ROYAL CANADIAN ARMY CADETS

GOLD STAR

INSTRUCTIONAL GUIDE

SECTION 9

EO C422.06 – PRACTICE NAVIGATION AS A MEMBER OF A SMALL GROUP

Total Time: 270 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.

Review the five activity descriptions in TP 1. Select one activity to conduct in the allocated time of 80 minutes. Select a different activity for each session conducted.

Confirm the availability of local resources required for the activity selected and prepare the topographical map of the area and the routes being used, to include grid references (GR) and bearings, prior to delivering this lesson.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

A practical activity was chosen for this lesson as it is an interactive way to allow cadets to experience navigation by setting and following a route using a Global Positioning System (GPS) receiver, in a safe and controlled environment. This activity contributes to physical fitness and 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 practiced navigation as a member of a small group, using a GPS receiver.

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IMPORTANCE

It is important for cadets to practice navigation skills using a map, a compass and a GPS receiver. Participation in these activities contributes to the development of navigation skills and knowledge in a fun and challenging setting. Cadets will rely on this skill set throughout navigation and expedition training.

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Teaching point 1 **Have the cadets participate in a navigation activity.**

Time: 80 min Method: Practical Activity

SUPERVISE NAVIGATION

Green / Red Star cadets will be given a map and a compass to conduct a predetermined navigation activity. Green / Red Star cadets will be given directions by a staff member, and the resources required to complete the chosen activity. Gold Star cadets will supervise and assist the Green / Red Star cadets while they participate in a chosen navigation activity. Gold Star cadets will be provided with a GPS receiver to aid in confirming answers, as required.

NAVIGATION BRAIN TEASER

Using a map, a compass and a GPS receiver, Gold Star cadets will navigate to predetermined points on the map. The course will consist of a minimum of four legs, approximately 500–1 000 m in length. Following the clues provided, when each group arrives at the checkpoint, they will record the GR on the GPS receiver (to ensure they were at each checkpoint) and are given clues (magnetic bearing, GR or distance) directing them to another checkpoint. The clues should make the cadets think about and use their navigation skills to find the next checkpoint. The group that locates the most checkpoints and has the fastest time is the winning group.

Input the provided coordinates using a GPS receiver by:

1. confirming that the GPS receiver is set to the correct coordinate system;
2. confirming that the correct map datum is set;
3. marking the start point, using a personalized mark;
4. establishing three Points of Interest (POIs) using a coordinate mark by:
    a. pressing MARK;
    b. moving the arrow joystick to highlight the location field;
    c. pressing ENTER;
    d. 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;
    e. pressing ENTER to move to the second line of the location field;
    f. using the arrow joystick to adjust the characters in the second line (grid reference) of the location field; pressing ENTER;
    g. personalizing the POI, if desired (as detailed in Personalize a Mark, Step 2);
    h. moving the arrow joystick to the save field; and
    i. pressing ENTER;
5. navigating to the main menu screen;
6. scrolling to SELECT A ROUTE;
7. selecting CREATE A NEW ROUTE;

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8. adding the POIs;
9. saving the route; and
10. naming the route.

CONSTRUCT A NAVIGATION COURSE

Gold Star cadets will set up a map and compass navigation activity for the Green or Red Star cadets. The navigation activity must allow the cadets an opportunity to practice and review previous navigation lessons and skills.

Gold Star cadets must consider the following guidelines when planning a navigation activity:

- The overall safety of all navigators. Establish clear boundaries for the exercise and give all navigators a safety bearing. A safety bearing will lead them to a safe area like a road or other distinct feature.
- The skill level of the navigators and what skills need to practiced in the navigation activity.
- The type of navigation activity and the resources required for the navigation activity.
- A full reconnaissance of the area should be carried out when planning, ensuring the navigation activity has a start, no more than 10 control points and a finish.
- The first and last controls should be relatively easy to find, as this improves a navigator's confidence and keeps the flow of the course going smoothly.
- Control points must be in a safe location and visible from at least 10 m (33 feet) away.
- Have different routes in and out of a control, as this keeps navigators from finding a control by watching someone else come out of it.
- Set a time limit for the activity to be planned and conducted.
- Position water, first aid and supervisors at key controls in the course. For controls without attending supervisors, establish a method (orienteering punch, sign-up list, etc.) for proving or establishing that a navigator has passed through the control.
- Log the departure and arrival times of navigators so it is known who is still out on the course.
- Brief navigators on safety, rules and safety bearings prior to sending them out on a course. Debrief the navigators after the activity to discover what they learned and how successful the course was.

