

Geocaching in the Classroom

Course description: Using a learn-by-doing model, teachers will have completed this course in the role of learners collaborating with other learners to solve problems. This model can then be applied in their own classrooms. Teachers will re-align the activity to their subject's state standards and grade level/developmental level of their students.

	<i>Objectives</i>	<i>Activities</i>	<i>Assessments</i>	<i>Equivalent</i>	<i>NYS Standards</i>
Week 1					
Understand how to use Moodle. Learn about your classmates	Upon completion of this activity the student will read the course syllabus	Read the syllabus. Post a reply stating the you have read the syllabus.	Participants will be evaluated on the success of posting a reply confirming that	20	
	Upon completion of this activity the students will introduce themselves	Introduce yourself including the following information: Name, Job title, subject you teach	Participants will be evaluated on their navigation of Moodle - specifically their success of posting information about themselves and their responses to other postings	20	ELA Standard 1: Language for Information and Understanding Students will listen, speak, read, and write for information and understanding. As listeners and readers, students will collect data, facts, and ideas; discover relationships, concepts, and generalizations; and use knowledge generated from oral, written, and electronically produced texts. As speakers and writers, they will use oral and written language that follows the accepted conventions of the English language to acquire, interpret, apply, and transmit information.
Week 2					
The student will learn the basics of Global Positioning Systems	Upon completion of this activity the student will be able to operate a GPS unit	Play GPS The New Navigation	Participants will be evaluated on their ability to answer the following questions from playing the game: 1) What is the speed of light 2) Where are you?	50	MST Standard 5: Technology Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs.

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	Upon completion of this activity the student will establish their home coordinates	Read What is Longitude and Latitude	Participants will be evaluated on their ability to answer the following question: What is the Prime Meridian	45	MST Standard 3: Mathematics Students will understand the concepts of and become proficient with the skills of mathematics; communicate and reason mathematically; become problem solvers by using appropriate tools and strategies; through the integrated study of number sense and operations, algebra, geometry, measurement, and statistics and probability.
Week 3					
Find a geocache	After completion of this activity the student will activate an account on the geocache website	Register for an account on www.geocaching.com	Participants will be evaluated on their completion of account registration	30	
	After completion of this activity the student will identify a cache	On the geocaching.com website select a cache that is near your home coordinates	Participants will be evaluated on successfully selecting a posted cache	30	understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying mathematics in real-world settings, and by solving problems through the integrated study of number systems, geometry, algebra, data analysis, probability, and trigonometry.
	After completion of this activity the student will find (or not find) the cache	Go out into the field and find (or not find) the cache	Participants will be evaluated on posting whether the cache was found or not	250	MST Standard 7: Interdisciplinary Problem Solving Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions
Week 4					

	<i>Objectives</i>	<i>Activities</i>	<i>Assessments</i>	<i>Equivalent</i>	<i>NYS Standards</i>
Log book creation	After completion of this activity the student will identify skills used in "hide and seek"	Develop a system to log the cache coordinates and to record skills that can be used in finding the cache	Participants will be evaluated on the efficiency of their recordkeeping: 1) is there a space to record longitude 2) is there a space to record latitude. Are any of the 2 skills listed: 1) distance calculated from home coordinates to cache site 2) directions noted: traveled east, west, etc. 3) tree identification which could assist in providing waypoints 4) using geology to identify waypoints:	50	ELA standard 1 Language for information and understanding Students will listen, speak, read, and write for information and understanding. As listeners and readers, students will collect data, facts, and ideas; discover relationships, concepts, and generalizations; and use knowledge generated from oral, written, and electronically produced texts. As speakers and writers, they will use oral and written language that follows the accepted conventions of the English language to acquire, interpret, apply, and transmit information.
		Write in your logbook details about the visit - what the area around the cache is currently like (types of trees, types of rocks) and any obstacles or hazards	Participants will be evaluated on the level of detail in their logbook: 1) observations of the environment: hilly terrain, stream bed, etc. 2) is the site difficult to access - path deterioration,	60	MST Standard 7: Interdisciplinary Problem Solving Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions
Week 5					

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Plant a cache	After completion of this activity the student will prepare a cache	gather items for the cache and place in a weatherproof container	Participants will be evaluated on the success of assembling a cache: 1)weatherproof container 2) travelbug or some other trinket/prize 2) small logbook	45	
	After completion of this activity the student will select a cache location	use Google Earth to locate a nearby geographic location, hide the cache, then post the cache coordinates on the geocaching.com website	Participants will be evaluated on the success of posting their cache site on geocaching.com	35	MST Standard 2: Information Systems Students will access, generate, process, and transfer information using appropriate technologies.
	After completion of this activity the student will analyze comments about the cache on the website	Keep a log of comments about your cache made on the geocaching website	Participants will be evaluated on the successful compilation of comments about their cache	40	ELA Standard 3: Language for Critical Analysis and Evaluation Students will listen, speak, read, and write for critical analysis and evaluation. As listeners and readers, students will analyze experiences, ideas, information, and issues presented by others using a variety of established criteria. As speakers and writers, they will use oral and written language that follows the accepted conventions of the English language to present, from a variety of perspectives, their opinions and judgments on experiences, ideas, information and issues.
Week 6					

	<i>Objectives</i>	<i>Activities</i>	<i>Assessments</i>	<i>Equivalent</i>	<i>NYS Standards</i>
Identify skills that have been incorporated into "Hide and Seek" activities	After completing this activity the student will be identify geocache skills and relate them to learning standards	Create a spreadsheet matching learning standards with skills identified in Week 4	Participants will be evaluated on the spreadsheet matching NYSED learning standards with skills utilized in the geocache process	70	
	After completing this activity the student will provide feedback on another students posted spreadsheet w/learning standards	Select one of your classmates assignment and see how well the activities match up to the corresponding learning standards	Participants will be evaluated on the comments posted about one of their classmates spreadsheet	20	ELA Standard 3 - Students will read, write, listen, and speak for critical analysis and evaluation
		Standards			
Week 7					
Use this model to introduce content in any curricular area	At the completion of this course the student will be able to write a lesson plan which integrates learning standards.	Prepare a lesson plan	Participants will be evaluated on the lesson plan and its' successful integration of identified learning standards	100	
		Sample Worksheet for Lesson Plan			
		Sample GPS Science Topic Lesson Plan			

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	After completing this activity the student will have posted comments and a response to those comments about the lesson plan	Select one of your classmates lesson plan and post a comment, then post a response to that comment	Participants will be evaluated on the successful posting of a comment and reponse	20	ELA Standard 4: Language for Social Interaction Students will listen, speak, read, and write for social interaction. Students will use oral and written language that follows the accepted conventions of the English language for effective social communication with a wide variety of people. As readers and listeners, they will use the social communications of others to enrich their understanding of people and their views.
		Course Evaluation		15	
			Total	900	