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Geocaching – A Real Life Treasure Hunt!

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Geocaching

A Real-Life Treasure Hunt!

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Table of Contents

Goals and Objectives……. 3

Course Outline and Overview…….. 3

Florida Standards……. 3

Lesson 1 – Geocaching – An Introduction…… 4-5

Lesson 2 – Geocaching – GPS Tools and how to use them……. 5-7

Lesson 3 – Geocaching – Where is That? 7-9

Lesson 4 – Geocaching – This is a timed event – Geo-Challenge.. 9-11

Resources & Materials ……. 12

Worksheet L1 – Find Someone who Knows ……. 13-14

Worksheet L2 – Squeeze-ables ……. 15

Worksheet L2 – Fitness Fun …….. 16

Geocaching – An overview.

A Real Life Treasure Hunt!

By Sheryl Ann Henderson

Palm Springs Middle School

Hialeah, Florida

Goals and Objectives:

This is a 4-lesson unit that will help students think beyond the classroom and introduce them to a worldwide activity full of challenging hunts as they look to find treasures.

Students will first learn the basics of geocaching… what it is, where and how to do it, in a class setting. As we will move through the unit each lesson will build on the last. The final lesson will culminate in a real-world geocaching adventure around the school campus.

Course Outline and Overview:

This unit is designed to introduce students to geocaching and give them experiences outside of the classroom to spark their interest in geocaching and its many facets. Students will benefit from a cross-disciplinary approach that allows them to explore different aspects of lessons in depth by involving math, science, civics, language arts, and the physical aspects of movement.

Lesson 1 – An Introduction What is Geocaching? Just the basics

Lesson 2 – (Global Positioning System) GPS Tools and how to use them.

How to use GPS tools in the PE field. Cone Grids.

Lesson 3 – Where is that? Let's find it on the map.

Students navigate around the school and find different keychains and locate them on the map.

Lesson 4 – Geo-Challenge! This is a timed event – Are you ready?Each team starts at a different time and goes around the school campus looking for specific locations, get proof of each stop, returns to Coach Henderson. The team with the best time wins.

Florida standards:

SS.6.G.1 Understand how to use maps and other geographic representations, tools and technology to report information.

HE.6.B.5 - Decision Making - Demonstrate the ability to use decision-making skills to enhance health.
ELA.6.C.4.1 - Conduct research to answer a question, drawing on multiple reliable and valid sources, and refocusing the inquiry when appropriate.
ELA.6.C.2.1 - Present information orally, in a logical sequence, using nonverbal cues, appropriate volume, clear pronunciation, and appropriate pacing.
PE.6.R.6: The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

Geocaching – An introduction *Sheryl Henderson*

Lesson 1 – A fun introduction to the world of geocaching. Students will learn about geocaching (probably for the first time) and understand the basics of this world-wide, high tech treasure hunt!

Objectives: Student will be able to (SWBAT): Explain what geocaching is, explain the rules, what you need and how to play.

Materials: Geocaching "Find Someone Who Knows" Worksheet – one copy per student, Geocaching facts in envelopes, "Find Someone Who Knows" Answer sheet – Teacher, Sample Cache – Ammo can (Cache) with trinkets inside, a few extra trinkets, Cache hidden already, Computer w/ internet, smart board, pens, or pencils.

Time: 45 minutes

Standards:

Florida - PE.7.L.3.3 – Participates in a variety of team sports, outdoor pursuits and aquatics activities that promote health-related physical fitness.

Standard 2: The physically literate individual applies knowledge of concepts, principles, strategies, and tactics related to movement and performance. S2.M13.6,7,8

Standard 4: The physically literate individual exhibits responsible personal and social behavior that respects self and others. S4.M1.6,7,8, S.4M5.6,7,8

Standard 5: The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction. S5.M3.6,7,8, S5.M6.6,7,8

Discussion: (Lesson Opener)
Quietly walk around the room, handing out one trinket each to five or so students. As you give it to them say something like, "not to keep".
Show the sample cache to the class, talking about the various items in the cache.
Ask students to come up, one at a time and put their trinket in the cache and take something out. This, they can keep.
Write the word MUGGLE up on the board. In geocaching, what you do you think it means?

