



APPLE GRAFTING

Grade Level

3-8

Length of Lesson

30 minutes

Objective

Students will be able explain how new apples are grown.

Materials

- Different colored paper straws
- Scissors
- Plant tie/garden tie tape or masking tape

Standards

NGSS:

3-LS3-1, 4-LS1-1,
5-ESS3-1

Lesson Summary

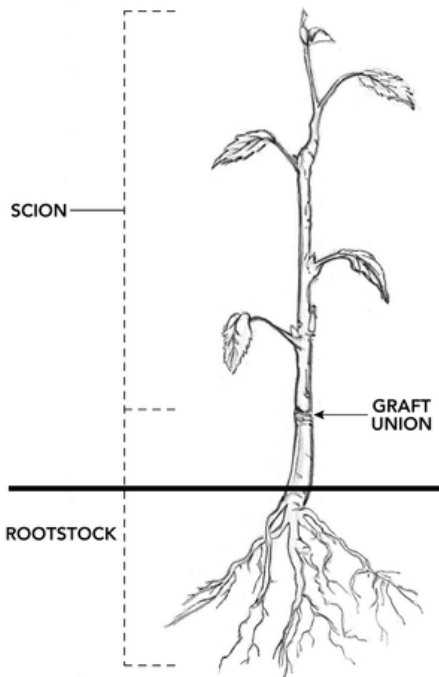
This activity is designed to help students understand the process of growing apples by simulating the grafting process using simple materials.

Suggested Sequence of Events:

1. Set Up: Get enough paper straws so that each student can have their own. Pass one to each student so that no two consecutive students have the same color straw.
2. Read through the IAITC Apple Ag Mag to learn more about apples. Interactive online versions can be found on our website.
3. Complete the activity following the procedures:
 - Give each student a straw. Then have them cut the straw in half at a 45 degree angle. This will be their rootstock.
 - Have students trade one half of their straw with a student next to them who has a different colored straw. This second color will be their scion.
 - On the angled edge of the straw, have students cut 1/2" notches on opposite sides of the straw. Do this on both straws.
 - Have students attach their straws together at the angled edges, pushing them together so the cuts nest inside each other.
 - Pass out a 3-5" piece of tape to each student and instruct them to tape their straws together. This completes the grafting simulation.
4. Whole class discussion and review of activity. Discuss with students what each piece of this simulation represents in the real grafting process.

TEACHER RESOURCES

Background Information



This diagram shows the grafting process on a young tree. In this example, a scion is grafted onto a mature rootstock, so the new tree has the benefits of a mature root system and will produce the desired variety of apple on the branches of the scion.

The grafting process can also be done further up the tree on a mature branch. Grafting a scion wood from a Red Delicious tree, for example, onto a Granny Smith tree, for example, will result in one tree that has different branches producing both types of apples at the same time.

Grafting is used for two principal reasons: most fruit trees don't come true to seed (seeds from a McIntosh apple won't grow into McIntosh trees) and apple tree cuttings don't root easily. Grafting can also improve disease resistance!

Extension Ideas

- Check out the [IAITC Apple Ag Mag](#) (4th-8th grade), [Junior Ag Mag](#) (2nd-3rd grade), [Reader](#) (6th-12th grade), [Facts for Little Readers](#) (K-1st grade), and [other printed resources on Apples](#) on the IAITC website.
- Watch videos about the apple grafting process in a real apple orchard.
- Research different types of apples and how the varieties were created.
- Conduct an Apple Taste Test with your students.
- Hold a class discussion/debate on the best types of apples.
- Have students share their favorite apple recipes.
- Check out this [Apple Genetics Lesson](#) from the National AITC Matrix.
- Check out [this lesson from Oregon AITC](#) about grafting the Red Delicious apple.
- Go to agintheclassroom.org to contact your County Ag Literacy Coordinator for free classroom sets of our Ag Mags.

The next page is a printable direction sheet for students.

APPLE GRAFTING

1



Cut the Rootstock

cut a roughly 2 inch piece from one straw at a 45 degree angle

2



Cut the Scion

choose a different color straw and cut it in half at a 45 degree angle

3



Cut Notches

On the angled end of the straw, cut 1/2" notches down opposites sides. Do this for both straws

4



Join and Tape

attach the cut ends together and overlap the notches to form a tight union, then tape the seam