ROYAL CANADIAN ARMY CADETS

GOLD STAR

INSTRUCTIONAL GUIDE

SECTION 4

EO C422.01 – LOCATE A GEOCACHE

Total Time: 30 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-704/PG-001, *Gold Star Qualification Standard and Plan*, Chapter 4. Specific uses for said resources are identified throughout the instructional guide within the TP for which they are required.

Review the lesson content and become familiar with the material prior to delivering the lesson.

Create four geocaches for cadets to locate. Record information about each geocache on the Geocache Information Form located at Attachment A and photocopy one for each group. This form will be provided to the cadets to assist them with locating geocaches.

For each geocache, place a number of small treasures and a geocache register inside a watertight storage vessel. Label each vessel and place it in the appropriate location.

The activity is developed using four geocaches. Each cadet shall have the opportunity to practice locating a geocache. Depending on the number of cadets, more geocaches may be required.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

An interactive lecture was chosen for TP 1 to introduce the cadets to geocaching.

A practical activity was chosen for TP 2 as it is an interactive way for the cadets to locate a geocache and increase their Global Positioning System (GPS) receiver navigation skills in a safe, controlled environment. This activity contributes to the development of navigation skills and knowledge in a fun and challenging setting.

INTRODUCTION

REVIEW

Nil.

OBJECTIVES

By the end of this lesson the cadet shall have located a geocache.

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IMPORTANCE

Geocaching is an activity where an individual locates points and objects through given coordinates using a GPS and provided clues. This activity develops GPS receiver skills, and benefits the cadet by practicing moving from points of origin to intended destinations using a GPS receiver.

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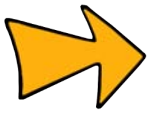
Teaching point 1 **Describe the sport of geocaching.**

Time: 5 min Method: Interactive Lecture

GEOCACHING

The word geocaching is pronounced *GEE-oh-cash-ing* and comes from two separate words; geo, for geology and cache, which means a hidden store of goods or valuables. Geocaching is a worldwide activity where one person establishes a cache and posts its location for others to find. Participants load the coordinates of the cache into their GPS receiver, and then use it to find the cache.



The most common website for information about geocaching is www.geocaching.com. This website allows participants to locate geocaches or to report the location of new geocaches.

ORIGIN

Geocaching originated in May 2000 when the United States government turned off GPS selective availability (selective availability purposely degrades the accuracy of the GPS signal). At that point, civilian GPS receivers, that were formerly accurate to 90-m (300 feet), became accurate to 3–9 m (10–30 feet). This level of accuracy offered some new creative possibilities.

When accuracy was increased, the recreational user developed a hide-and-seek type game with a high-tech twist and treasure. An individual would find a location in some out-of-the way place, record its coordinates and leave a stash behind for another gamer to locate.

EQUIPMENT REQUIRED

A GPS receiver and cache coordinates are all that is required to geocache. Geocache coordinates define the location of a geocache. They can be found through friends and on the Internet. The following items will provide a geocacher with a more enjoyable experience:

Spare batteries. Geocaching depends on the use of a GPS receiver; the GPS receiver is powered by batteries. In the event a GPS receivers' batteries expire while in use, it is imperative that the geocacher have replacement batteries.

Map and compass. In the event the GPS receiver fails or the batteries go dead, the map and compass will serve as a backup tool for navigation. A map will also provide the navigator with a detailed view of the landscape. Not all GPS receivers provide enough detail to effectively understand contours and terrain.

Pen or pencil and paper. Used for taking notes about the route and to leave notes in the cache.

An item to leave in the cache. Most caches have treasures left for individuals to find. The best items are unique, out-of-the-ordinary items (eg, foreign coins, fossils, exotic matchbooks, or anything that is attractive to a collector). Once an individual has located a cache they take a treasure and replace it with one of their own.

Appropriate clothes and footwear. Geocaching can have the navigator crossing various types of terrain in many different conditions. A geocacher should wear clothing suitable to stay warm and dry for the environmental conditions of the day and the terrain to be covered.

Food and water. Some caches take all day to find; it is important to be prepared with enough food and water to successfully complete the search.

Trekking pole or walking stick. If the terrain is rough, a good walking stick or set of trekking poles can make travelling up and down hills and negotiating uneven surfaces easier.

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Flashlight. Can be used in order to see into cracks and crevices where a cache might be hidden. It also becomes useful if forced to travel in low light conditions.