Activity 1(Outside geocache search)

Going on a Hunt

• Remind the kids about the game they used to play where something was hidden and they had to find it by everyone saying "hotter" and "colder" as the finder got closer or further away from a hidden item. We are going to play a newer version of this game. Three students wait outside the visible area (they will be the 'finders' or 'geocachers') while the teacher tells the rest of the class where they have hidden a 'cache'.

• Explain geocaching etiquette. First, the need for stealth so that you don't give it away that there is a cache in that location. Secondly, if more than one geocacher arrives at a site at the same time, the first person to see the cache stands aside to give the other person a chance to find it too. Also discuss the environmental stewardship element of geocaching, that is, take care not to damage the flora or fauna in any way, and practice 'cache in- trash out'. Learn more about cache in – trash out at http://www.geocaching.com/cito/default.aspx.

• Three geocachers go in search, with the class following and giving directions. Ensure the class knows north, south, east, and west. Teacher gives examples like 'about ten yards east', or 'head south when you reach the edge of basketball courts.

• When they find the cache, explain that they sign the logbook, give something, and take something if they want to, then re-hide it exactly where it was before.

Activity 2 (In the classroom, or outside.)

"Find someone who knows" Activity

• Hand out one envelope to each student, each containing one fact about geocaching. Instruct students to keep this fact to themselves. Students find their question on the 'Find Someone Who Knows' worksheet and write down the answer.

• Remind students of the need for care and safety when walking around the room.

• Students then mingle to find the answers to the questions.

• When most students have a lot of answers, go through the answers together as a class.

Activity 3 (In the classroom)

Geocaching in 2 minutes

Tell students that there are geocaches hidden all over the world!

Watch 2 minute video: www.youtube.com/watch?v=K-4q6sYuyfY

Type in the name of the school's suburb (Hialeah) and show students the geocaches in the area.

Hint that you can use a Smart phone with a geocaching app to go geocaching.
If you have downloaded the app on to your phone, show the students.
I already have an account and can also log in from the computer to show students on the Smart Board.

I also spend a little time showing them the geocaches I own and maintain for others to find.

Lesson Conclusion: (assessment)

Teacher randomly chooses students to say what they have learned in the lesson. Use the 'Find Someone Who Knows' sheet as a guide for questions.

Challenge question for home learning: (for kids eager to know more): How did geocaching get started?

Geocaching – GPS Tools and How to Use them

Lesson 2 - GPS Tools and How to navigate to waypoints using a GPS handheld, or an app on your phone. How to use coordinates to reach a specific location to find items and record evidence.

Objectives: Student will be able to (SWBAT): explain GPS, read coordinates, navigate to coordinates, record evidence.

Materials: GPS Garmin etrex 20, or phone app, cones, squeeze-ables, markers, fitness poly spots, 3 x 5 card per group, coordinates sheets, pens, or pencils.

Time: 45 minutes

Standards:

Florida - PE.7.L.3.3 – Participates in a variety of team sports, outdoor pursuits and aquatics activities that promote health-related physical fitness.

Standard 4: The physically literate individual exhibits responsible personal and social behavior that respects self and others. S4.M.4.6,7,8, S4.M5.6,7,8

Standard 5: The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.S5.M4.6,7,8, S5.M6.6,7,8

Recap/Reminders:

In Lesson 1 we learned about Geocaching. Who can tell me what it is? What do you need to go geocaching? What are the rules of geocaching? Clarify and correct.

Discussion: (Lesson Opener)

1. Look out onto the field there are 25 cones out there. Each cone has something different under it. If I said you could only lift one cone to find the blue dinosaur, how would you do it?
2. Today we will learn how to use GPS Coordinates to go directly to the correct cone to find the blue dinosaur.
3. Let's review first – North, South, East and West in our field.
    a. If you are facing the building you are facing South. Facing away from the building is North.
    b. If you are facing the basketball courts you are facing East, facing Dupuis Elementary is West.
4. Each cone has its own GPS coordinates using your phone or the Garmin etrex, your group will find their way.
5. Using the information on your groups' coordinate card you will go out and find and record. After completing your card come back and check in the with Coach Henderson.
6. Reminders: Stay together as a team. Make sure at least one team member is using a pedometer or records steps using app on a smartphone.

