EDT544 Design Document: Geocaching for Beginners

Name:	Diane Main
Audience:	Parents and children from Milpitas Christian School, plus other families they may know (friends and family); entire group would not exceed twenty participants when there is only one instructor
Environment	This instruction will take place outdoors on campus or in a park. Instructional materials should

Problem:	Parents and students need non-academic, non-competitive activities to do together to help
	them increase the parent-child bond.

be durable and weather-proof. Computer use would take place in homes after instruction.

Category may be:	Ruth Clark Style	or	Reiser & Dick Style	
	Fact		Knowledge	
	Concept		Intellectual Skills	
	Process		Motor Skills	
	Procedure		Attitudes	
	Rule/Principle			
NOTE:	One or the other, don't mix			

ID	Objective	Category	Instructional Method (You may not use all e	vents for each objective	ve; brief phrases are fine l	here add pertinent de	etails in the NOTES)
			1-Attention	2-Objectives	3-Recall	4-Present	5-Guidance	6-Practice
1	Given examples of encouraging comments, participants will be able to use encouraging language and positive tone of voice with one another to complete tasks required in finding geocaches.	Attitudes	Instructor asks, "Who	_	Instructor asks	Instructor gives examples of each of the ways in which group members will encourage one another (see enabling objectives).		Participants will have ample opportunities to encourage one another during the activity.
1.1	Take turns operating the GPS unit.	Attitudes				Instructor lists our four "rules" for group work.	Instructor lists our four "rules" for group work.	Participants will take turns operating their group's GPS receiver throughout the activities.
1.2	Allow all group members the chance to be first to find a geocache.	Attitudes				Instructor lists our four "rules" for group work.	Instructor lists our four "rules" for group work.	Participants will "hang back" and allow others in group to be first to locate a geocache until each member has been first to find one.
1.3	Decide as a group on each next course of action.	Attitudes				Instructor lists our four "rules" for group work.	Instructor lists our four "rules" for group work.	Participants will discuss and agree as a group which geocache to seek next (after each find).

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7-Feedback	8-Assess Type	9-Retention	Delivery, Media	Assessment Item (Terminal Obj only)	Notes / Explain			
As the activity progresses, the instructor will reward witnessed encouragement by complimenting participants who demonstrate encouragement of others. e.g. "I really like how Group C is taking turns using the GPS."	Participants will complete a self- and peer-evaluation survey that asks about	In follow-up online survey, participants will report on their overall satisfaction with the bonding	Instructor-led discussion before activity takes place; Media: laminated flip-chart of PowerPoint-type slides, participant handbook, GPS receivers		This will all take place at the starting point for the activities. This is happening outdoors. This allows the instructor to move the groups apart as needed so they do not have to hear each other's responses or in-group discussions, or the group can be gathered more closely for a whole-group discussion.			
Instructor will periodically check in with groups: "Is each person getting to use the GPS receiver?"			Student-centered hands-on practice; Media: participant handbook, GPS receivers					
Instructor will periodically check in with groups: "Who has been first to find in your group so far? How many each?"			Student-centered hands-on practice; Media: participant handbook, GPS receivers					
Instructor will periodically ask groups: "What has the group decided to go for next?"			Student-centered hands-on practice; Media: participant handbook, GPS receivers					

1.4	Assign each group member important jobs regarding supplies.	Attitudes				Instructor lists our four "rules" for group work.	Instructor lists our four "rules" for group work.	Participants will divide up jobs such as carrying group materials, taking turns as agreed by the group.
2	Given a GPS receiver and written latitude and longitude coordinates, participants will be able to manually enter the coordinates into the receiver.	Intellectual Skills	Instructor distributes GPS receivers and emphasizes the trust being placed in the participants, who will be using expensive equipment.	Instructor explains that the GPS units will only work if we put the coordinates in for the locations we wish to find.	Instructor asks if participants remember seeing lines of latitude and longitude on maps or globes.	Instructor shows an example of latitude and longitude for the spot where class is gathered, explaining what the numbers mean.	Instructor moves from group to group, assisting with entering coordinates as needed.	manually enters two
2.1	Power up the GPS and acquire satellite lock.	Motor Skills/ Intellectual Skills				Instructor shows participants where buttons are on sides and front of GPS receiver.	Instructor talks participants through turning the GPS on. Group members help one another.	Each member of the group takes a turn powering GPS unit on and off.
2.2	Use buttons to navigate interface.	Motor Skills/ Intellectual Skills				Instructor shows participants where buttons are on sides and front of GPS receiver and explains the menu interface of the receiver.		Each member of the group takes a turn moving from screen to screen to he Main Menu.
2.3	Go to "Mark" in main menu page.	Motor Skills/ Intellectual Skills				Instructor explains that participants will mark coordinates.	Instructor talks participants through finding mark and clicking on it.	Each member of the group will mark several of the sets of coordinates.
2.4	Click "Mark" icon.	Motor Skills/ Intellectual Skills				Instructor explains that participants will mark coordinates.	Instructor talks participants through finding mark and clicking on it.	Each member of the group will mark several of the sets of coordinates.
2.5	Change Waypoint name and move to coordinates section.	Intellectual Skills				Instructor reminds participants to give each Waypoint a name like the one on the given coordinates.	Instructor talks participants through	Each group member will enter the names of several waypoints when adding them to the GPS unit.