CATCH A CACHE

Gold Star cadets will be given a map, a compass, a GPS receiver, trinkets and any other information required to navigate to as many geocaches, as they can find in the predetermined time limit. Groups of cadets will seek out the geocaches and upon finding one, fill out the logbook, remove one trinket and replace it with another trinket.

Participate in a geocache search by:

1. receiving all required geocache information for geocaches in the area;
2. setting up the GPS receiver by:
    a. confirming that the correct coordinate system is set; and
    b. confirming the correct map datum is set;
3. creating a POI from a coordinate mark by:
    a. pressing MARK;
    b. moving the arrow joystick to highlight the location field;

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c. pressing ENTER;

d. 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;

e. pressing ENTER to move to the second line of the location field;

f. using the arrow joystick to adjust the characters in the second line (grid reference) of the location field;

g. pressing ENTER;

h. personalizing the POI, if desired (as detailed in Personalize a Mark, Step 2);

i. moving the arrow joystick to the save field; and

j. pressing ENTER;

4. navigating to the geocache by:

a. selecting a GOTO route;

b. choosing the geocache POI;

c. navigating to the area;

d. searching the area of the POI for the geocache; and

e. locating the geocache; and

5. swapping a treasure; and

6. reflecting on the experience as a group.

CREATE OR MAINTAIN A CACHE



Use the Stash a Cache form located at Attachment A of C422.02 (Create a Geocache), when creating each geocache.

Gold Star cadets will either create and setup geocache container(s) by hiding them in the surrounding area and marking their coordinates or maintain an existing geocache. Gold Star cadets will be given a map, a compass and a GPS receiver, trinkets and any other information required to create or maintain the geocaches. If time permits, allow other cadets to seek out the geocaches and upon finding one, fill out the logbook, remove one trinket and replace it with another trinket.

Identify the geocache coordinates by:

1. setting the desired coordinate system;

2. setting the correct datum;

3. recording the coordinates at the location; and

4. describing the geocache's physical location.

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Depending on terrain selected and complexity of the navigation instructions, a navigation trail can be as easy or as challenging as you wish to make it.

ACTIVITY

Time: 80 min

OBJECTIVE

The objective of the Supervise Navigation activity is to have the Gold Star cadets supervise and assist the Green / Red Star cadets while they participate in a navigation activity.

RESOURCES

- GPS receiver (one per cadet),
- Whistle (one per cadet), and
- Any other resources required to complete the activity.

ACTIVITY LAYOUT

Nil.

ACTIVITY INSTRUCTIONS

1. Conduct a safety briefing, to include an explanation of:
    a. actions to be taken if a cadet becomes lost;
    b. time limits for the activity;
    c. boundaries;
    d. rules and safety procedures for the activity; and
    e. a narrative of the specific activity being conducted.
2. Divide the Gold Star cadets into groups by the number of Green / Red Star cadet groups.
3. Issue each Gold Star group a GPS receiver.
4. Refer to and follow the Green / Red Star cadets' navigation activity instructions for the chosen activity by confirming answers, as required, with a GPS receiver.
5. Have the Gold Star cadets supervise and assist Green / Red Star cadets as they conduct a navigation activity.
6. Conduct a debriefing where the cadets may be asked:
    a. how they felt about the activity;
    b. what they felt they accomplished;
    c. what they would try to improve on if given the opportunity to complete the activity again; and
    d. what they learned about using a GPS with a map.

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If available, use an assistant instructor at each checkpoint to answer questions and to prevent groups from following each other or sharing answers.

SAFETY

Cadets shall be briefed on boundaries which must take into account any dangerous obstacles or crossings. If radios are available, each group should be given a radio.

