1. Lesson Title: Military Grid Reference System

2. Grade/Age Level: Adult Learners age 18-45

3. Subject Area: Military Land Navigation

4. Time allotted for the lesson (express in number of class meetings and/or number of hours): 2 hours

5. Short description of lesson (write a brief, yet concise description of what occurs in this lesson):
   a. In this lesson, the learner will receive instruction on the Military Grid Reference System. Learner will learn to plot four, six, and eight digit grid coordinates to locate points on a map.

6. State Curriculum Standards met in this lesson: This lesson is derived from US Army Warrior Drill 12: Determine a Location on Ground (Terrain Association, Map, and GPS) requirements. It covers the following individual task:
   
   071-329-1002 Determine the Grid Coordinates of a Point on a Military Map

7. Instructional Objectives (Each instructional objective [learning outcome] for this lesson):
   a. Explain the Military Grid Reference System
   b. Demonstrate plotting a four digit grid coordinate
   c. Demonstrate using a protractor to plot a six digit grid coordinate
   d. Demonstrate using a protractor to plot a eight digit grid coordinate

8. Instructional Procedures
   a. Motivational Introduction: In order to tell someone where you are you must be able to give them an address. Military maps use addresses, they just aren’t quit the same as you would hose to have your mail delivered. Instead of a house address the military uses a Military Grid Reference System (MGRS). This system is composed on four to eight digit grid coordinates that provides a location on a map. This is what the military uses to aid medical evacuation helicopters find their patients, artillery units to provide cover fire to our troops, and to rescue downed pilots. The military grid system is a valuable tool that has saved many Soldiers lives throughout the wars.
b. Techniques and activities

i. Introduction to Grid Coordinates
   1. Projecting the grid square image
      (http://edtech2.boisestate.edu/jasonclemens/506/mapreading/Lesson2/page2.html), the instructor will explain the definition of a grid square. Will explain the rule for reading maps is always right and up.
   2. Using the protractor image
      (http://edtech2.boisestate.edu/jasonclemens/506/mapreading/Lesson2/page2.html), the instructor will explain that the protractor is required to plot or find 6-digit and 8-digit grid coordinates. The protractor will be gone over in more detail later in this lesson.

ii. 4-Digit Grid Coordinates
   1. Plotting a point always starts with plotting a 4-digit grid coordinate. Projecting the images on http://edtech2.boisestate.edu/jasonclemens/506/mapreading/Lesson2/page3.html, the instructor will demonstrate how the rule “right and up” is used to plot a 4-digit grid coordinate.
   2. Students will be paired up with a buddy and told to plot a 4-digit grid coordinate on their map. Buddies will trade 4-digit grid coordinates and plot them on their map.
   3. Instructor will ask the class the review question

iii. 6-Digit Grid Coordinates
   1. The instructor will explain the difference between a 4-digit and a 6-digit grid coordinate.
   2. Projecting the images on http://edtech2.boisestate.edu/jasonclemens/506/mapreading/Lesson2/page3.html, the instructor will demonstrate how a protractor is used to plot a 6-digit grid coordinate.
   3. The instructor will demonstrate how to mark the 4-digit grid coordinate part of the 6-digit grid coordinate being used. This provides a starting point for the protractor
   4. The instructor will ensure to explain to the students to start by aligning the zeros on the protractor cut out where the grid lines meet of the marked 4-digit grid coordinate
   5. The instructor will demonstrate moving the protractor to the right to get the 6-digit grid coordinate
   6. Students will plot an 6-digit grid coordinate and then be paired up with a buddy. Students will now plot their buddies grid coordinate.
   7. Instructor will ask the students the review question

iv. 8-Digit Grid Coordinates
1. Using the same method to demonstrating a 6-digit grid coordinate, the instructor will demonstrate how to plot the final digits to make an 8-digit grid coordinate (Using images from http://edtech2.boisestate.edu/jasonclemens/506/mapreading/Lesson2/page5.html)

2. Students will plot an 8-digit grid coordinate and then be paired up with a buddy. Students will now plot their buddy’s grid coordinate.

3. Instructor will ask the students the review question

c. Lesson Closure: Now that you have plotted a 4, 6, and 8-digit grid coordinate you see how each builds off of the next. The key to remember while plotting any grid coordinate is the rule “right and up”. To plot it in any other direction would be wrong and could cause loss of life in a real time situation.

9. Adaptations for special learners
   a. The students are broken in to pairs allowing peer instruction to help facilitate learning.

10. Supplemental Activities:
   a. Extension and remediation: Students can explore their maps and research areas that were not covered using their reference material.
   b. Remediation: Students will be given the opportunity to use classroom computers to directly interact with the Map Reading website and the reference materials.

11. Assessment/Evaluation: Practical Exercise
   a. Students will be paired in buddy teams. Students will be given 20 minutes to plot 3 points for each 4, 6, and 8-digit grid coordinates on a map. They will then exchange the grid coordinates with their buddies and plot them. Buddies will evaluate that they plotted the grid coordinates correctly.

12. Learner Products: Students will produce 9 grid coordinates (2 each of 4, 6, and 8-digit grid coordinates)

*Note for learners: This lesson plan template is adapted from the model that is recommended in the book Preparing to Use Technology: A Practical Guide for Technology Integration.*