

Virtual Seed Survivor Guide for Teachers

Sunflower Microgreens



Lesson - Virtual Seed Survivor Presentation and Planting Activity - Sunflower Microgreens

Explore what it takes for seeds to survive, thrive and provide us with healthy nutritious food.

Lesson Delivery Options included below:

- Option 1: Teacher Led Presentation/planting as a class
- Option 2: In Class Student Self-directed Learning
- Option 3: At-home Student Self-directed Learning

Background

Seed Survivor educates elementary students, with a focus on grades 3-4, about the importance of agriculture and where food comes from. All materials in Seed Survivor are created in collaboration with teachers and agriculture experts to ensure they are unbiased, curriculum-based and factual. Every presentation explores how to grow healthy plants, the components and importance of soil and how much of the earth can grow food. Students have a chance to play games and plant seeds to grow at home!

Students will:

- Identify what plants need to grow
- Describe the components of loam soil
- Understand how precious and finite soil is on our planet
- Describe the 3 macro-nutrients for plants, where they come from and how they help the plant grow and stay healthy
- Plant and care for sunflower microgreens

Suggested time needed:

80 minutes+

- 10 minutes – Seed Survivor pre-activity
- 20 minutes – Seed Survivor presentation, planting activity and video questions (plus set-up time and planting time)
- 10 minutes – Post-presentation crossword puzzle
- 30 minutes – Seed Survivor games and website exploration (individual)
- 10 minutes – Seed Survivor post-activity

Materials provided:

Online:

- Go to the Sunflower Microgreens option on the Virtual Seed Survivor Presentation webpage here <http://seedssurvivor.com/just-for-teachers/virtual-seed-survivor-presentation/> (or under the "Just for Teachers" tab on www.SeedSurvivor.com) to access:
 - Virtual **Sunflower Microgreens** video (16:23m)
 - The following lesson documents which are available as both interactive PDF or print options:
 - Pre-activity
 - Student Lesson - Sunflower Microgreens (if completing individually (option 2) or at home (option 3), optional if in-class (option 1))
 - Seed Survivor Crossword
 - Post Activity
 - Teacher answer keys (for all the above)

From the Kit:

- One Seed Survivor cup and lid per student
- 10 sunflower microgreen seeds per student*



***Please see note below regarding food safety and best practices in the Food Safety section below.**

By the Teacher:

- Soilless potting soil (enough to almost fill the cup) for each student
- One tablet, laptop or desktop computer with internet connection per student if completing the online learning games in-class and/or completing the online versions of the activities.
- Copies in either online or print and enough to provide one/student of each of the following:
 - the pre-activity sheet
 - the Student Lesson* (optional if completing as a class)
***All activity sheets are linked for students to download in the interactive version of this document.**
 - the Seed Survivor crossword
 - the post-activity sheet

By the home:

- A tablespoon for watering
**Watering is encouraged to be completed at home in case sunflowers are spilled during the planting or transport process. Dry soil is easier to clean than mud!*
- One tablet, laptop or desktop computer with internet connection if completing the online learning games at home.

Food Safety:

When growing microgreens in-class or at home, there are a few best practices to keep in mind.

- Please use the microgreens provided to you to ensure food safety.
- Start with a clean Seed Survivor cup or container. If using a growing tray disinfect and sterilize all growing trays between use. We recommend using a 9:1 solution of water and either bleach, white vinegar or a school-approved alternative to clean, and then rinse with plain water to remove disinfectant residue.
- Ensure that soilless potting mix is used, and clean tap water. Always store potting mix indoors to limit potential contamination.

Harvesting in-class or at home

- Wash hands thoroughly with soap and water before and after handling, harvesting and eating the microgreens.
- If harvesting using scissors, we recommend cutting the microgreens 2cm above the soil line, using clean, sharp scissors. Scissors should be disinfected before and after using a 9:1 solution of water and disinfectant (bleach, white vinegar or a school approved alternative) and rinsing with plain water.
- Prior to consumption, the microgreens should be placed in a mesh colander and rinsed with clean, cold water and patted dry with clean paper towel.
- It is always best to enjoy microgreens immediately after harvesting. If it is necessary to store them, ensure that they are harvested when dry. They can be wrapped loosely with paper towel and refrigerated in a plastic bag. Make sure to rinse microgreens and ensure they have not spoiled before eating.

***Please note:** microgreen seeds are provided for educational purposes. Germination and yield are dependent on many factors, and are not guaranteed. As with any food grown in the classroom or home environment, there are potential food safety risks. To help minimize these risks, please ensure that you have followed all instructions for growing and harvesting microgreens and that the microgreens are not contaminated, moldy or otherwise spoiled prior to any consumption.

If you do not have a kit or require more seeds please email Community.Investment@nutrien.com. We are happy to send your classroom sunflower microgreen seeds for this activity.

