

JUNIOR FARMER PROGRAM

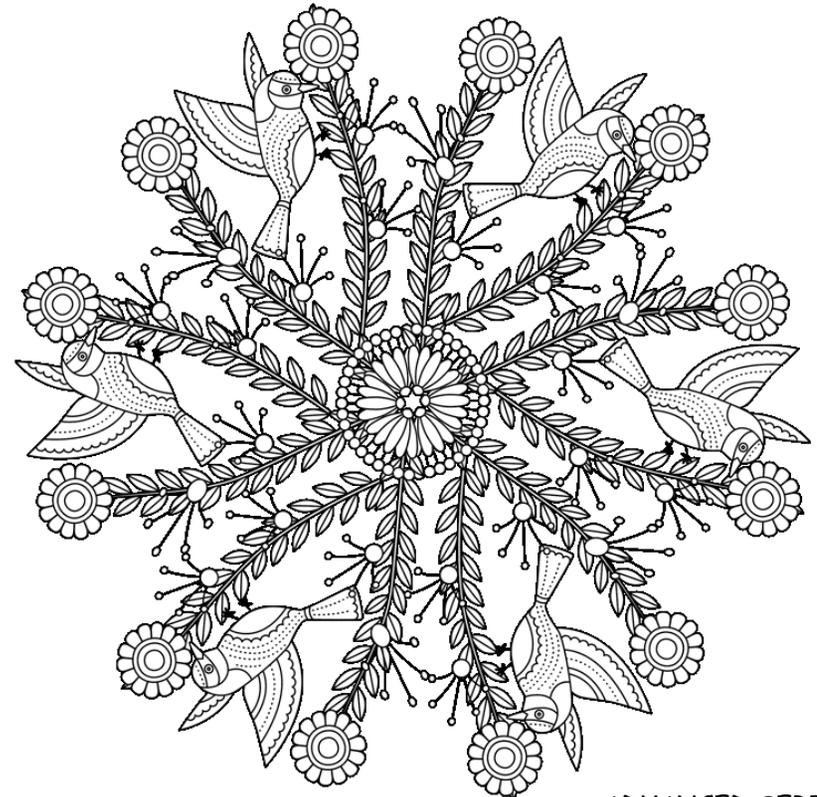
Advanced Series



ALLEN COUNTY
soil and water conservation
DISTRICT

Please return this to the Allen County Soil and Water Conservation District to receive a Junior Farmer patch and certificate.

Indiana State Science Standards covered: PSS-2.1, PSS-5.6, PSS-5.8,

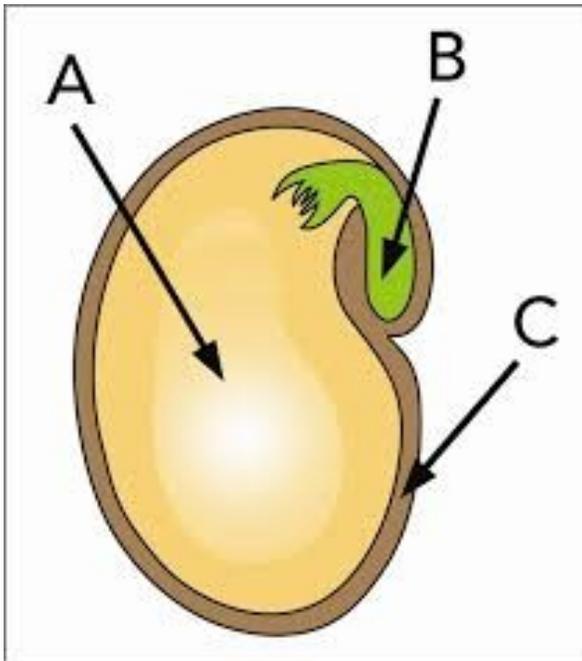


Seeds

What is a seed? What do you think seeds do?

Do you eat any seeds?

Have you ever planted a seed? What does a seed need to grow?



Put the following terms in the right blanks:

Seed Coat

Embryo

Food Storage

A:

B:

C:

Seeds

Seeds serve a few functions for a plant. Seeds nourish the embryo (baby plant), they have the ability to be dormant if conditions are not ideal for growing, and they also are attractive to animals so they can be eaten and dispersed elsewhere.

Can you identify these seeds? Write the names if you do, next to the seeds.



Flowers

What is a flower?

What do you think is the purpose of a flower?

Name some plants with flowers.

