

Make a Mini-Greenhouse



A recycled CD case becomes a mini-greenhouse where radish seeds sprout into seedlings—right before your eyes!

4-H Project Area: Plant Science

Time: 25 minutes

Follow-up observations at home

Life Skills: Critical Thinking—Keeping records;
Responsibility

Materials:

- 1 alfalfa or bean sprout per child
- 1 small paper plate per child
- 1 plastic CD case (one side clear) per child
- Permanent markers
- 4-5 radish seeds per child
- Scissors
- Paper towels or felt scraps
- 8-½ x 11-inch sheets of paper
- Pencils
- Large bowl or sink nearby

Advance Preparation:

- Soak radish seeds in water overnight
- Pre-cut pieces of felt or paper towels to fit inside CD cases
- Fill a large bowl with water
(*optional*) Create a mini-greenhouse one week earlier to provide youth example

FOR MORE INFORMATION ON LEADING ACTIVITIES FOR YOUNG MEMBERS, SEE CLOVERBUD LEADER GUIDE

Did You Know?

Did you ever wonder what gets a flower to bloom or why grass grows? It is because those plants are getting the things they need to help them sprout. Seeds need sunlight, soil, clean air and water to help them become strong, healthy plants. In this activity, children will make mini-greenhouses that give seeds some things they need to grow into strong plants.

Seeds need the right amount of water to sprout. Seeds absorb water, causing the tissues inside to expand and break the outer layer of the seed (called the seed coat). This allows a root and a shoot to come out of the seed. Each mini greenhouse will have a built-in water source.

Plants take in carbon dioxide from the air to help them make food. The small openings in the mini-greenhouse will help seeds get air so that they can start growing into strong plants.



More to Explore

To give children a peek at what will happen in their greenhouses, show them the YouTube video *Time-lapse of Radishes Growing*, Center for Ecoliteracy.



THE ACTIVITY

Explain that we will make mini-greenhouses to take home and observe.

Ask

What do you need to grow?

What do you think a plant needs to grow?

Have you planted seeds before?

What did you plant, and what happened?

We will be making mini-greenhouses that you will take home and watch as your seeds sprout. *What do you want to learn as you observe your greenhouse?*

Investigate



Give each child one sprout on a paper plate. Invite them to examine it. See if they can find the root that goes into the soil and the shoot that grows toward sunlight.

Ask, What do you notice? What are the different parts of the sprout? What questions do you have about these sprouts?

Create

Set out materials and give youth instructions:

Make a mini-greenhouse:

- Use marker to write names on CD cases.
- Wet felt by dipping in a bowl or running water. Squeeze water out so felt is damp but not dripping. Put felt in the CD case.
- Place 4-5 radish seeds on top of felt. Space them a few inches apart for room to grow.
- Close the CD case to seal mini-greenhouse. Tell children to take the greenhouse home and put it in a spot where it will not be disturbed.

Tip: If you observe felt drying out, gently dribble water onto it to make sure your sprouts have enough moisture.

Source: *Growing Vegetables at Home*, Helen C. Harrison; Center for Ecoliteracy; *Budding Gardeners Horticulture Project Activity Guide-Unit 1*, 4-H Cooperative Curriculum System Publication. Photo source: © 2014 Center for Ecoliteracy.

Adapted by: Brianna Stapleton Welch, 4-H Youth Development, UW-Extension Washington County.

Make a Sprout Journal:

- Fold a mini-journal from 8½ x 11-inch paper using attached instructions.
- Label each page with Day 1, Day 2, etc. There are enough pages to observe greenhouses for 8 days.
- Tell children to take their journal home and keep it near their greenhouse. Ask them to check it daily and draw or write about the changes in their radish seeds.

Share/Reflect

Ask, What did you learn about seeds and sprouts today?

What do you think will happen to the seeds in your mini-greenhouse?

How many days do you predict it will take for your seeds to germinate?

Encourage youth to draw or write in their seed journals. At your next meeting, ask them to bring their journals and report what they discovered. What did they learn from their observations?

Relationship to 4-H

One important thing we do in 4-H is keep records of what we learn and how we grow.

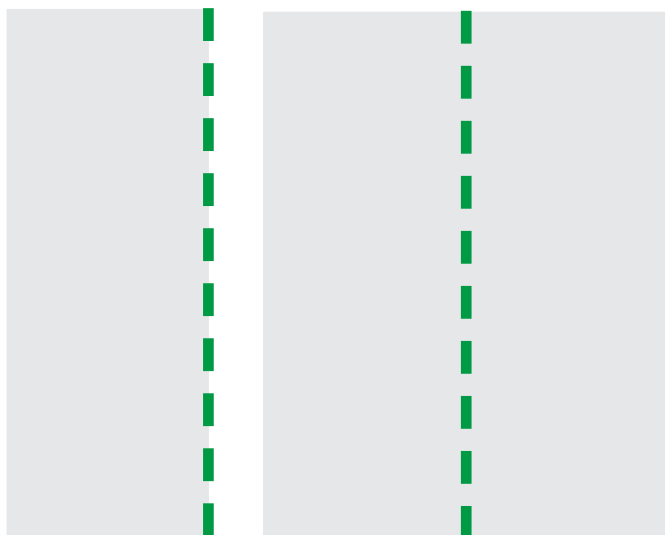
Explain that children will make observations and record information in their Sprout Journals. This is similar to how we keep records about our 4-H experiences.

