

## Mohala Activity Plan

**Name of Activity:** Planting salad greens with peat pellets

**Learning Goal:** Children will be able to recall the steps to planting a seed and be able to apply those steps to the steps involved in planting seeds in the peat pellets. Children will learn new vocabulary as we plant and label a variety of salad greens.

**Chosen Because:** This activity is a part of a large-scale science unit (seed to plate/plate to seed) taking place across the school year (providing interest of the children is sustained as we go along). From the beginning of the school year we have been doing small group activities that are aspects of the seed to plate curriculum. As often as possible we have been and will continue to eat the food we grow and grow food from the food we ate. Planting lettuce that will be later transplanted into the Hoku class garden bed is a science unit within this larger curriculum that also includes growing herb gardens. One of the many uses of the herb garden will be to make salad dressings for salad that we grow in our garden bed. When a lettuce plant is done producing lettuce it seeds. We will ultimately harvest the seeds to grow again as a part of the seed to plate to seed cycle.

**Place-Based:** The seed to plate curriculum is place based in that our school has a garden that is intentionally accessible to children. The garden is a part of our schools focus on outdoor learning and sustainable living. The salad greens that are grown in the Hoku garden bed will be utilized and shared with our school community. Additional vegetables that we will add to our salad will be purchased from the campus farmers market, which is an extension of our school community.

**Background:** The children have experienced planting a variety of vegetables and herbs this semester in multiple formats (often in the classroom and then transplanting them to the garden). This activity will be another opportunity to grow healthy food from seed. Salad greens will be planted and harvested because many of the Hoku children enjoy salad that is served at lunch (iceberg leaves typically). By growing a variety of salad greens children will expand their context of what can be eaten as salad and healthy habits will be modeled and encouraged.

**Standards/Benchmarks/Performance Indicators:**

Hawaii State Preschool Content Standards

Domain IV/Science:

**Standard 5: Learn about the earth and sky.**

**Standard 3: Explore Physical Properties of the World.**

Children will *investigate the physical properties of dirt*, as we add warm water to the pellets and see how it softens and expands the soil for planting seeds.

HELDS Framework and continuum

Domain: Cognition and General Knowledge in the science strand:

**Physical Science code GK.36.o: Children will learn to identify differences in the properties of some objects or materials.** In this activity children will observe the change in the peat pellet before and after warm water is added to the pellet. The cause of the change and the difference in the pellet's properties will be a focus of this activity.

**Scientific Engineering and Practices code GK.36.n: Children will ask questions and may seek answers.** In this activity questions that stimulate critical thinking and inquiry will be a focus as the children prepare the peat pellets for the seeds to be planted. We will question what makes the pellets expand, why the soil needs to be soft rather than solid, why we will put the seedlings into the garden bed once they begin to grow, and any other questions that the children may have.

Domain: Reading Informational in the English Language Arts and Literacy strand:

**Integration of knowledge and Ideas code AL/LA.36.g: Children, with adult support, will recall the sequence of personal routines or events.** In this activity the steps of planting a seed into a pot of soil will be recalled by the children and then will be accommodated into the steps to planting seeds in the peat pellets. A teacher made instructional document using both written language as well as picture cues will be used as a reference tool by the teachers and children as they plant the seeds in this new way while comparing it to the steps that they are familiar with.

Domain: Writing in the English Language Arts and Literacy Strand:

**Text types and purposes code LA.36.r: Children will recognize and label people, objects, and animals in pictures.** In this activity large pictures of the salad greens that will be planted will be used in sequence with the seed varieties. As children learn the names of the various salad greens to be planted and become familiar with their names and visible characteristics they will also have a written model of the name of the salad green as a literacy cue.

### **Indicators for Learning:**

I will be able to assess children's awareness of the steps to planting seeds by asking them open ended questions about our process as we plant as a small group. I will tailor my questions for individual children to meet them where they are at in their ability to recall the steps to planting seeds as well as in their ability to articulate why the step is important. As children flow in and out of the planting activity I will be able to assess their internalization of the steps to planting seeds by how they model and articulate the seed planting steps to peers who are newly joining the ongoing activity.

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I will know if the children have learned the names of the various greens to be planted if they use the plant's name in our conversation. Using pictures of the greens as well as written names of the greens I will pay attention to each child's ability to name the seeds. As the greens sprout and grow I will be able to continuously assess what they have learned as we care for the growing greens, transplant them into the garden, and harvest the greens for eating.