ACTIVITY

Time: 80 min

OBJECTIVE

The objective of the Navigation Brain Teaser activity is to have the cadets, as members of a small group, find as many checkpoints as possible.

RESOURCES

- GPS receiver (one per group),
- Topographical map (one per group),
- Compass (one per group),
- Whistle (one per cadet),
- Paper, and
- A predetermined navigation route with checkpoints.

ACTIVITY LAYOUT

- Clearly mark the start and finish lines.
- Position a clue(s) at each checkpoint to direct the groups to the next checkpoint.

ACTIVITY INSTRUCTIONS



The clues should not be too easy or too hard for the cadets to find each checkpoint. Stagger the clues to prevent groups from following each other or sharing answers.

Examples of this may include:

- having groups enter or leave checkpoints at different directions; and
- having the order of checkpoints different for each group.

1. Conduct a safety briefing, to include an explanation of:
   a. actions to be taken if a cadet becomes lost;
   b. time limits for the activity;

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c. boundaries;

d. rules and safety procedures for the activity; and

e. a narrative of the specific activity being conducted.

2. Divide the cadets into groups by the number of GPS receivers available.
3. Issue each group a map, a compass, and a GPS receiver.
4. Give the clue for the first checkpoint to the cadet leading the group.
5. Have the cadet leading the group input their provided coordinates and follow them along a route.
6. Start groups at two-minute intervals and record start times.
7. On a piece of paper, have cadets record clues in the order they complete the checkpoints.
8. Have cadets alternate turns leading the group at least once.
9. Collect sheets and record the finish time for each group.
10. Announce the group that locates the most checkpoints and has the fastest time as the winning group.
11. Conduct a debriefing where the cadets may be asked:

a. how they felt about the activity;

b. what they felt they accomplished;

c. what they would try to improve on if given the opportunity to complete the activity again; and

d. what they learned about using a GPS with a map.



If available, use an assistant instructor at each checkpoint to give cadets the next clue and answer questions.

SAFETY

Cadets shall be briefed on boundaries which must take into account any dangerous obstacles or crossings. If radios are available each group should be given a radio.

ACTIVITY

Time: 80 min

OBJECTIVE

The objective of the Construct a Course activity is to have the cadets set up a map and compass navigation activity.

RESOURCES

- GPS receiver (one per group),
- Topographical map (one per group),

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- Compass (one per group),
- Whistle (one per cadet),
- Any other resources required to complete the activity.

ACTIVITY LAYOUT

Nil.

ACTIVITY INSTRUCTIONS

1. Conduct a safety briefing, to include an explanation of:
    a. actions to be taken if a cadet becomes lost;
    b. time limits for the activity;
    c. boundaries;
    d. rules and safety procedures for the activity; and
    e. a narrative of the specific activity being conducted.
2. Have the cadets set up the navigation activity that allows an opportunity to practice and review previous navigation lessons and skills.
3. Conduct the navigation activity, ensuring the guidelines when planning a navigation activity are followed.
4. Conduct a debriefing where the cadets may be asked:
    a. how they felt about the activity;
    b. what they felt they accomplished;
    c. what they would try to improve on if given the opportunity to complete the activity again; and
    d. what they learned about using a GPS with a map.

SAFETY

Cadets shall be briefed on boundaries which must take into account any dangerous obstacles or crossings. If radios are available each group should be given a radio.

ACTIVITY

Time: 80 min

OBJECTIVE

The objective of the Catch a Cache activity is to have the cadets, as members of a small group, locate geocaches.

RESOURCES

- GPS receiver (one per group),
- Geocache coordinates,
- Topographical map of the local area (one per group),
- Whistle (one per cadet),

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- Paper, and
- Geocache treasures (eg, pencils, stickers, trinkets).

ACTIVITY LAYOUT

- Identify existing geocaches or create complete geocache containers, hide them in the surrounding area and mark their coordinates.
- Establish a finish time, which may include a point score penalty system for late arrivals.
- Establish a finish location.

ACTIVITY INSTRUCTIONS



To keep things interesting, the difficulty of finding the landmarks should vary.