Show a sample Cloverbud record book so children can see what they will assemble at the end of the year.

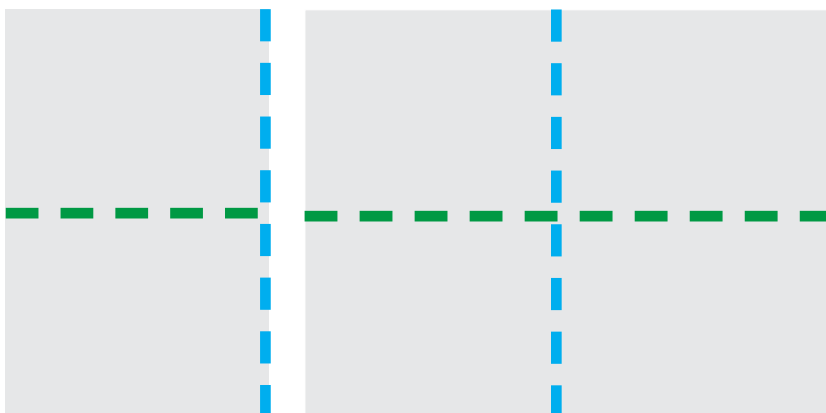
Fold a Mini-Journal

1

Fold 8-1/2" x 11" paper in half lengthwise, crease and unfold.



Turn the paper (landscape). Fold in half widthwise, crease, and unfold.



Your paper should be divided into four equal quarters.

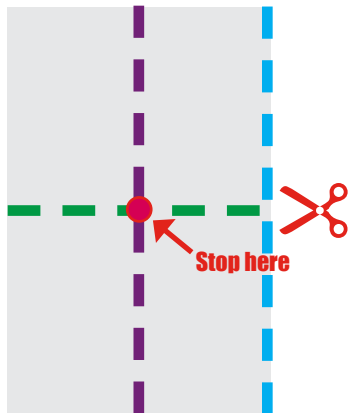
2

With the open paper, fold in one side half way – the right edge meets the center crease. Repeat for the other side. When both sides are folded, it looks like double doors.

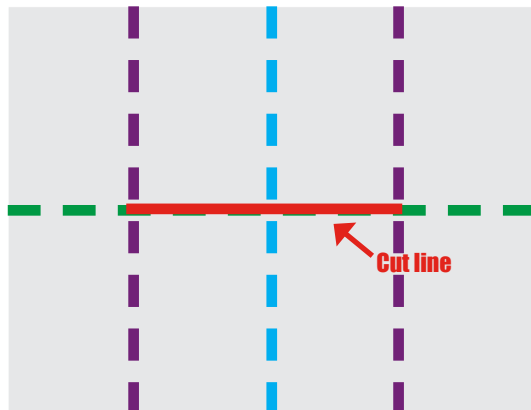


Unfold. Your paper should be divided into eight equal parts, like the picture above.

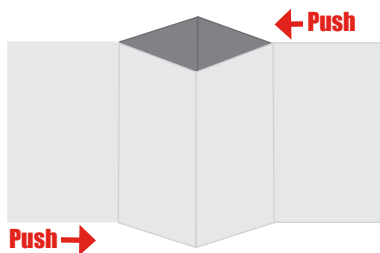
3 Re-fold the paper widthwise. Starting on the folded edge, cut paper along mid line fold to center point.



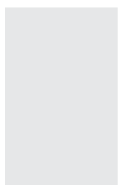
Unfold. Your paper should look like this.



4 Fold paper lengthwise (along the cut you just made.) Hold on to both ends and push in. This will make a diamond-shaped opening as shown in picture below.



5 Continue pushing until the diamond collapses (now you have a cross.)
Fold sheets into a four-page mini-journal.





Today we turned a recycled CD case into a miniature greenhouse and we put radish seeds inside. We also made journals that we can use to draw or write what happens inside our greenhouse each day. Please help us get our seeds to sprout by putting the greenhouse in a warm, sunny spot in your home.



Make a Mini Greenhouse

We learned... As we made our greenhouses we learned that seeds need water and carbon dioxide to sprout.

Ask your child...

What did you learn about seeds and sprouts today?
What do you think will happen with your greenhouse?
Where should we put your greenhouse so that it gets plenty of sunlight?

Explore more... To see what will happen to the radish seeds, you can watch videos online of radish seeds sprouting. You can find videos by searching for “radish seeds time lapse” on YouTube, or visit this link: <https://www.youtube.com/watch?v=fyV5z5b19mk>

Connect to 4-H... One important thing we do in 4-H is keep records of what we learn and how we grow. For this activity, children record observations of their greenhouses in their Sprout Journals. This is similar to how we keep records about our 4-H experiences. Ask a project or club leader if you can look at a sample Cloverbud record book so that your family can see what your child will assemble at the end of the year.