All the following activities use a "Cone Grid". You can use as many cones as you would like, you can scatter them or have them in a linear pattern. Use the same color cones, or multiple colors. However, do not use cones you can see down into or see through.

Activity 1 – Can you FIND the squeeze-able?

As a Team – Create a team name that will help motivate each other while working.

Get a 3 x 5 card – Fill out required information on the front. Group #, Period #, Team Name, and list team members.

On the back, in the first column write down the plot location in the second column fill in color and which squeeze-able you found.

After completing your card, come back to Coach Henderson to turn it in and check it.

Activity 2 – Markers and Markers

As a Team – Create a team name that will help motivate each other while working.

Get a 3 x 5 card – Fill out required information on the front. Group #, Period #, Team Name, and list team members.

On the back, in the first column write down the plot location in the second column draw the type and color of line requested.

After completing your card, come back to Coach Henderson to turn it in and check it.

Activity 3 – Fitness Fun

As a Team – Create a team name that will help motivate each other while working.

Get a 3 x 5 card – Fill out required information on the front. Group #, Period #, Team Name, and list team members.

On the back, in the first column write down the plot location in the second column name of exercise, how many team members, how many exercises requested total number of exercises. See example on card.

After completing your card, come back to Coach Henderson to turn it in and check it.

Lesson Conclusion: (assessment)

At the end of the last activity we come back together as a class under the shelter and discuss:

1) What was important to know before you set off to find your first set of coordinates? (take several responses)
2) Tell us one job that one of your teammates did? (take several responses)
3) You were part of a team, how did it make the activities easier? (take several responses)

Exit Slip: Lesson 2

1) Name one team member and what can you thank him/her for:
   Example: James, I want to thank James because he wrote all the answers down for the group.

2) How many steps did your group take during the activities? _____

3) Which activity was your favorite and why?

Geocaching – Where is that? *Sheryl Henderson*

Lesson 3 – students use coordinates to reach specific locations, find items, and record evidence.

Objectives: students will be able to (SWBAT): read GPS coordinates, navigate to coordinates, record evidence.

Materials: paper map, GPS Garmin etrex, or phone app, caches (key chains), smartphone or computer, coordinates page, pedometer or phone app, pen or pencil, camera for picture evidence.

Time: 60 minutes

Standards:

Florida - PE.7.L.3.3 – Participates in a variety of team sports, outdoor pursuits and aquatics activities that promote health-related physical fitness.

Standard 3: The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness. S3.M5.6,8

Standard 4: The physically literate individual exhibits responsible personal and social behavior that respects self and others. S4.M1.6,7,8, S4.M4.6,7,8, S4.M6.6,7,8,

Standard 5: The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction. S5.M3.6,7,8, S5.M6.6,7,8

Recap/Reminders:

In Lesson 2 we learned how to use GPS units or a phone app to reach a specific location in the cone grids using a variety of activities. What do we need to do first to set off to find a specific location? Any questions on how to use the GPS unit? Clarify and correct.

Discussion: (Lesson Opener)

1. Today we are going to embark on a little adventure. A Treasure Hunt! Make sure at least one team member is wearing a pedometer or is recording steps taken with a phone app.
2. Remember, we learned earlier about Muggles. So, beware and take care. Use stealth while locating a cache.
3. In your team, you will now go navigate around the school and find the coordinates listed on your paper.
4. Once you get to each location you need to:
    a) Locate the cache. (key chain) Be stealthy.
    b) Write the name down on your coordinates page.
    c) Take a picture of the key chain.
    d) Move to the next set of coordinates.
5. Repeat steps a – d until you have completed all your coordinates.

Any questions about the assignment before you go out and hunt?

Activity: Happy Hunting!

1. Return to the shelter with all your information gathered while out geocaching.

2. In your Teams, do a search for: (google search)

    a. Where is it located? (State)
    b. One fact about each location.
    c. Are there physical activities you can do there? What are they?
3. Discuss as a team which location you would like to visit and be able to state reasons why.
4. One team member goes to class map and add your locations to the map. (each group will do this)
5. How many steps did you take while out on the search? Record this on your coordinates page.

