

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

**School Board: Bruce Grey Catholic District School Board**

**Grade(s): One**

**Subject(s): Math - Patterning and Algebra**

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| **BIG IDEAS: That real life things (ex:flowers) have attributes that make repeating patterns.**  **Curriculum Expectations:**  **OVERALL:**  **-- identify, describe, extend, and create repeating patterns;**  **SPECIFIC:**  **– identify, describe, and extend, through investigation, geometric repeating patterns**  **involving one attribute (e.g., colour, size,shape, thickness, orientation);**  **-create a repeating pattern involving one attribute (e.g., colour, size, shape, sound);**  **-– represent a given repeating pattern in a variety of ways (e.g., pictures, actions,**  **colours, sounds, numbers, letters).** | |
| **Learning Goals:**  “We are learning to…”  \*discuss attributes about the flower from Weslandia  \*create our own flower and identify attributes independently and then compare with a partner  \*notice any patterns in our flower involving atttributes | **Success Criteria:**  “We will be successful when…”  \*we have created our flower and have orally described each attribute and identified a pattern and can share with our classmates |
| **Lesson Overview:**  **After reading aloud the text, Weslandia, students will revisit the flower from the text and describe different attributes about the flower. They will create their own flower, identify attributes within their flower and then share and compare with a classmate. Patterns will then be recognized and discussed.** | |
| **Materials and Technology:**  - consumables from Makerspace, paint, markers, glue | |
| **Student Accommodations/Modifications:** | **Lesson will be differentiated by:**   * **Content, specifically:** * **Process, specifically:** * **Product, specifically:** * **Environment, specifically:** |
| **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.**  Read Aloud: Weslandia  **What key questions will you ask?**  (Draw their attention back to the flower) What do you notice about the flower? (introduce the term attributes) What sorts of attributes does this flower have?  **How will you gather diagnostic or formative data about the students’ current levels of understanding?**  Observations (anecdotals), student checklist with criteria listed to check off after whole group session.  **How will students be grouped? How will materials be distributed?**  **At first, students will all make their own flowers (individual)** | |
| **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.**  Materials will be provided to students for them to create their flower.  **What misconceptions or difficulties do you think they might experience?**  Trying to "copy" the Weslandia flower.  **How will they demonstrate their understanding of the concept?**  By choosing one attribute (colour, shape etc) and using it within their flower consistently to form a pattern.  **How will you gather your assessment data (e.g., checklist, anecdotal records)?**  As they are creating and discussing, anecdotal notes will be recorded and then from the notes entered into a class checklist that matches the specific expectations.  **What extension activities will you provide?**  Think/Pair/Share activities where students have the opportunity to talk with a partner (a few different times/partners) about their flower. Perhaps one partner could record the other partner’s attributes down on a chart.  There will be an area of the classroom designated for the students to put their flowers to decorate as well. | |
| **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)?**  The student who has a unique way of using the attributes in their flower to describe a pattern (thinkness/orientation) and a student who has a very common way of how they used an attribute in their flower to describe a pattern. (colour or shape)  **What key questions will you ask during the debriefing?**  What is an attribute?  Can living things have attributes?  What is a pattern?  What is a repeating pattern? | |