Cellphone. In case contact with emergency services is required.

CONFIRMATION OF TEACHING POINT 1

QUESTIONS:

Q1. What is geocaching?

Q2. When did geocaching originate?

Q3. What equipment is required to geocache?

ANTICIPATED ANSWERS:

A1. Geocaching is a worldwide activity where one person establishes a cache and posts its location for others to find. Participants load the coordinates of the cache into their GPS receiver, and then use it to find the cache.

A2. Geocaching originated in May 2000.

A3. A GPS receiver and geocache coordinates are all that is required to geocache.

Teaching point 2 **Have the cadets, in groups of three, locate a geocache.**

Time: 20 min Method: Practical Activity

ACTIVITY

OBJECTIVE

The objective of this activity is to have the cadets, in groups of three, locate a geocache.

RESOURCES

- GPS receiver (one per group),
- Compass (one per group),
- Geocache coordinates,
- Topographical map of the local area (one per group), and
- Geocache treasures (eg, pencils, markers, erasers, shoe polish, instructions to properly tie parade boots).

ACTIVITY LAYOUT

Set up a round robin geocache hunt.

ACTIVITY INSTRUCTIONS

1. Divide the cadets into groups of three and provide each group with a GPS receiver.
2. Give each group the geocache coordinates.
3. Have each group choose a treasure item to place inside the geocache.

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4. Have each group participate in a free-for-all (select geocaches of their own choice) style search by:
   a. receiving all completed geocache information forms;
   b. setting up the GPS receiver by:
      (1) confirming that the correct coordinate system is set; and
      (2) confirming the correct map datum is set;
   c. creating a point of interest (POI) from a coordinate mark by:
      (1) pressing MARK;
      (2) moving the arrow joystick to highlight the location field;
      (3) pressing ENTER;
      (4) using the arrow joystick to adjust the characters in the first line (grid zone designation and 100 000-m square identification) of the location field;
      (5) pressing ENTER to move to the second line of the location field;
      (6) using the arrow joystick to adjust the characters in the second line (grid reference) of the location field;
      (7) pressing ENTER;
      (8) personalizing the POI, if desired;
      (9) moving the arrow joystick to the save field; and
      (10) pressing ENTER;
   d. navigating to the geocache by:
      (1) selecting a GOTO route;
      (2) choosing the geocache POI;
      (3) navigating to the area;
      (4) searching the area of the POI for the geocache; and
      (5) locating the geocache; and
   e. swapping a treasure and obtaining the next geocache information form.
5. Have each group repeat Steps 4 b–e until they have located all four geocaches.
6. Conduct a debriefing by asking the cadets:
   a. how they felt about the activity;
   b. how they felt they worked together;
   c. what portion of the activity challenged them the most;
   d. how their teammates assisted them when they were challenged; and
   e. if there are any specific examples of when their team experienced difficulty.

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SAFETY

The possibility exists for cadets to become lost or disoriented while searching for a geocache. Establish boundaries, a stop time and a safety bearing before cadets participate in the activity.

CONFIRMATION OF TEACHING POINT 2

The cadets' participation in the geocache activity will serve as the confirmation of this TP.

END OF LESSON CONFIRMATION

The cadets' participation in the geocache activity will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

Nil.

CLOSING STATEMENT

Participating in geocaching will develop a better working knowledge of how to use and navigate with a GPS receiver. The skills used in geocaching directly relate to expedition training and navigating with a GPS receiver.

INSTRUCTOR NOTES / REMARKS

The instructor is to create sample geocaches, select a location in the vicinity of the class, place the geocaches and mark the coordinates prior to conducting this lesson.

REFERENCES

C1-178 Thales Navigation Inc. (2004). *Magellan eXplorist 200 GPS user manual*. San Dimas, CA: Thales Navigation Inc.

C2-142 ISBN 0-7645-6933-3 McNamara, J. (2004). *GPS for dummies*. Hoboken, NJ: Wiley Publishing, Inc.

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GEOCACHE INFORMATION FORM

Geocache Name: **GEOCACHE DETAILS** Coordinate System: MGRS Grid Zone Designation: 100 000-m Square Identification: Map Datum: Grid Reference Coordinates: Location Description / Hint	Geocache Name: **GEOCACHE DETAILS** Coordinate System: MGRS Grid Zone Designation: 100 000-m Square Identification: Map Datum: Grid Reference Coordinates: Location Description / Hint
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