

Teacher(s)	Crabtree, Maxwell, Porter	Subject group and discipline	6th Grade Science		
Unit title	Moon, Tides, Seasons	MYP year	1	Unit duration (hrs)	14

Inquiry: Establishing the purpose of the unit

Key concept	Related concept(s)	Global context
Connections	Movements, Patterns	Orientation in time and space
Statement of inquiry		
Patterns can be observed and used to construct systems that explain how things work.		
Inquiry questions		
<p>Factual—What are the eight phases of the lunar cycle?</p> <p>Conceptual— How do moon phases influence tides?</p> <p>Debatable— If the moon were to leave our orbit, what influence would that have on tides?</p> <p style="text-align: center;">If the Earth was tilted at a different degree, how would that influence the seasons?</p>		
Objectives	Summative assessment	
<p>Objective A:</p> <p>i: Outline scientific knowledge</p> <p>ii: apply scientific knowledge and understanding to solve problem set in familiar situations and suggest solutions to problem set in unfamiliar situations.</p> <p>iii: interpret information to make scientifically supported judgments.</p>	<p>Outline of summative assessment task(s) including assessment criteria:</p> <p>Goal: You have to be able to give information and label diagrams on when it is the best time to visit the beach (seasons) and what you should expect with tides (moon phase).</p> <p>Role:</p> <ul style="list-style-type: none"> You are a producer of a tv show that gives information on when it is the best time to travel to the beach. Your job is to inform your viewers what to expect and why. <p>Audience:</p>	<p>Relationship between summative assessment task(s) and statement of inquiry:</p> <p>The students will be able to label and explain diagrams of the patterns of the moon phases in relation effects on tides. The will also identify and explain Earth's position to the sun and the seasons that are associated with position.</p>

	<ul style="list-style-type: none"> • College student who wants to go on vacation to the beach but also get science credit for his school. They have to be able to give evidence of what they learned on their vacation in order to get credit and trip paid for by their scholarship. <p>Situation:</p> <ul style="list-style-type: none"> • .You will research what happens to shore line during various phases of the moon and its effect on tides. You will research temperature of air and water along popular coastlines that are visited during various season as well as what causes the seasons. <p>Product Performance and Purpose:</p> <ul style="list-style-type: none"> • You produce charts/graphs/diagram of tides in relation to moon phases, diagram of earth during seasons in relation to sun, and finally explain why a particular season/moon phase would be the best time to visit. Your information and diagrams should be explained fully in order for the student to be able to get their trip paid for and get class. credit <p>Standards and Criteria:</p> <ul style="list-style-type: none"> • You will be graded on diagram correctness in regards to earth, moon and sun relationship for moon phases and tides and also season. You will graded on your descriptions of what is happening and why during various phases/positions of the earth, moon and sun. 	
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Approaches to learning (ATL)

Communication: Make inferences and draw conclusions, journal entries, explain diagrams/connections.

Research: collect, record, and verify data

Thinking: Identify obstacles and challenges, make connections between position of Sun, Moon and Earth and tides and seasons.

Action: Teaching and learning through inquiry

Content	Learning process
State Performance Indicators GLE 0607.6.3 Explain how the positional relationship among the earth, moon and sun control the length of the day, lunar cycle, and year. GLE 0607.6.6 Illustrate the relationship between the seasons and the earth-sun system. SPI 0607.6.6 Use a diagram that shows the positions of the earth and sun to explain the four seasons. SPI 0607.6.5 Predict the types of tides that occur when the earth and moon occupy various positions.	Learning experiences and teaching strategies Cooperative groups, hands-on activities, discovery, inquiry, note-taking, research
	Formative assessment group discussions, interactive notebook, journaling, observations, reflective writing, oral quizzes, written quizzes, Oreo Cookie phases activity, online games, demo video clips, modeling, flash cards, study guide, quick checks, magnetic models, foldables, tests, study guide
	Differentiation Peer tutoring, pre-labeling, modified grading, guided vs. inquiry, level of difficulty on online games
Resources	
Science textbook, youtube, brainpop, Teacher created activities , Bill Nye. How Stuff Works.com, NASA web sites and resource books, Physics Girl, teacher created tests, teacher created diagrams, teachertube, teacher resource books, various internet sites.	

Reflection: Considering the planning, process and impact of the inquiry

Prior to teaching the unit	During teaching	After teaching the unit
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Probes, pre-test, vocab foldables, websites	Brain-Pop/quizzes, Bill Nye, web sites, interactive journals, discussion, hands-on activities, internet search, notes, reading/discussing/notes, diagrams	journal writing, modeling activities, magnetic models, GRASP activity, online-review games, test,
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