



# TX Sense Abilities

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PROGRAMMING

## Geocaching with Students with Visual Impairment

Holly Cooper, Ph.D. Outreach Deafblind Educational Consultant, Texas School for the Blind and Visually Impaired

*Abstract: The game of geocaching is discussed, with special adaptations for children and youth with visual impairment.*

*Keywords: geocaching, visually impaired, physical activity*

Are you looking for an activity to do with your students or your family to get everyone outdoors and actively moving? Many people are looking for ways to get more exercise and be more physically active. Childhood obesity is an area of increasing concern. It can be especially challenging for young people with vision impairment to get adequate exercise since it may be difficult for them to participate in some sports. Geocaching is a fun way to get motivated to get up and go for a walk, both for children and adults.



What is geocaching? People who go geocaching are looking for hidden, secret containers. These containers might be hidden in any public place: in parks, in the city or suburbs. These containers are called geocaches and have small toys or handy items inside along with a logbook to sign. When the seeker, or geocacher finds a geocache, he or she signs the log in the cache, and can leave an item and take something. How do you know where geocaches are? You go to a special geocaching website.

*A teen-aged girl with a cane opens a geocache.*

A geocache begins its life when someone hides a container in a location where it won't likely be found by a casual passerby. Then the hider takes a global positioning system (GPS) receiver and records the longitude and latitude coordinates. The hider then goes to a geocaching website, usually Geocaching.com and creates a listing for this geocache. The listing will have its own page. The hider is the cache owner and gives the cache a name and checks the cache to be sure it is still there. The cache owner writes an interesting description of the cache location.

The game of Geocaching first began in 2001 when high resolution GPS signals were opened to the general public, making navigation by global positioning system signals more accurate. Prior to that time, precise GPS signals were accessible only for government and military purposes. Very soon after the GPS signals became public, a young man who enjoyed hiking hid a container in the woods outside of Portland, Oregon and posted the coordinates in an on-line forum. Within a few days forum users had located the cache. Soon there were many hidden containers and some ambitious entrepreneurs started the Geocaching.com website. Now there are over two million geocaches hidden around the world on every continent including Antarctica.

Geocaching is a good activity for anyone, but it's especially a fun thing to do with kids. It is non-competitive, (more or less), it gives participants a goal to walk or hike to, and you get a fun reward at the end. If you're a kid, there are interesting little toys to find; if you're an adult, you might like to read what other people are writing in the log, and you might recognize familiar names that you see repeatedly. The geocache may be in an area such as a small park that you didn't know about, or tell you about some local history that is interesting. Kids may enjoy it because they get to go outdoors and run off some energy, explore plants and see animals and visit new places. Many people who are retired like to do it as a way to get out and exercise. Some geocachers are veterans or geeks who like to play with the technology and see what it can do. For kids it can be fun just because of the adult they are going with; they might be going geocaching with grandpa or an adult sibling.

Some geocachers like to leave what is called a signature item. These are items that identify the geocacher and may be personal "business" cards, bottle caps or poker chips, wooden "nickels", or custom made tags or coins. These items are usually personalized with the geocacher's name and some graphics. Some geocachers make a point to collect these personalized items and may spend considerable time, money and effort creating and designing their own.



*Some geocache containers: a bison tube (pill holder), pill bottle, fake rock with hidden compartment, magnetic key hider, fake sprinkler head key hider, food container*

To go geocaching, you will need a GPS receiver that can accept input of longitude and latitude coordinates through a computer USB connection. If you're buying a new unit, be sure to shop smart and check to see that the unit is geocaching capable. Another way to get started is with the use of an Android phone or iPhone which has a GPS receiver. You can purchase a geocaching app for a small fee, and start to geocache without having to pay for special equipment. Geocaching with a phone doesn't give you access in all situations, however. The GPS receiver on a phone is usually not as accurate as with a special unit, and there are many places in Texas where you might want to geocache but not be able to get a cell phone signal. (If you use a phone, you will need both a GPS signal to navigate and a cell signal to access the internet-based map and make it interactive with the GPS.) Also, using the GPS and data access drains the phone's battery after a few hours, and phones are not very water proof or shock proof when dropped. Many geocachers have lost or broken their GPS or smart phone on the trail. However, for beginners, cell phone caching is great for exploring around the city and local parks.

To get ready, go to [www.geocaching.com](http://www.geocaching.com) and take a look around. To get better access create a username and password for yourself or your family. Purchasing a paid membership gives you access to even more features of the website. Probably the easiest way to search for caches is by writing the zip code into the search window, then when a list loads, click the link that says "map this location" that is near the longitude and latitude coordinates. This allows the user to look at an area on the map, and see where all the geocaches are. The phone apps will let you see the cache location on the map, but currently they won't let you see other caches on the screen. If you are planning a caching outing, look around on the map for a nearby city park or area of the city where you would like to go and get a list of caches. Although you can cache in the city, you must be discreet and not allow others to observe you poking around or the cache may be located by others and vandalized or discarded. This can be challenging when you're caching with kids or a group. For this reason city parks or other public areas can be a good place to take kids. Parks also allow for more walking, running, and noise making, and less time in the car driving from one place to another. In addition, geocaches in parks tend to be larger and easier to find, and have space for trade items. Be aware that GPS units need a line-of-sight contact with the satellites, so overhead tree foliage can impair the accuracy of the signal.

