Lesson Plans & Activities

**How Does Your Garden Grow?** Students grade 3-5 will synthesize what they know about soils, plants, and the environment to plan a garden, present their plans, and explain why they made the decisions that they did.

**Green Education Foundation Lesson Clearinghouse:** Free sustainability lessons for all grades Pre-K-12, organized by school subject. There are a number of garden lessons which are labeled as “Gardening”. You can also upload and share your own curriculum!

**Whole Kids Foundation Garden Curriculum:** 35 lesson plans with activities to engage your students in a fun and educational exploration of fruits, vegetables and healthy eating. The lessons are cross-curricular and support curriculum for Pre-K-5th grade. A variety of activities are included so you can pick and choose the learning objectives that are appropriate for your students.

**Featured Lesson:** **Parts of a Seed**

This is a hands-on lesson for grades 3-5 letting students explore the parts of a seed. The students will identify the **seed coat, embryo, and cotyledon** through an interactive activity. One day before the activity, soak seeds (preferably lima beans) for seed dissection.

**Materials Needed:**
- Soaked seed - at least 1 per student (preferably lima beans from the grocery store)
- Magnifying glasses - enough for easy sharing at work stations
- Paper towels - at least 1 per student
- Seed Dissection worksheet - 1 per group or work station (attached)

**Teacher Instructions:**
1. Let your students know that today they will be working in workstation groups to dissect and explore the inside of a seed. Ask for a student volunteer to review the definition of germination.
2. Introduce the supplies at each workstation.
3. Break students up into workstation groups. Be sure to bring enough supplies for each workstation.
4. Give your students 10 minutes to complete the seed dissection activity as below, and as groups finish, have them complete the seed dissection diagram.
5. Gather your students back together and review the parts of a seed and the function of each plant part.

**Student Instructions:**
1. Select a soaked seed and run your fingernail along the rounded edge.
2. Carefully split open your seed into two separate sections.
3. Remove the skin surrounding your seed.
4. Place the three different seed parts on a paper towel. Review the following diagram and identify the seed parts on yours.

**Conclusion:** Have students share out key parts of the day’s activities and review the Key Understandings for this lesson.
- Ask students why seeds are so important. What part do they play in plant survival?
- Ask students to think about the location of seeds for different plants in the school garden.
Grants & Fundraising

- **NH Partnership for Schoolyard Action Grants**: supports schools that want to achieve the benefits of nature-based studies for student development and long-term learning goals. $500-1,500 – Submit by January 15th

- **Gro More Good Grant**: Funding for the development of new or expansion of existing youth garden programs and greenspaces. Winners are selected based on the future sustainability of their garden program. $500-1,000 – Submit by February 14th

- **Seed Savers Exchange Seed Donations**: Donates 50 seed packets to organizations and gardens in need. 50 seed packets – Ongoing applications

- **Clif Bar Foundation Small Grant**: Awarded for general organizational support, as well as funding for specific projects that support Clif’s mission for environmental sustainability, a healthy food system, and outdoor activity. Up to $7,000 – Submit by February 1st

- **Free Milkweed For Schools**: A free flat of 32 milkweed plugs and guidance on how to create a new habitat or enhance an existing garden. 32 plugs – Ongoing applications

Test for Seed Germination: Have you wondered if the seeds you’re keeping are too old to plant successfully? This guide, and activity for your students, will help determine if your seeds are still viable.

March is Maple Month!
Every March, the **NH Maple Producers Association** hosts Maple Month with fun activities, sugarhouse demonstrations, and maple syrup tastings in partnership with dozens of maple producers across the state. Celebrate Maple Month with these lessons around maple syrup by NH Ag. In the Classroom.

Spring Recipe: **Honey Carrot Bars**
Yields 12x12” pan, 15 large bars

**Ingredients**
- 2 eggs
- 1/2 cup canola oil
- 1/2 cup honey
- 1/2 tsp vanilla extract
- 2/3 cup all-purpose flour
- 2/3 cup whole wheat flour
- 1 tsp cinnamon
- 2 tsp baking soda
- 2 cups carrots, shredded
- 1/2 cup walnuts, chopped
- 2 Tbsp rolled oats (not instant)

**Directions**
1. Preheat oven to 350 degrees F.
2. In a large bowl, whisk the eggs, then mix in the oil, honey, and vanilla.
3. Add the flours, cinnamon, and baking soda and mix until well-combined. Stir in the carrots and nuts.
4. Grease and flour a baking pan and spread batter evenly in the pan. Sprinkle the top with oats.
5. Bake for ~20 minutes until a toothpick inserted into the center of the bars comes out clean. Let cool before cutting.
SEED GERMINATION EXPERIMENT WORKSHEET

Name: 

Date:

Make sure your work station has the following supplies:
- Soaked seeds, 1 per student
- Magnifying glasses for sharing
- Paper towels

Complete the following steps to successfully dissect your seed:
1. Select a soaked seed and run your finger nail along the rounded edge
2. Carefully split open your seed into two separate sections
3. Remove the skin surrounding your seed
4. Place the three different seed parts on a paper towel
5. Review the following diagram and identify the seed parts on your

Parts of a Seed:

<table>
<thead>
<tr>
<th>Cotyledon</th>
<th>Seed Coat</th>
<th>Embryo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides food for the baby plant, or seedling</td>
<td>Protects the seed from insects, disease, and damage</td>
<td>This will germinate into a baby plant, or seedling</td>
</tr>
</tbody>
</table>

Label the parts of the seed with your work station group.