Lesson Conclusion: (assessment)

Discuss where each group would like to visit.

What did you learn?

Did your team encounter any problems?

What were your solutions?

Where the physical activities the same as we have here in South Florida? If different, why and would you like to try those activities?

Looking at how many steps you took to complete today's geocaching challenge, would you agree or disagree that geocaching can be an activity that is a good part of an active lifestyle and why?

Would you want to geocache again? Do you think your family or friends might want to join you on a geocaching adventure? Why or why not?

Sample (Evidence sheet) Lesson 3

Name on Key Chain	State (location)	One Fact	Physical Activities (you can do if you visit here)

Geocaching – This is a Timed event! Geo-Challenge Sheryl Henderson

Lesson 4 - How to use coordinates to reach a specific location to find items and record evidence.

Objectives: Student will be able to (SWBAT): read coordinates, navigate to coordinates, record evidence.

Materials: GPS Garmin etrex 20, or phone app, markers, 3 x 5 card per group, coordinates sheets, stamps or shape hole punches, pens, or pencils.

Time: 45 minutes

Standards:

Florida - PE.7.L.3.3 – Participates in a variety of team sports, outdoor pursuits and aquatics activities that promote health-related physical fitness.

Standard 4: The physically literate individual exhibits responsible personal and social behavior that respects self and others. S4.M1.6,7,8, S4.M4.6,7,8, S4.M5.6,7,8

Standard 5: The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.S5.M4.6,7,8, S5.M6.6,7,8

Recap/Reminders:

In lesson 3 we used GPS units to find locations around the school campus. Can someone tell me how to use the coordinates to go locate a cache? Clarify and correct. Is there anyone who needs additional assistance? What are Muggles?

Discussion: (Lesson Opener)

This is a Geo-Challenge! It is a timed event. There are certain rules to follow.

Rules:

1. All team members must wear a pedometer or use phone app. (similar # of steps for each member)
2. Be respectful of other classes. Be courteous and try not to interrupt other teachers teaching or student learning.
3. Remember, we learned earlier about Muggles. So, beware and take care. Use stealth while locating a cache.
4. Take a picture at each location with the stamp on your card. Don't take a picture that gives away your location. Make sure each team member is in the picture.
5. Let Coach Henderson write the time you left, and the time you returned, on your card. As a team, you will figure out the elapsed time.
6. When you return as a team, each member must show Coach Henderson your pedometer. Remember you were to "leave NO team member behind."
7. NO running, you may walk quickly but stay together.
8. If you give any information to another team, they will have a faster time then your team.

Activity Geo caching challenge around the school

1. Get a 3 x 5 card – Fill out required information on the front. Group #, Period #, Team Name, and list team members.
2. Get the coordinates sheet from Coach Henderson. Each team will have different coordinates and different instructions when you get to the location.
3. Ask any questions before you go off on your adventure and have Coach sign the time that you start.
4. After, you have all 6 squares fill out return to Coach, show her each pedometer, add them, and average them. There will be a space for this on your 3 x 5 card.
5. Have Coach sign your finish time. Figure out your elapsed time.

Lesson Conclusion: (assessment)

At the end of the last activity we come back together as a class under the shelter and discuss:

How did adding the pressure of time change the game for you? Was it more motivating or frustrating?

What did you think of the directions once you got to the geo-locations? Were they too easy or too challenging?

Exit Slip: Lesson 4

Did you enjoy this event?

You would invite family or friends to try this geo-challenge with you?

If you were in charge, what would you change? And Why?

Resources

Book:

Geocaching for Schools and Communities ISBN:978-0-7360-8331-7

Internet:

Website: www.Geocaching.com

Helpful learning on YouTube

www.youtube.com/watch?v=K-4q6sYuyfY

The EdFund:

Ocean Bank teacher warehouse for supplies

Materials:

Item	**Vendor**	**Price**
Garmin etrex 10 Worldwide Handheld GPS Navigator	Amazon	161.00
Geocaching Travel Bugs	Geocaching.com	4.99 (each)
Geocaching stickers/labels	Amazon	8.00 (each pack)
Rainbow QuickcupsSportCup Set	Gopher Sports.com	107.00

Geocaching - Find Someone Who Knows …..