## **Be Prepared**

When geocaching, be prepared for the outdoors by dressing appropriately, wearing closed toed shoes, wearing a hat, bringing bug spray, sun screen and bandages. Carrying a backpack with water and some snacks is also a good idea. If you are using a GPS receiver, you will need to scope out the area, read about the caches in advance and load the coordinates into your unit. You may want to have a print out or a list of the caches you are seeking, and having extra batteries is a must. You will also need to bring a pen or pencil and some items to trade in the geocaches. Children and teenagers should always be accompanied by an adult when geocaching, and it's best if someone has a cell phone in case of an emergency.



*A black Labrador Retriever guards a geocache made from an army surplus ammunition can*

It's also more fun to geocache with friends or family, because you can help each other with navigation and searching. Geocachers who are visually impaired can participate using accessible GPS devices, a braille compass, or just by following along, as many geocachers do.

### **Accessible Technology**

Accessible GPS technology is relatively new, but rapidly becoming more accurate and easier to use. Individuals who are visually impaired and use large print can navigate using a geocaching app available from Geocaching.com or other developers along with an iPad (with an active data plan), or Android tablet with an active data plan. Users who are blind can use talking GPS devices such as the Trekker Breeze by Sendero or The Kaptan, which are stand-alone devices. GPS receivers are available on the BrailleNote, powered by add-on software.

The American Printing House for the Blind (APH) has also developed GPS software called Nearby Explorer which runs on their note taking device the Braille Plus 18 or an Android device with a cell signal or data plan.

Geocaching can be educational as well as entertaining and physical. Scouting merit badges are available for geocaching for both Girl Scouts as well as Boy Scouts. Educational activities may revolve around geography, geology, ecology, and using mathematics skills to determine distance and time to travel. Many geocaches are located in places the cache owner wishes to draw attention to, historically significant locations such as train stations, pioneer's homesteads, cemeteries and old schools. Some geocache owners post a series of caches to guide seekers to points of interest they feel are important. Some of the historic trivia geocaches describe may be difficult to find any place else.

A similar hide-and-seek activity which pre-dates geocaching is called letterboxing. Originating in England where recreational walking (even across private land) is widely practiced, letter boxes are concealed containers placed by an owner. These boxes don't require a GPS to locate, instead a description of the box location is posted on a website, or in earlier times, listed in a catalog or passed on my word of mouth. People who go Letterboxing in the US typically use a rubber stamp, often handmade, to log their visit, and keep a book of stamped images (similar to an old-style passport) from each stamp that stays in the letterbox.

We hope you are intrigued by the idea of geocaching and letter boxing. So go on-line and read, create a username and password and discover the little containers hidden all around you.

## Resources

### Get Inspired

Videos about Geocaching from Texas Parks and Wildlife

An Introduction to Geocaching

[www.youtube.com/watch?v=FKCkNciB7dk](http://www.youtube.com/watch?v=FKCkNciB7dk)

Asperger Syndrome and Geocaching

[www.youtube.com/watch?v=A3E-ehjqwho](http://www.youtube.com/watch?v=A3E-ehjqwho)

Geocaching

[www.geocaching.com](http://www.geocaching.com)

Letterboxing

<http://www.atlasquest.com>

Podcacher, an audio podcast, posted once a week with an hour of talk about geocaching

<http://www.podcacher.com/>

### Learn About Accessible Equipment

Trekker Breeze (HumanWare)

[http://www.humanware.com/en-usa/products/blindness/talking\\_gps/trekker\\_breeze/details/id\\_101/trekker\\_breeze\\_handheld\\_talking\\_gps.html](http://www.humanware.com/en-usa/products/blindness/talking_gps/trekker_breeze/details/id_101/trekker_breeze_handheld_talking_gps.html)

BrailleNote GPS (Software Only available as and additional feature, HumanWare)

[http://www.humanware.com/en-usa/products/blindness/talking\\_gps/brailnote\\_gps/details/id\\_55/brailnote\\_gps\\_software\\_only.html](http://www.humanware.com/en-usa/products/blindness/talking_gps/brailnote_gps/details/id_55/brailnote_gps_software_only.html)

Kapten (Available from Leader Dogs for the Blind)

<https://www.leaderdog.org/gps/>

Nearby Explorer (American Printing House for the Blind)

<http://louis.aph.org/product/Nearby-Explorer.142793.aspx?FormatFilter=8>

Braille Plus 18 (American Printing House for the Blind)

[https://shop.aph.org/webapp/wcs/stores/servlet/Product\\_Braille%20Plus%2018\\_1-07466-00P\\_10001\\_11051](https://shop.aph.org/webapp/wcs/stores/servlet/Product_Braille%20Plus%2018_1-07466-00P_10001_11051)

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