Instructor will observe and compliment shared workload			Student-centered hands-on practice; Media: participant		
among groups.			handbook, GPS receivers		
Informal feedback is given by other group members while participants individually enter coordinates.	Participants will evaluate each other by trading GPS units with another group to have them check that some of the coordinates were correctly entered.	In the field, we will enter coordinates once again after finding the first stage of a "multi-cache." (see notes)	Instructor modeling with hands- on practice, then student- centered hands-on practice; Media: GPS receivers, participant handbooks, paper containing coordinates	Peer evaluation: "Pair with another group and verify each other's entered coordinates."	A multi-cache is a multiple-stage cache. After arriving at the first stage, the geocacher gets information to help find the next stage.
Instructor moves among groups, checking that all participants can power unit on and off.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks, paper containing coordinates		
Instructor moves among groups, checking that all participants can navigate between screens.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks, paper containing coordinates		
Instructor moves among the groups, listening and adding to feedback given by fellow			Student-centered hands-on practice; Media: GPS receivers, participant handbooks, paper		
participants. Instructor moves among the groups, listening and adding to feedback given by fellow participants.			containing coordinates Student-centered hands-on practice; Media: GPS receivers, participant handbooks, paper containing coordinates		
Instructor moves among groups, assisting as necessary and encouraging the participants.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks, paper containing coordinates		

2.6	Change coordinates from the current ones to those given by the instructor.	Intellectual Skills				Instructor has provided a list of coordinates to be entered, and refers to this list.		Each group member will enter the coordinates by modifying them from the current coordinates to the ones given.
2.7	Repeat steps 2.2-2.6 as needed for all coordinates.						(See ab	ove steps.)
3	Given a GPS receiver with coordinates entered into it, participants will be able to navigate to a specified location and search for an item hidden there.	Motor Skills/ Intellectual Skils	Instructor will point out that entering ALL the coordinates would take forever. So we have some already entered in.	Instructor lists some locations we plan to find.	Instructor reminds the group that the coordinates are for the locations we wish to find, and the satellites compare those with our current locations to tell us how to get to our destinations.		Instructor moves from group to group, helping each group locate the Waypoints, as needed.	Participants will go on a geocache hunt and try to find the hidden geocaches. After finding one, they will try to find the next nearest one from the list.
3.1	Power up the GPS and acquire satellite lock.	Motor Skills/ Intellectual Skills				Instructor shows participants where buttons are on sides and front of GPS receiver.	Instructor talks participants through turning the GPS on. Group members help one another.	Each member of the group takes a turn powering GPS unit on and off.
3.2	Use buttons to navigate interface.	Motor Skills/ Intellectual Skills				Instructor shows participants where buttons are on sides and front of GPS receiver and explains the menu interface of the receiver.		Each member of the group takes a turn moving from screen to screen to men the Main Menu.
3.3	Go to "Waypoints" in Find page.	Motor Skills/ Intellectual Skills				Instructor explains that participants will use already-entered coordinates for some of the geocaches.	Instructor talks participants through locating the "Find" page and clicking on "Waypoints."	Each member of the group will lead the group to pre-entered coordinates at least once.
3.4	Click on the name of the geocache you want to find, and click on "Go To."	Intellectual Skills				Instructor tells each group a different starting geocache to begin with.	- ' - '	Each member of the group will get to go through this procedure several times.

