

**CODE/MOE/UOIT Makerspaces Project—Lesson Planning Template**

**School Board: Huron Superior Catholic District School Board**

**Grade(s): FDK**

**Subject(s): Language-Science—Cause & Effect**

|  |  |
| --- | --- |
| **BIG IDEAS:**  **We need to understand our natural world and to care for and respect the environment. In this lesson, students will plant a seed and investigate the growth as a cause and effect project.**  **Curriculum Expectations:**  **OVERALL:**  **Demonstrating literacy and math behaviour**  **SPECIFIC:**  **4.3**  **29. Demonstrate an understanding of the natural world and the need to care for and respect the environment.**  **4.5**  **14. Demonstrate an awareness of the natural and built environment through hands on experience.**  **Students will also measure, using non-standard units of the same size, and compare objects, materials, and spaces in terms of their length, mass, capacity, area, and temperature, and explore ways of measuring the passage of time, through inquiry and play-based learning.** | |
| **Learning Goals:**  “We are learning…”  …to investigate cause and effect in the natural environment.  …what will happen if we plant seeds in soil.  …that we need to add water and give our plants sun in order for them to grow. | **Success Criteria:**  “We will be successful when…”  …we water our plants every day.  …our plants begin to grow.  …we make observations about the growth of our plants. |
| **Lesson Overview:**  **Students will learn the cause and effect of planting a seed and then see the effect of it starting to sprout and grow after they give it sunlight and water. I will also be planting a seed and placing my plant in the closet with no access to sunlight and I will purposefully forget to water it. This is intentional to be able to compare plants after 4-6 weeks and to show the importance that sunlight and water have on all plants.** | |
| **Materials and Technology:**  **-**Elmo, projector and computer with internet access  -bean seeds or any other seeds (enough for each student)  -4-5 bags potting soil (depending on number of students in the class)  -foam cups or clear plastic cups (one per student)  -trowels  -water  -chart paper  -markers  -other makerspace materials to decorate their pots including glue, stickers, pompoms, etc. | |
| **Student Accommodations/Modifications:**  **Some students will need extra help to plant and push down soil.** | **Lesson will be differentiated by:**   * **Content, specifically: n/a** * **Process, specifically: students will be asked to decorate their pots with markers and/or other materials to add creativity to this project** * **Product, specifically all students will be given a choice of what type of seed they would like to grow** * **Environment, specifically: seat students in proximity to teacher as needed** |
| **MINDS ON: Getting Started** | |
| During this phase, the teacher may:  • activate students’ prior knowledge;  • engage students by posing thought-provoking questions;  • gather diagnostic and/or formative assessment data through observation and questioning;  • discuss and clarify the task(s). | During this phase, students may:  • participate in discussions;  • propose strategies;  • question the teacher and their classmates;  • make connections to and reflect on prior learning. |
| **Describe how you will introduce the learning activity to your students.**  I will read Jack and Beanstalk to introduce the topic of plants, either have the paper copy or follow the Youtube link below to access an online interactive version.  <https://www.youtube.com/watch?v=_VCpAYajmvo>    **What key questions will you ask?**  How did Jack’s beanstalk begin to grow?  **Generate an anchor chart:**  What are some effects when we do the following?  -be nice to fellow students in our class… the effect is that we will have more friends  -we eat and drink healthy….the effect is we will grow  What do you think will happen if we plant a seed?  **How will you gather diagnostic or formative data about the students’ current levels of understanding?**  I would be able to gather data as we have classroom discussions.  **How will students be grouped? How will materials be distributed?**  This is an independent activity. However, some students will require help to plant the seeds. Materials will be distributed by the teacher and/or ECE. Students will be sitting at their tables and an adult will go around and provide the materials. | |
| **ACTION: Working on it** | |
| During this phase, the teacher may:  • ask probing questions;  • clarify misconceptions, as needed, by redirecting students through questioning;  • answer students’ questions (but avoid providing a solution to the problem);  • observe and assess;  • encourage students to represent their thinking concretely and/or pictorially;  • encourage students to clarify ideas and to pose questions to other students. | During this phase, students may:  • represent their thinking (using numbers, pictures, words, manipulatives, actions, etc.);  • participate actively in whole group, small group, or independent settings;  • explain their thinking to the teacher and their classmates;  • explore and develop strategies and concepts. |
| **Describe the task(s) in which your students will be engaged.**  The students will love to plant the seeds, they will look forward to watching it grow and measuring it weekly.  **What misconceptions or difficulties do you think they might experience?**  I think that my students will think that as soon as they add the water or put it in the sunlight, their flower will immediately begin to grow. I also anticipate that some students will not want to get their hands dirty.  **How will they demonstrate their understanding of the concept?**  They will demonstrate their understanding by first reporting/sharing about an existing constellation by retelling the story of origin with the class. Then, they will present their newly created constellation to the class and creating their own version of how it came to be.  **How will you gather your assessment data (e.g., checklist, anecdotal records)?**  This project will be monitored through anecdotal notes as I watch students collaborate, plan, plant, water and anticipate the growth. I will also monitor students observations as they will draw pics of the stages of the growing process (through a mini-journal activity) with an end product (hopefully) of a plant or flower. I will also allow students the opportunity to learn about the parts of a flower as part of their booklet.  **What extension activities will you provide?**    We could also monitor growth of plants outside in the schoolyard to see if they have made any changes throughout the activity. | |
| **CONSOLIDATION: Reflecting and Connecting** | |
| During this phase, the teacher may:  • bring students back together to share and analyse strategies;  • encourage students to explain a variety of learning strategies;  • ask students to defend their procedures and justify their answers;  • clarify misunderstandings;  • relate strategies and solutions to similar types of problems in order to help students generalize concepts;  • summarize the discussion and emphasize key points or concepts. | During this phase, students may:  • share their findings;  • use a variety of concrete, pictorial, and numerical representations to demonstrate their understandings;  • justify and explain their thinking;  • reflect on their learning. |
| **How will you select the individual students or groups of students who are to share their work with the class (i.e., to demonstrate a variety of strategies, to show different types of representations, to illustrate a key concept)?**  All of the students plants will be in a window at the back or side of the room with student names on them. I will select students whose plant has grown at different levels and then bring out my dead plant to prompt a conversation of comparison for their plants.  **What key questions will you ask during the debriefing?**  What did you learning by doing this activity?  Why do you think that my plant did not grow?  Why do you think that your plant grew taller than student b’s plant? | |