<b>Learning Format (Preschool) or Phases (K-3<sup>rd</sup> Grade)</b>	
<p>During this time the class will have just transitioned indoors from the playground for a whole group gathering. Following the <b>whole group</b> gathering in which we greet one another as a classroom ohana. Following this daily routine I will invite a <b>small group</b> of three or four children to accompany me to the science table for a planting activity. I will share what we will be planting with the large group and show them pictures of the various greens. My teaching partner and a student assistant will remain in the classroom with the rest of the children for child chosen center activities. When at the table I will introduce the greens to the small group and brief them on the activity plan, modeling for them how to plant a seed in the peat pellet.</p>	<p>I am choosing to do a large group briefing for this activity before I focus on a smaller group of children. The reason for introducing the greens to the whole group is to spark their curiosity and engagement. Although the planting, caring for, transplanting, and harvesting of the greens will predominately be done with small groups of children it is my hope that all of the Hoku children will have multiple opportunities to participate over time. By starting with the whole group all of the children will have a sense of being a part of this classroom community project. I will reintroduce the greens and do a more specific briefing with the small group who will be planting the seeds with me. This second briefing will serve to highlight activity expectations and to focus the children on the activity. With a small group I will be best able to engage children in complex thinking instructional conversations.</p>

**Activity Description:** The small group of children and I will have a briefing conversation about what we are going to do and why. Following this conversation we will plant seeds into peat pellets.

**Steps for teacher/children**

<b>Time</b>	<b>Setting</b>	<b>Activity Description</b>	<b>Materials</b>
9:30	In Hoku classroom	<b>Whole Group Briefing:</b> I will talk to the children about the activity and show	Printed photographs

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	block area.	them pictures of the various greens that we will be planting. I will then invite a small group of children to come to the science center with me to plant seeds. I will make a list of children who want to join in the planting when the space opens up at the activity table.	of the various greens to be planted.
9:45	At science table in classroom.	<b>Briefing:</b> I will again show the children photographs of the various salad greens that we will be planting. I will ask the children to recall the steps to planting seeds in soil. As this dialogue unfolds I will introduce the children to the peat pellets and to the written instructions that tell us how to plant seeds in the peat pellets. (CREDE Standards: LLD, CTX )	Seeds, Photographs, peat pellets, Written reference steps to planting seeds in peat pellets.
10:00  10:20	At science table in classroom  Same	<b>Teaching Steps:</b> Following the briefing I will <b>model</b> for the children how to prepare the peat pellets for the seeds by adding warm water to the soil. The children will have an opportunity to examine the peat pellets before I model this step. As they investigate the pellets I will call attention to the fact that the pellet is solid and hard by asking the children to tell me what they notice about the pellets. <b>Complex thinking</b> will be encouraged when I ask them what they think will happen when we add the water to the pellet. I will ask them why they think what they think. After modeling the procedure of the first step (adding hot water to pellets) each child will then do the same to their own pellet. We will observe the changes in the soil as the warm water softens the soil. I will engage the children in <b>Instructional conversation</b> about why they think it is important that the soil in the pellet be soft. I may ask them what would happen if the soil around the seeds we plant were hard and firm? I will then	Peat pellets, Warm water, eye droppers, seeds, reference steps.

