

**Vancouver Island University Faculty of Education  
BACHELOR OF EDUCATION - UNIT MATRIX**

Part 1

<b>Grade(s):</b> 4	<b>Title of Unit:</b> The effects of the interaction of the Earth and the moon
<b>Overview of Unit Topic/Theme:</b> Students will learn about the motions of the Earth and the moon and their interaction. They will also learn the tidal effects and the symbolism and importance of the moon in First Peoples culture. They will do this through physical movement that represents the motions of the Earth and moon, through visual arts, language arts and a science experiment.	
<b>Rationale for Unit:</b> – Students will be able to explain the effect of the motions of the Earth and moon as well as the changes in the tide in relation to the moon and the sun. They will also come to understand how the motions of the Earth cause the seasons and the day and night and how the implications of these changes to First Peoples.	
<b>List the Provincial Learning Outcomes (PLOs):</b> <b>Big Ideas:</b> The motions of Earth and the moon cause observable patterns that affect living and non-living systems  <b>Curricular Competencies:</b> <ul style="list-style-type: none"> <li>• Demonstrate curiosity about the natural world</li> <li>• Make observations about living and non-living things in the local environment</li> <li>• Make simple inferences based on their results and prior knowledge.</li> <li>• Represent and communicate ideas and findings in a variety of ways</li> </ul> <b>Content:</b> <ul style="list-style-type: none"> <li>• The effects of the relative positions of the sun, moon, and Earth</li> <li>• Local changes caused by Earth's axis, rotation, and orbit.</li> <li>• Tidal effect of the Moon and the Sun</li> </ul>	
<b>Culminating Task(s):</b> Briefly describe the culminating task(s) that will provide a demonstration and/or celebration of student learning. <b>Unit</b> Students will be completing a package on the Moon to progressively demonstrate their learning and understanding. They will also represent the movements of the Earth, sun and moon once all units have been completed. Their final assessment tool will be a poster they will create in which they will show everything they know.	
<b>Resources:</b> <b>The resources I will use include the following websites:</b> <a href="https://www.youtube.com/watch?v=cDed5eXmngE">https://www.youtube.com/watch?v=cDed5eXmngE</a> <a href="https://www.youtube.com/watch?v=i235Y2HRksA">https://www.youtube.com/watch?v=i235Y2HRksA</a> <a href="https://www.youtube.com/watch?v=TjTippP3TX4">https://www.youtube.com/watch?v=TjTippP3TX4</a> <a href="https://mysteryscience.com/astronomy/mystery-5/moon-phases-lunar-cycle/77?r=12718633#slide-id-1103">https://mysteryscience.com/astronomy/mystery-5/moon-phases-lunar-cycle/77?r=12718633#slide-id-1103</a> Aleck, Christine (2016). The Sun and the Moon. Nanaimo, BC. Strong Nations Publishing Inc	

Part 2

Learning Outcomes	Description of Learning Activities & Strategies	Assessment Method/Tool	Assessment Criteria
In this lesson the students will learn the motions of the Earth around the sun (rotation and revolution)	We will watch a video about rotation and revolution. Then we will discuss the concepts and we will finally go outside to represent the motions of the Earth.	Students will physically represent the motions of the Earth and then they will draw an illustration.	I will look for correct representation of the motions (understanding of rotation causing day and night, and revolution the seasons) and correct illustration.
Lesson 1	Lesson 1	Lesson 1	Lesson 1
Students will start to learn the phases of the moon, moonlight, origin of the moon.	We will watch a video about moonlight and the origin of the moon. Then add the moon to our illustration from previous lesson. Finally, we will start watching a video about the phases of the moon, looking for clues that explain them and discuss how to reproduce the phases in order with an experiment.	Discussion of video and students will continue to add to illustration from previous lesson.	Students will show understanding that the moon orbits the Earth on an angle through their illustration.
Lesson 2	Lesson 2	Lesson 2	Lesson 2
Students will understand the effects of the interaction of the sun and Earth with the moon that causes the phase of the Moon.	Experiment of the phases of the moon and exploration after experiment through a video.	Experiment Worksheet and discussions during and after experiment	Students understand the moon phases grow and then shrink as they move away from the sun and then closer to it.
Lesson 3	Lesson 3	Lesson 3	Lesson 3
Students will be able to explain the tidal effect of the moon and the sun	We will watch two videos about the tides. The second one builds on the first one. Classroom discussion about these concepts.	True or False activity with responses through physical movement (example: if you think it is true do lunges) followed by worksheet with true or false of same statements. Illustration of tides in worksheet. Crossword about many of the concepts learned so far.	Students will be able to explain basic concept of tidal effect and impact of gravity of sun combined with gravity of moon
Lesson 4	Lesson 4	Lesson 4	Lesson 4
The purpose of this lesson is to solidify the concept of the motions of the Earth in relation to the moon and the sun and the tidal effect of the moon and the sun	In small groups, students will represent the motions of the Earth and then the entire class will represent the tidal effect with the teacher.	Physical representation of the concepts learned and conversations with students.	Students will be able to explain the two motions of the Earth and the effects of the positioning of the sun, Earth and moon on the tides.
Lesson 5	Lesson 5	Lesson 5	Lesson 5