

Mystery Class for Math

Submitted by: David Sundstedt
School and District : Don Bosco High School

Grade Level (Req.): Ninth	Content Area (Req.): Pre-Algebra	Unit (Opt.):
Connections to Other Disciplines (Opt.): <ul style="list-style-type: none"> • Geography • • 		
Time Frame (Req.): 1/14-5/14 : 15 minutes/week	Goal (Req.): Students will learn how to subtract times, and pattern recognition.	
	Objective (Req.): Using Mystery Class (website), students will calculate photoperiods and analyze data.	
Materials Needed (Req.): <ul style="list-style-type: none"> • Computer access on Fridays • • • • • • 	New Vocabulary (Opt.): <ul style="list-style-type: none"> • Photoperiod • Longitude • Latitude • Greenwich mean time • 	
Anticipatory Set/Introduction [Inquiry Question is required] (Req.): Why do seasons change? What difference does it make? Do seasons change the same throughout the world?		
Instructional Sequence/Procedure (Req.): <ol style="list-style-type: none"> 1. Ask inquiry question. 2. Follow procedures and activities listed on Mystery Class website http://www.learner.org/jnorth/mclass/ 3. Students will have a weekly discussion and graphing of data. 4. Have pairs of students state their case to the class for their choice of Mystery Cities. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 		

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Formative Evaluation (Req.): Check photoperiod evaluation weekly.	Assessment (Req.): Include photoperiod evaluation problems on regular tests.
Iowa Core Curriculum Standards Used (Req.): <ul style="list-style-type: none"> • GE 1., Grades 9-12: Understand the use of geographic tools to locate and analyze information about people, places, and environments. • GE 2., Grades 9-12L Understand how physical and human characteristics create and define regions. • GE 4., Grades 9-12: Understand how physical and human processes shape the Earth's surface and major ecosystems. • • • • • • • 	
Common Core Curriculum Standards Used (Opt.): <ul style="list-style-type: none"> • • • • • 	
NGS Standards Used (Req.): <ul style="list-style-type: none"> • 1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective. • 2. How to use mental maps to organize information about people, places, and environments in a spatial context. • 3. How to analyze the spatial organization of people, places, and environments on Earth's surface. • 4. The physical and human characteristics of places. • 5. That people create regions to interpret Earth's complexity. • 7. The physical processes that shape the patterns of Earth's surface. • 8. The characteristics and spatial distribution of ecosystems on Earth's surface. • • • 	
Five Themes of Geography Used (Req.): <ul style="list-style-type: none"> • Location • Place • Region • • 	School District Standards and Benchmarks (Opt.): <ul style="list-style-type: none"> • • •

21st Century Universal Constructs (Opt.):

Other Disciplinary Standards (Opt.):

- Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
 - Compute fluently and make reasonable estimates.
 - Use mathematical models to represent and understand quantitative relationships.
 - Analyze change in various contexts.
 - Specify locations and describe spatial relationships using coordinate geometry and other representational systems.
- Understand measurable attributes of objects and the units, systems, and processes of measurement. Apply appropriate techniques, tools, and formulas to determine measurements. Select and use appropriate statistical methods to analyze data. Build new mathematical knowledge through problem solving. Apply and adapt a variety of appropriate strategies to solve problems. Communicate their mathematical thinking coherently and clearly to peers, teachers, and others. Recognize and apply mathematics in contexts outside of mathematics. Use representations to model and interpret physical, social, and mathematical phenomena.

Other Essential Information (Opt.):

Other Resources (Opt.):

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