

Trial/Pilot Event

Geocaching



DESCRIPTION: Contestants will use a hand-held GPS device to follow a series of waypoints to hidden caches of questions.

A TEAM OF UP TO 2

APPROXIMATE TIME: 50 MINUTES

EVENT PARAMETERS: Contestants must supply a hand-held GPS unit, a non-programmable calculator, a pen or pencil, and a clipboard. This event is held outside so dress appropriately.

THE COMPETITION:

1. The contestants will be given a sequence of waypoints to follow to a finishing location.
2. At each waypoint, the contestants will identify proof on their answer sheet that they visited the waypoint.
3. At each waypoint the contestants will also answer questions about a topic of earth and space science or GPS technology.
4. Contestants will be timed from the moment that waypoints are provided until arriving at the finishing location. Timing will be kept to the nearest second then converted to a decimal (ie, 42:15 = 42.25; 43:20=43.33).

SAMPLE QUESTIONS:

1. What is the minimum number of satellites needed for your GPS unit to work correctly?
2. What does "hitchiker" mean in GPS slang?
3. 49 57" 30' N would be entered as what decimal number into your GPS unit?
4. Who is considered the "Father of Geology"?

EQUIPMENT: An entry level GPS unit will suffice for this event (see photo above). **Apps on smart phones are allowed, but will be scored no higher than Tier 2.**

SCORING:

1. **Scoring will be tiered based on the equipment used. Tier 1: handheld GPS device only (no phone/tablet) Tier 2: Smart Phone or tablet with GPS app. Note that connection to a network is the responsibility of the participant.**

2. Each correct waypoint in the proper sequence will be given an assigned value. Each question at the waypoints will also have an assigned value.

3. Total time will be included in a formula that will be added to points from questions to determine the total score: Points from sequence & questions + $\frac{[60 - \text{time to complete course}] \times \text{Points from questions}}{100}$ = TOTAL SCORE

Example: A team earns 62 points for questions and finishes in 42 minutes 15 seconds.

$$62 + \frac{[60-42.25] \times 62}{100} = 73.00 \text{ total points}$$

REFERENCE:

www.geocaching.com

www.geocachingworldwide.com

www.brillig.com/geocaching

National Science Education Standards: Earth and Space Science, Content Standard D: Structure of the Earth System (Grades 5-8) Earth and Space Science, Content Standard E: Origin and Evolution of Earth's