Instructor moves among groups, assisting as necessary and encouraging the participants.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks, paper containing coordinates		
			(as above)		
Finding the geocache itself is a form of feedback, but participants are also encouraged to congratulate one another.	At the end of the class time, we will ask participants to show hands for how many geocaches they located successfully.	The activity is repeated multiple times, with each group member having a chance to operate the GPS unit. The repetition solidifies the learning.	Brief instructor lecture, then student-centered hands-on practice; Media: GPS receivers, participant handbooks	Checklist item: "You navigated to each location with fewer than two major detours."	
Instructor moves among groups, checking that all participants can power unit on and off.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks		
Instructor moves among groups, checking that all participants can navigate between screens.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks		
Instructor moves among the groups, listening and adding to feedback given by fellow participants.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks		
Instructor moves among groups, checking that they're ready to move on and complimenting their efforts.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks		

3.5	Move in the direction the arrow points, as long as the distance keeps decreasing toward zero.	Motor Skills/ Intellectual Skills			Instructor explains how the arrow and "distance to" number are the key to finding the location at the specified coordinates.	the numbers more	Participants go in groups to the coordinates, using the GPS units to guide them. Each member leads at least once.
3.6	When the distance to the object is at or close to zero, begin using your five senses to locate the hidden geocache.	Intellectual Skills			Instructor demonstrates (before groups set off) how camouflaged containers might be hidden.	participants to use all five senses as necessary, as long as it is safe to do so.	Participants will have multiple opportunities to search for hidden geocaches at these different coordinates.
4	Given a GPS receiver, coordinates, and some information about what they are looking for, participants will be able to locate and identify the hidden geocache, open it and sign the log, and re-hide it correctly.	Intellectual Skills	Instructor announces, "Let's see which teams can find all the geocaches hidden along today's route."	Instructor asks participants what they MUST do at each geocache (answer: sign the log), and what is optional (trading).	Instructor shows pictures or actual examples of some different geocache containers the participants might encounter.	Instructor takes volunteers to help demonstrate how to open ammo can, decon container, and a few other types of geocaches.	Participants will spend the next few hours using GPS units to help them find locations to search for geocaches.
4.1	Use a GPS receiver to arrive at the hide location.	Motor Skills/					
	ose a GF3 receiver to arrive at the flide location.	Intellectual Skills			(Se	e previous objectives foi	more details on the p
4.2	When the distance to the object is at or close to zero, begin using your five senses to locate the hidden geocache.				Instructor explains how the arrow and "distance to" number are the key to finding the location at the specified coordinates.	Instructor coaches participants to trust the numbers more	Participants go in groups to the coordinates, using the GPS units to guide them. Each member leads at least once.

As the groups approach their destinations, a beep will sound from the GPS unit to indicate that they are close to their targets.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks		
Find the geocache is positive feedback itself, and it provides a rewarding feeling.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks		
During the activity, feedback will mostly come from other participants. Also, finding the geocache containers is very rewarding.	This is a performance-based activity that will be followed by a selfand peer-evaluation survey.	Participants are encouraged to go geocaching on their own in the future and to use online resources to learn more about the activity.	Some written information (hints, description); student-centered hands-on practice; Media: GPS receivers, participant handbooks, list of cache descriptions and hints	Peer evaluation: "Check with all members of your group. Did each person get the chance to be first to open a found geocache?"	
rocess.)			Student-centered hands-on practice; Media: GPS receivers, participant handbooks, list of		
As the groups approach their destinations, a beep will sound from the GPS unit to indicate that they are close to their targets.			cache descriptions and hints Student-centered hands-on practice; Media: GPS receivers, participant handbooks, list of cache descriptions and hints		
Instructor will ask participants to report on the different types and sizes of containers they found.			Student-centered hands-on practice; Media: GPS receivers, participant handbooks, list of cache descriptions and hints		