1. Conduct a safety briefing, to include an explanation of:
   a. actions to be taken if a cadet becomes lost;
   b. time limits for the activity;
   c. boundaries;
   d. rules and safety procedures for the activity; and
   e. a narrative of the specific activity being conducted.
2. Divide the cadets into groups by the number of GPS receivers available.
3. Issue each group the resources required to conduct the activity.
4. Give each group all required geocache information.
5. Have the cadet leading the group input their provided coordinates and navigate to the geocache.
6. Groups may start at the same time or at intervals, depending on the number of groups.
7. On a piece of paper, have cadets record the GR coordinates of each geocache as they find it.
8. Have the cadets alternate leading the group and using the GPS to identify the geocaches.
9. Have the cadets place a trinket in each geocache and record the information in the logbook.
10. Conduct a debriefing where the cadets may be asked:
    a. how they felt about the activity;
    b. what they felt they accomplished;
    c. what they would try to improve on if given the opportunity to complete the activity again; and
    d. what they learned about using a GPS with a map.

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SAFETY

Cadets shall be briefed on boundaries which must take into account any dangerous obstacles or crossings. If radios are available each group should be given a radio.

ACTIVITY

Time: 80 min

OBJECTIVE

The objective of the Create a Cache activity is to have the cadets create and set up a geocache(s) or maintain an existing geocache(s).

RESOURCES

- GPS receiver (one per group),
- Compass (one per group),
- Topographical map of the local area (one per group),
- Whistle (one per cadet),
- Paper, and
- Geocache treasures (eg, pencils, stickers, trinkets).

ACTIVITY LAYOUT

- Create complete or maintain existing geocache containers.
- Establish a start and finish location.

ACTIVITY INSTRUCTIONS

1. Conduct a safety briefing, to include an explanation of:
    a. actions to be taken if a cadet becomes lost;
    b. time limits for the activity;
    c. boundaries;
    d. rules and safety procedures for the activity; and
    e. a narrative of the specific activity being conducted.
2. Divide the cadets into groups by the number of GPS receivers and compasses available.
3. Issue each group the resources required to conduct the activity.
4. Have the cadets determine a location for each geocache.
5. Have the cadets record the coordinates of each geocache in their GPS receiver.
6. On a piece of paper, have cadets record the GR coordinates and details of each geocache.
7. Have cadets alternate using the GPS receiver to create or maintain the geocaches, as required.

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8. Conduct a debriefing where the cadets may be asked:
    a. how they felt about the activity;
    b. what they felt they accomplished;
    c. what they would try to improve on if given the opportunity to complete the activity again; and
    d. what they learned about using a GPS with a map.

SAFETY

Cadets shall be briefed on boundaries which must take into account any dangerous obstacles or crossings. If radios are available each group should be given a radio.

CONFIRMATION OF TEACHING POINT 1

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

END OF LESSON CONFIRMATION

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

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

Nil.

CLOSING STATEMENT

Navigating using a GPS receiver or a map and compass are skills that can also be used in situations outside the Cadet Program. True proficiency in these skills used during these activities can only be achieved by practicing. These activities allow the cadets the opportunity to develop their navigation skills and knowledge in a fun and challenging setting.

INSTRUCTOR NOTES / REMARKS

If a different GPS receiver is being used for the navigation exercise, refer to the user manual for that receiver.

This EO may be conducted in conjunction with Green and Red Star map and compass practice (eg, EO C122.01 [Practice Navigation as a Member of a Small Group] and EO C222.01 [Practice Navigation Using a Map and Compass]). When the Green and Red Star cadets practice using a map and compass, the Gold Star cadets use the GPS receiver.

This complementary activity can be carried out as nine periods during a supported day or over three sessions of three periods each, to a maximum of nine periods.

If cadets are assigned as team leaders, they will be debriefed on their performance as part of PO 403 (Act as a Team Leader)

Assistant instructors are required for this lesson.

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REFERENCES

A2-036 A-CR-CCP-121/PT-001 Director Cadets 3 (2003). *Royal Canadian Army cadet reference book*. Ottawa, ON: Department of National Defence.

A2-041 B-GL-382-005/PT-001 Directorate of Army Doctrine 8. (2006). *Maps, field sketching, compasses and the global positioning system*. Ottawa, ON: Department of National Defence.

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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