Lesson Plan

The Seed Survivor Lesson Plan is flexible. Please choose the option that works best for your students. The activity sheets are recommended to solidify concepts and demonstrate student learning, but the virtual presentation, planting activity, and online games can be completed on their own without any additional resources.



Option 1: Teacher Led Presentation/planting as a class

1. Have students complete the pre-activity sheet to gauge their initial understanding BEFORE exposing them to any of the Seed Survivor materials.
2. As a class watch the virtual Seed Survivor **Sunflower Microgreens** video (16:23m)
 - At 4:10 in the presentation, directions are given for planting the microgreen seeds. If students are going to do their own planting at this time, then pause the video and hand out the planting materials or alternately hand out the materials before showing the video. Start and stop the video as needed. Students could be given cups pre-filled with soil to ensure they remain seated.
 - As a class, answer the following questions, option to have students record their answers in the Student Lesson:
 1. Why is it important to leave room around each seed?
 2. Plants need water.
 - a. How often should you water your sunflowers?
 - b. How much water should you use each time?
 - c. What might happen if you use too much water?
 - d. What should your soil feel like?
 3. Where should you put your cup at home?
 4. About how long before your microgreens are ready to be harvested or picked?
 5. How will you know when your microgreens are ready to be harvested?
 - If you prefer to watch the entire video and then hand out the planting materials and have students plant their seeds and/or answer the above questions, include the step by step for planting in box below.

- i. Fill your cup almost to the top with nutrient rich soil (Students could be given cups pre-filled with soil to ensure they remain seated.)
- ii. Place seeds on top of the soil. Ensure the seeds are as spread out as much as possible so there is lots of room for the roots to grow!
- iii. Poke each seed into the soil with one finger (about ½-1" down) and ensure seeds are covered with soil
- iv. Secure lid for transporting
- v. Once at home take off the lid and recycle it
- vi. Place your cup in a sunny window
- vii. Add approximately one TABLESPOON of water each day or enough to keep the soil moist (should feel like a damp sponge)
- viii. Microgreens are ready to be harvested when the first leaf pair opens. About one week after planting. To harvest, cut/break off the microgreen above the soil with clean scissors or fingers or pull them from the soil to eat whole – roots and all!
- ix. Rinse away any soil and enjoy microgreens on their own, on a salad, or in a sandwich.

* Find more tips, growing advice or submit your sunflower pictures on www.SeedSurvivor.com

3. Have students complete the Seed Survivor Crossword to solidify concepts learned in the presentation.
4. Have students play online games found here <http://seedsurvivor.com/just-for-kids/games/>, option to have them record their scores in the Student Lesson. *Students will require their own device with access to the internet.
5. Have students complete the post activity sheet after playing the games.



Option 2: In Class Student Self-directed Learning

1. Provide each student with
 - a. a device connected to the internet
 - b. one Seed Survivor cup filled $\frac{3}{4}$ full of soilless potting soil
 - c. one packet containing 10 microgreen seeds
 - d. one lid
2. Have them open the Interactive Student Lesson - Microgreens sheet. If using print versions, hand out the pre-activity first, and then the Student Lesson - Sunflower Microgreens sheet.
 - Note, the interactive lesson sheet will provide them with a step by step guide and links to download all interactive versions of the activities required to complete the Seed Survivor lesson.
 - Note: the student lesson sheet can also be accessed from the Sunflower Microgreen option on the Virtual Seed Survivor Presentation page under the "Just for Teachers" tab on the Seed Survivor website www.SeedSurvivor.com. Access print versions of the activities there if preferred.

Option 3: At-home Activity Student Self-directed Learning

- Provide parents with the Virtual Parent Guide
 - The Student Lesson – Sunflower Microgreens document can be found under the Sunflower Microgreens option on the Virtual Presentation page under the "Just for Teachers" tab on the Seed Survivor website www.SeedSurvivor.com
 - **Food safety and best practices are included on the parent guide**
- One Seed Survivor cup or similar container per student (about 750 mL or 12oz).
- Nutrient rich soil. Soilless potting soil is a great option.
- 10 sunflower microgreen seeds per student

Additional Resources:

For Students:

Go to <http://seedsurvivor.com/>. Students can explore these resources under the "Just for Kids" tab:

- Kids videos
- Nutrient world (learn more about NPK)
- Recipes
- Growing Advice
- Online coloring
- Ask the Agronomist

For Teachers:

Go to <http://seedsurvivor.com/> and look under the "Just for Teachers" tab for:

- In-class or e-learning activities
- Videos
- Posters
- Resources to learn more about agriculture

Feedback Appreciated

We would love to hear from you! We make improvements to the Seed Survivor program each year based on teacher and student recommendations.

Teachers are invited to participate in a short survey located at the bottom of the Virtual Seed Survivor Presentation page or by clicking [here](#).

For questions, or any further feedback please email: Community.Investment@Nutrien.com

Have fun watching your sunflower microgreens grow!