4.4	Move things, always putting them back as found, but do not dig. When you find the container, open it and sign the log.	Motor Skills/ Intellectual Skills Motor Skills/				Instructor will show pictures or actual demonstrations of correctly "covered" or disguised geocaches.	Instructor will show examples of naturally occurring materials one might use to rehide a geocache. (branches, leaves, etc.)	Participants will have many chances to discover hidden geocaches. Participants will sign
4.3	when you mid the container, open it and sign the log.	Intellectual Skills				pictures or actual geocache logs bearing signatures.	signed logs around for participants to view.	· -
4.6	Trade for items if desired, observing rules of geocaching regarding what is okay to place in containers.	Intellectual Skills				Instructor will show some examples of trading items.	Instructor will remind participants to trade fairly or not at all.	Participants will have the chance to trade if desired at several of the geocaches they find.
4.7	Take trackable items, such as travel bugs and geocoins, if you plan to move them along.	Intellectual Skills				Instructor will show examples of travel bugs and geocoins (or pictures of these items).	Instructor will point out tracking numbers on examples of trackable items.	Participants may have the chance to "discover" or take a trackable item, depending on what is available at the selected geocaches on the day of the activity.
4.8	Put everything back in the container and re-hide the geocache exactly as you found it.	Motor Skills/ Intellectual Skills				Instructor will demonstrate putting a geocache back together.	Instructor will demonstrate re-hiding a geocache.	Participants will re- hide all geocaches the find during the day's activity.
5	Given water, food, hiking poles, and informational signs, participants will be able to avoid injury, illness, or other physical harm by remaining hydrated, energized, and safe during geocaching activities.	Intellectual Skills	Instructor asks if anyone has ever gotten hurt while working or playing outdoors.	Instructor announces that being outdoors requires being responsible for one's personal safety and the safety of others.	Participants recall or list ways people can become injured or ill in the outdoors.	aim to avoid during this	area warning postings and shows pictures of poison oak, hemlock, and other plants	Participants list/show snacks they are carrying and filled water bottles. Participants point out featured plants and signs of dangerous animals (such as prints and scat) along hike.

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Instructor will move among			Student-centered hands-on		
groups and comment on			practice; Media: GPS receivers,		
their search techniques.			participant handbooks, list of		
•			cache descriptions and hints		
			cache descriptions and mines		
Participants must sign the			Student-centered hands-on		
physical logs in order to also			practice; Media: GPS receivers,		
be permitted to log their			participant handbooks, list of		
finds online. Signing the log			cache descriptions and hints		
is very rewarding.			cache descriptions and finits		
Participants will mainly			Student-centered hands-on		
discuss these actions among			practice; Media: GPS receivers,		
their groups.			participant handbooks, list of		
			cache descriptions and hints		
Participants will mainly			Student-centered hands-on		Trackable items can be "discovered" using
discuss these actions among			practice; Media: GPS receivers,		their unique tracking numbers on the
their groups. But they can			participant handbooks, list of		geocaching.com website, which will keep
also communicate with the			cache descriptions and hints		track of all trackable items discovered or
owners of trackable items			cache descriptions and finits		
					picked up by an account holder.
online through the					
geocaching.com website.					
Participants will give each			Student-centered hands-on		
other feedback about			practice; Media: GPS receivers,		
whether this is being done			participant handbooks, list of		
correctly.			cache descriptions and hints		
Instructor will review and	Instructor will	Instructor will	Instructor-led discussion with	Checklist item: "You completed	
check on condition of each					
	evaluate participants	provide a "what to	Q&A, pictures of plants, insects,	activities free of injury and without	
participant at some point	using a checklist at	take and what to	animals tracks & scat, then	signs of physical distress."	
along hike and/or at the end.	the end of the hike.	avoid" list for	student-centered hands-on		
		participants to use	practice; Media: participant		
		for future	handbooks, signs at parks		
		geocaching trips.			

5.1	Read any available signs at park entrances about animals and other hazards.	Intellectual Skills	signs at the trail or park out specific information regarding of how to handle contact with posted hazards on the trail.	Participants may or may not have pportunities during his activity to react to posted hazards, ut should be on the pokout for them on all such trips.
5.2	Apply and re-apply sunscreen often.	Motor Skills/ Intellectual Skills		Participants will need to do this on the trail without irect supervision by the instructor.
5.3	Drink plenty of water. If you feel thirsty, you have already begun to dehydrate.	Intellectual Skills		Participants will need to do this on the trail without irect supervision by the instructor.
5.4	Eat snacks for energy, but do not litter. (Keep all wrappers to throw away later.)	Motor Skills/ Intellectual Skills	of walking.	Participants will need to do this on the trail without irect supervision by the instructor.
5.5	Wear clothes in layers that can be added or removed easily. Wear sturdy, closed-toe shoes and a hat.	Intellectual Skills	to add or remove layers as needed to remain	Participants will need to do this on the trail without irect supervision by the instructor.
5.6	Identify and avoid poison oak, hemlock, stinging nettles, and other harmful plants.	Intellectual Skills	handbooks.	Participants will need to do this on the trail without irect supervision by the instructor.
5.7	Use a stick or pole to poke in possible snake (or other animal) hiding places when looking for geocaches in them.	Motor Skills/ Intellectual Skills		Participants will need to do this on the trail without irect supervision by the instructor.
5.8	Inspect yourself for ticks, other insects, and bites at the end of the hike.	Intellectual Skills	instructor will remind participants to check for insects and bites. instructor will remind this for him- or herself, modeling how insects and bites.	Participants will do this along with the instructor and ask for help as needed. Parents will help inspect their own children.