What is geocaching? A free, real-world, high-tech outdoor treasure hunt! Name:_____	How is the game played? (write the 8 steps on the back of this paper.) (See the next page) Name:_____	What are the rules of geocaching? 1. If you take something from the cache, leave something of equal or greater value. 2. Write about your find in the cache logbook. 3. Log your experience at www.geocaching.com Name:_____
What do I need to go geocaching? You just need a GPS device, or mobile phone with the geocaching app, and a www.geocaching.com membership. Name:_____	Where are geocaches located? Geocaches can be found all over the world! They might be at your local park, at the end of a long hike, underwater, or on the side of the street. You can even type in the name of a city on the other side of the world to see what is hidden there. Name:_____	What are the different types of geocaches? Name at least 4. Here are just a few: Traditional Multi-cache Mystery or puzzle caches Event Caches Cash in-Trash Out EarthCache Virtual caches Name:_____
What kind of cache should I look for on my first adventure? Best not to start with the really hard ones. Try: Cache type: Traditional Difficulty rating: 1 Cache size: Regular or large Name:_____	How do I use a Smartphone to go geocaching? Download the geocaching app, then follow the instructions. It's easy! You can type in the GC code to your phone or transfer locations from your computer using a cable. You can even just search for the nearest caches while you are out and about. Name:_____	What do I do once I've found a geocache? Some are big, some are small. You will see everything from a large, plastic container to a fake rock with a secret compartment. Name:_____
How do I log my find? Sign the book and return it to the cache. You can take an item if you like, but make sure you leave something of equal or greater value. Put the cache back as you found it. Finally, log your find on the geocaching website. Name:_____	Who hides geocaches? Members of the geocaching community hide, and maintain caches. You can hide one too! Remember: if you hide it, you need to maintain it so that other geocachers have something wonderful to find. Name:_____	How do I hide a cache? First, find a few caches in your area. This will give you some ideas about what makes a great cache. There is more info on the geocaching website about how to hide and maintain a cache. Have fun! Name:_____

How is the Game played?

First, go towww.geocaching.com.

1. Register for a free basic membership.

2. Visit the “Hide and Seek a Cache” page.

3. Enter your post code and click “search”.

4. Choose any geocache from the list and click on its name.

5. Enter the GC code into your GPS device (You can download the geocaching app onto your Smart phone; it then becomes a GPS device that you can use for the game.)

6. Use your GPS do help you to find the hidden geocaches.

7. Sign the logbook and return the geocache to its original location.

8. Share your geocaching stories and photos online.

Questions and answers courtesy of www.geocaching.com.

Squeeze-ables

Group # _____ Period # _____

Team Name:

Team Members:

1.) _____

2.) _____

3.) _____

4.) _____

5.) _____

Plot Location Ex: 4,1	What color and object did you find? Example: A brown buffalo
1.) _____	1.) _____
2.) _____	2.) _____
3.) _____	3.) _____
4.) _____	4.) _____
5.) _____	5.) _____
6.) _____	6.) _____
7.) _____	7.) _____
8.) _____	8.) _____
9.) _____	9.) _____
10.) _____	10.) _____

FITNESS FUN !

Group # _____ Period # _____

Team Name:

Team Members:

1.) _____

2.) _____

3.) _____

4.) _____

5.) _____

Plot Location Ex: 3, 2	Which Exercise	How Many	# in group	Total exercises
1.) _____	1.) _____	_____	X ____	= _____
2.) _____	2.) _____	_____	X ____	= _____
3.) _____	3.) _____	_____	X ____	= _____
4.) _____	4.) _____	_____	X ____	= _____
5.) _____	5.) _____	_____	X ____	= _____
6.) _____	6.) _____	_____	X ____	= _____
7.) _____	7.) _____	_____	X ____	= _____
8.) _____	8.) _____	_____	X ____	= _____
9.) _____	9.) _____	_____	X ____	= _____
10.) _____	10.) _____	_____	X ____	= _____

Total Exercises: _____