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

**School Board: Wellington Catholic**

**Grade(s): 3**

**Subject(s): Mathematics & Social Studies**

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| **BIG IDEAS: Students can use their knowledge of measurement and maps to create a map for a Beebot to follow.****Curriculum Expectations:****OVERALL:**  **Grade 3 Measurement**-estimate, measure, and record length, perimeter, area, mass, capacity, time, and temperature, using standard units;**Grade 3 Social Studies**A1. compare ways of life among some specific groups in Canada around the beginning of the nineteenth century, and describe some of the changes between that era and the present day.**SPECIFIC:** **Grade 3 Measurement**– estimate, measure, and record length, height, and distance, using standard units (i.e., centimetre, metre, kilometre) (Sample problem: While walking with your class, stop when you think you have travelled one kilometre.);– draw items using a ruler, given specific lengths in centimetres (Sample problem: Draw a pencil that is 5 cm long);**Grade 3 Social Studies****Maps and Globes**-Extracting information from and constructing thematic maps (e .g ., maps showing climate, physical features, vegetation) (see, e .g ., A2 .3);-Extracting information from and constructing maps, including thematic maps (e .g ., maps showing land use, municipalities, physical features) (see, e .g ., B1 .3, B2 .3). |
| **Learning Goals:**“We are learning to…”-identify distances in centimetres-learning to measure accurately in centimetres-use maps to measure and track distance | **Success Criteria:** “We will be successful when…”-we use centimetres to measure the course of our map-we use a ruler to help measure-we figure out how far the Beebot goes when pressing the button once |
| **Lesson Overview: -**Create a map on chart paper for a Beebot to follow using centimeters. The Beebot is going to go from one place to another. (eg. From home to the movie theatre) |
| **Materials and Technology:** Chart paper, Markers, Ruler, Beebot, pencil, eraser |
| **Student Accommodations/Modifications:** Depends on the needs of the class. | **Lesson will be differentiated by:*** **Content, specifically:**
* **Process, specifically:**
* **Product, specifically:**
* **Environment, specifically:**
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| **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.** Talk about measuring and perimeter and how to measure accurately with a ruler.**What key questions will you ask?** Where will your Beebot be going to?How are you going to be accurate with your measurements?**How will you gather diagnostic or formative data about the students’ current levels of understanding?**Formative: Providing feedback and scaffolding language as students test the map that they create with the Beebot. **How will students be grouped? How will materials be distributed?** Students will be put into pairs for this activity. |
| **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.** Design a map for a Beebot to travel.The map must cover a piece of chart paper.You must also have-at least one right turn-at least one left turn* a destination to get to. (e.g. starting at home and going to the store)
* Figure out how far the Beebot goes by pressing the button once and measure this with a ruler
* Figure out how to program the Beebot to follow the map.

**What misconceptions or difficulties do you think they might experience?** -some students will rush to get the work done without taking the time to plan properly- they may measure inaccurately**How will they demonstrate their understanding of the concept?**-The Beebot will have to follow the map successfully.**How will you gather your assessment data (e.g., checklist, anecdotal records)?**- by using a checklist to make sure the students do all the steps.**What extension activities will you provide?** **-**Have the students try each other’s maps and program the Beebots |
| **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)?** Through teacher observations and conversations.**What key questions will you ask during the debriefing?** I would ask the students if they found the task easy or difficult and why?What strategies did the students use to make their maps accurate?What was easy and difficult about this task? |