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	<p>model the second step which is “sowing the seeds” just beneath the top of the pellet soil after “fluffing the soil”. The container holding each seed type will be labeled with a smaller version of the large photographs used in the briefing. The large photographs will be used as markers in the greenhouse container for each salad green variety. The children will need to match the type of seed they chose to plant with the area designated in the greenhouse for that green type. This process will reinforce the names of the various greens being planted and also authentically encourage word recognition and matching photographs. Children will need to count out three seeds for each pellet. After the children have experienced the planting procedures as a <b>Joint Productive Activity</b> through teacher modeling and direct instruction, they will be given time to continue planting the salad green seeds on their own working collaboratively and receiving individualized support as needed. As children come and go from the activity I will have debriefing conversations with the children as they leave about what they planted. As new children join <b>JPA</b> will continue to be encouraged, as children will be asked to brief incoming children on the steps to planting seeds in the peat pellets. (CREDE standards: IC, LLD, JPA, MD, CT,)</p> <p><b>Debriefing:</b> When all the seeds have been planted into peat pellets the activity will conclude. As a group we will note which greens were planted where in the green house which will invite a final opportunity to name the various salad greens that were planted. I will have the children help me to tape the</p>	<p>Labels, tape, reference steps.</p>
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		<p>appropriate label to the green house as we do this. I will ask the children to tell me how the process was different with the peat pellets. I will ask them what we did and together we will recall the steps, looking at the reference chart before cleaning up. (CREDE Standards: LLD)</p>	
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<p align="center"><b>CREDE STANDARDS</b></p> <p align="center">Please write how you will (if you will) implement the following standards. Indicate (Ex. with asterisk) which standards will be your focus for this lesson.</p>		
CREDE STANDARD	How it will be used	Target Score
<p align="center"><b>JPA</b> Joint Productive Activity</p>	<p>I will work in collaboration with a small group of children to plant salad green seeds into a greenhouse planter. Ultimately these seeds will be transplanted into a garden bed and cared for by the entire group of children in various ways. Collaboration between peers will be encouraged during the planting most notably as new children join into the activity.</p>	<p align="center">5 *Focus</p>
<p align="center"><b>LLD</b> Language &amp; Literacy Development</p>	<p>Language and literacy is a clear goal of this activity. The labels naming the various salad green seeds to be planted will be utilized throughout the activity in meaningful ways. Children will also be referring to the instructional steps to planting in peat pellets throughout the activity. Aside from developing language and vocabulary within the topic of the activity in these ways, the literacy models will also serve as examples of written language being used in purposeful ways. Literacy development will be supported for individual children using multiple</p>	<p align="center">5 *Focus</p>

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	forms of assistance including modeling (reading the steps before showing the children how to do it), direct instruction (telling children to look at the letters in the words to ensure that the seeds chosen and planted match the greenhouse designated location), questioning (How do you know that these seeds are lettuce seeds?)	
<b>CTX</b> Contextualization	The familiar steps to planting seeds in soil will be expanded upon with the steps to planting seeds in peat pellets. The children will be guided in making comparisons and distinctions between the two processes. By asking questions such as “how is it the same?” and “Why didn’t we need to add warm water to the soil when we planted in pots?” the children’s conceptual understanding of the reasons behind the steps taken to plant seeds will be further solidified and expanded.	4 *Focus
<b>CT</b> Complex Thinking	Complex thinking will be encouraged through questioning that expands development of concepts related to planting seeds. Children will be encouraged to think about the why with regard to why the soil must be soft, how the warm water makes the soil soften. Why it is important to plant more than one seed in each pellet, and why the pellets will eventually need to be transplanted into the garden bed.	4 *Focus
<b>IC</b> Instructional Conversation	During the activity I will engage a small group of children in an instructional conversation that supports the learning goal of understanding the reasons behind the steps of planting seeds. I will model the steps, ask questions (see	3

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	above), listen to children's responses to the questions asked to best assess their understanding and rephrase what I hear them saying to clarify and guide their thinking.	
<b>MD</b> Modeling	<p>During the activity modeling will be a major focus. I will ask questions out loud in hopes that it will stimulate critical thinking and dialogue however even if it does not (as it will ultimately depend on the language abilities of the children participating in the activity) the process of wondering will be modeled. The instructions will also serve as a model of the procedure for planting seeds in pellets and I will go through the steps one at a time with the children to show the procedure to them. The photographs of the salad greens will serve as an inspiration for the planting activity. Peer based modeling will also be encouraged as new children arrive to the ongoing activity. Children will have time to practice the steps that they have learned as they continue to plant salad green seeds following the specific modeling done by the teacher. I will be assisting children both verbally through questioning as well as physically by aiding them as needed throughout the remainder of our time together planting sees.</p>	5 *Focus
<b>CDA</b> Child Directed Activity	<p>Participation in the salad green planting activity will be a choice in the classroom while other classroom activities remain available. Children will be encouraged to stay in the activity for its entirety however this too will be a choice as children will have varied levels of commitment to the act of planting salad greens.</p>	4



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	<p>Within the activity, children will get to choose the type of available salad greens they plant in their peat pellet. During the activity the children and I will casually plan other vegetables to plant in our garden and/or purchase from the local farmers market when we are ready to harvest the greens for salad making. At another time these ideas of what to plant and/or purchase will be collaboratively listed thus allowing the group of children to further develop and expand upon the activity.</p>	
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**Post Lesson Reflections:**

1. Which children met the learning goals? How do you know this?
2. Which children did not meet the learning goals? How do you know this?
3. What aspects of the learning goals were not met?
4. How will you ensure the students will achieve the learning goal?