox maze with the plant inside. (See Activity 3 for directions).

For information on how to label your project with you name, when to enter your project in the fair, and where the project needs to go, please contact your Extension Office.

Have Fun!