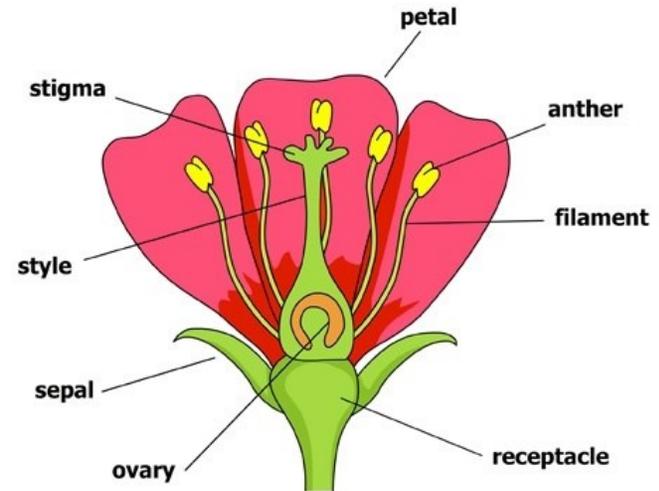
Do any of these flowers turn into fruits? If so, which ones?

Flowers have one main job: reproduction. The reproductive organs of the plant are in the flower. When the sperm of the plant, which is in the pollen, connects with the ovules, the plant can reproduce. Usually this is in the form of a seed. What is this process called?

Flowers

List animals that are pollinators:

Here are the parts of a flower:



What do you think attracts pollinators to a flower?

Draw a flower below that would be attractive to you:

Pollination

What is pollination?

Do you know what a pollinator is?

List some animals or insects that you think are pollinators:

Pollination is the transfer of pollen to a stigma, ovule, flower, or plant to allow fertilization. Imagine a bee, it goes to sit in a flower and it is covered in a yellow powder (which is the pollen) and then it flies into another flower and leaves some of the pollen in the new flower. **This is pollination.**

Any animal that comes in contact with a seed and moves it somewhere else is a pollinator.

Circle the animals you think move a seed:

Deer	Butterfly	Frogs
Bears	Bees	Cat
Pigs	Bats	Raccoon

Pollination

There are two types of pollination:

Cross-pollination is the process of applying pollen from one flower to another.

Self-pollination is when pollen from the same plant arrives at the stigma of a flower or at the ovule.

Tomato plants self-pollinate. If a tomato plant produces the tomato below, draw what you think the next generation of tomatoes will look like.

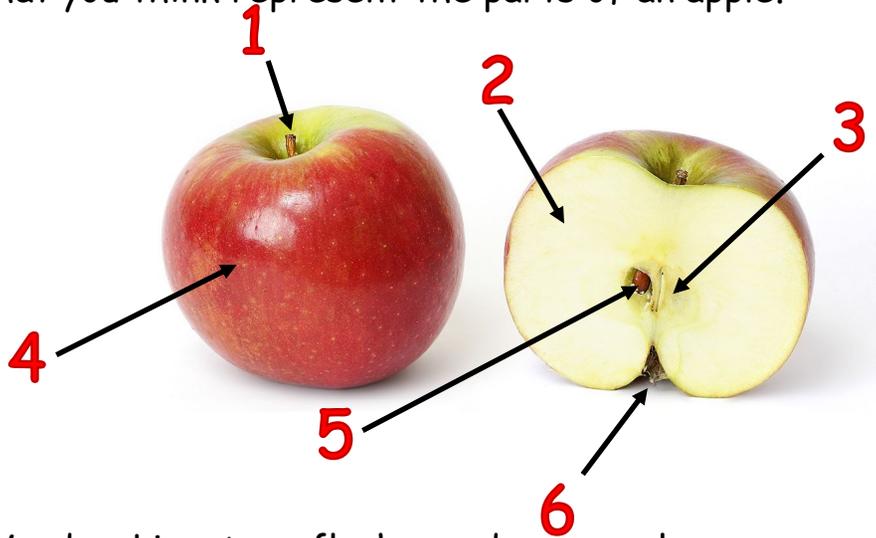


Apple trees require cross-pollination, which means at least two trees need to be present in order to produce fruit. If you have four apple trees, how many different combinations of apples could you have? Invent new names for the apple combinations.

- 1—Macintosh
- 1—Jonathon
- 1—Granny Smith
- 1—Red Sap

Fruit

Here is an apple. Below are words to place in the blanks that you think represent the parts of an apple.



Words: skin, stem, flesh, seed, core, calyx

1: 4:

2: 5:

3: 6:

What do you think the functions of each of these parts is for the survival of the plant?

1

2

3

4

5

6

Fruit

The fruit of a plant serves two functions: keep the seeds safe and to disperse the seed.

How do you think the fruit keeps the fruit safe?

How do you think the fruit helps to disperse the seed?

The fleshy part of a fruit, like an apple, keeps the seeds from drying out until they are mature. Name other fruits or vegetables that protect their seeds with a fleshy part.

Fruits and vegetables are tempting to all animals. Once a fruit is eaten, the seeds are moved to another place an animal. When the seeds are eliminated from the animal, they have been moved to a new area. Hopefully, the seed is able to grow into another fruit-bearing plant. What fruits and vegetables do you like to eat?