

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

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

**Grade(s): 6**

**Subject(s): Science & Language: Writing—Constellations**

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| **BIG IDEAS:**  Earth is part of a large interrelated system. In this lesson, students will create their own constellation and story of origin.  **Curriculum Expectations:**  **OVERALL:**  **Science: 2. investigate characteristics of the systems of which the earth is a part and the relationship between the earth, the sun, and the moon;**  **Language 1. generate, gather, and organize ideas and information to write for an intended purpose and audience;**  **SPECIFIC:**  **Science: 3.1 identify components of the solar system, including the sun, the earth, and other planets, natural satellites, comets, asteroids, and meteoroids, and describe their physical characteristics in qualitative terms (constellations)**  **2.5 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes** | |
| **Learning Goals:**  “We are learning to…”  …investigate how constellations were based on familiar shapes and animals and each one has its own story of origin.  … understand how constellations were used to guide travel. | **Success Criteria:**  “We will be successful when…”  …we have investigated existing constellations and created our own constellation with a story of origin according to two rubrics. (one for the design process and one for the writing piece) |
| **Lesson Overview:**  **Students will go online and find different constellations and research their story of origin. Then students will create their own constellation using popsicle sticks and marshmallows.** | |
| **Materials and Technology:**  -access to the internet, tablets or computers  -black construction paper  -paper  -pencils  -mini-marshmallows  -popsicle sticks  -students may also bring in other materials of their choice to create their constellation (cotton balls, toothpicks, to represent the stars, etc.) | |
| **Student Accommodations/Modifications:**  **Students are seated according to IEP plans.**  **The students all have access to technology to help guide their research.**  **Students with an IEP will have the choice to work with a partner if needed.** | **Lesson will be differentiated by:**   * **Content, specifically: students will be given choice of materials to create their own constellation** * **Process, specifically: some students can use the technology to help read and write for them (Google read and write). Teacher will prompt when necessary to keep students on task.** * **Product, specifically: n/a** * **Environment, specifically: seat behaviour students in proximity to teacher** |
| **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 use the video link below to introduce constellation (a parody). <https://www.youtube.com/watch?v=GzaMwoo9Ue0>  This will be the hook.  **What key questions will you ask?**  Now it is your turn to research your own constellation of choice, find one that interests you and read about how it originated.  Next, what constellation can you come up with popsicle sticks and marshmallows (or what other materials could you use?)  What creative story of origin can you create?  **How will you gather diagnostic or formative data about the students’ current levels of understanding?**  Conversations and Observations.  I would be able to mark or give a grade to the student's final products using a rubric or checklist.  **How will students be grouped? How will materials be distributed?**  This is an independent activity. However, students with IEPs will be given the opportunity to work with a friend. Students will have access to iPads or computers to research a constellation. Other materials will only be handed out once they have done the research on an existing constellation. | |
| **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 the video from Youtube. They will also be engaged as they are given the choice to find a constellation of their own choice to research. They will also love the creative part of writing a story to accompany and create the origin of their own constellation.  **What misconceptions or difficulties do you think they might experience?**  We sometimes struggle with internet issues, therefore I am hoping that it is working.  Students may replicate a constellation that already exists.  **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)?**  As a class, we will generate a rubric for the design process and one for the creative writing piece and use these for my final assessment on this project. I would also keep anecdotal notes on how they are working and circulate throughout the classroom to ensure that students are staying on task.  **What extension activities will you provide?**  They could create an expository writing piece on another element of our solar system. | |
| **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)?**  I would like to put all of their work on a display, in a showcase to demonstrate that we are all makers...this time constellation creators. I will also give all students the opportunity to share with the classroom.  **What key questions will you ask during the debriefing?**  What did you learning by doing the activity?  Why did you choose that design?  What difficulties or obstacles did you have to overcome while creating your constellation?  What would you do differently next time? | |