Feedback is likely to be	Student-centered hands-on	
provided only in the event	practice; Media: participant	
that a hazard (plant, animal,	handbooks, signs at parks	
etc.) is encountered and		
dealt with/avoided.		
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Participants will know, based	Student-centered hands-on	
on getting sunburn or not, if	practice; Media: participant	
they were successful.	handbooks	
Participants will know, based	Student-centered hands-on	
on their condition at the end	practice; Media: participant	
of the activities, whether	handbooks	
they were successful.		
they were succession.		
Participants will know, based	Student-centered hands-on	
on their condition at the end	practice; Media: participant	
	handbooks	
of the activities, whether	Hallubooks	
they were successful.		
Participants will know based	Student-centered hands-on	
Participants will know, based		
on their condition at the end	practice; Media: participant	
of the activities, whether	handbooks	
they were successful.		
Participants will know, based		
on their condition at the end		
of the activities, whether	handbooks	
they were successful.		
Participants will know, based	Student-centered hands-on	
on their condition at the end	practice; Media: participant	
of the activities, whether	handbooks	
they were successful.		
Participants will know, based	Student-centered hands-on	
on their condition at the end	practice; Media: participant	
of the activities, whether	handbooks	
they were successful.		
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6	Given the geocaching.com website and other resources, participants will be able to pursue further enjoyment of geocaching activities as desired.	Intellectual Skills	activity, the instructor will ask who thinks they want to go geocaching with their families in the future.	online resources that participants can use to find out more and	Instructor asks participants to tell what they liked best about the day's activity.	they are used for.	and materials given.	Participants will go home, log finds online, and use resources provided for finding out more and planning future trips.
6.1	Set up a free or paid account on geocaching.com	Intellectual Skills				Directions in checklist form will be provided in participant handbook.	Screen shots as needed from website. (in handbook)	Participants will need to do this at home without supervision by the instructor.
6.2	Click on "Hide & Seek a Cache" to locate the page for each geocache you found.	Intellectual Skills				Directions in checklist form will be provided in participant handbook.	Screen shots as needed from website. (in handbook)	Participants will need to do this at home without supervision by the instructor.
6.3	Log finds for the geocaches you found.	Intellectual Skills				Directions in checklist form will be provided in participant handbook.	Screen shots as needed from website. (in handbook)	Participants will need to do this at home without supervision by the instructor.
6.4	Click on "Trackable Items" to "pick up" any travel bugs or geocoins you took with you.	Intellectual Skills				Directions in checklist form will be provided in participant handbook.	Screen shots as needed from website. (in handbook)	Participants will need to do this at home without supervision by the instructor.
6.5	Click on "Hide & Seek a Cache" to learn about geocaches near your home.	Intellectual Skills				Directions in checklist form will be provided in participant handbook.	Screen shots as needed from website. (in handbook)	Participants will need to do this at home without supervision by the instructor.
6.6	Explore other website resources to learn more about geocaching on your own.	Intellectual Skills				Resources will be provided in participant handbook.	Screen shots as needed from website. (in handbook)	Participants will need to do this at home without supervision by the instructor.
6.7	Research GPS receiver units, and seek out other geocachers online as desired.	Intellectual Skills				Resources will be provided in participant handbook.	Screen shots as needed from website. (in handbook)	Participants will need to do this at home without supervision by the instructor.

Instructor will send online messages to geocaching accounts participants set up after those participants log their geocache finds online.	Participants will complete an online survey on the instructor's geocaching-related website.	Repeating all today's activities in future outings will enable participants to increase their proficiency.	Job aid (in participant handbook) and hands-on performance at home (where computer and Internet is available)	Survey item: "I later logged all finds online (within one week of class)."	All of these tasks will be performed at home after the instructional activity. Directions and resources are provided in the participant handbook that they get to keep. The online survey they complete will assist them in reviewing and reflecting on their success with the activities.
Participants will complete an online survey on the instructor's geocaching-related website.			Student-centered hands-on practice; Media: computer with Internet, participant handbook		
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