



■ Geocaching apps are available for smartphones and tablets, or you can use a dedicated GPS receiver

# GEOCACHING: A REAL-WORLD TREASURE HUNT USING ONLINE TECHNOLOGY

Combine technology with outdoor adventure by searching for one of the millions of geocaches hidden across the globe

**0**n Wednesday 3 May 2000, the day after accurate GPS (Global Positioning System) data became widely available for public use, a bucket containing videos, books, a slingshot, and a tin of baked beans was hidden in the woods of Beaver Creek near Portland, Oregon. The container's coordinates were posted online, and people were encouraged to seek it out and share their experiences on discussion forums. This process was subsequently repeated worldwide and today there are millions of containers available to find across the globe, which provides us with an excellent opportunity to combine technology with exploring the great outdoors.

## What is geocaching?

Geocaching involves seeking out hidden treasure using GPS technology — either by using a smartphone or tablet app, or a dedicated GPS receiver. The treasure usually takes the form of a physical plastic box containing a logbook and various goodies such as small toys or badges, although individuals placing geocaches are increasingly using their creativity to make more interesting containers, including hollowed-out logs, fake pine cones, and magnetic street signage. Upon discovering a geocache, the finder signs the logbook, replaces the container, and records their find online. Geocaches are listed on [geocaching.com](http://geocaching.com) and each one has a

rating for its difficulty and terrain, which helps identify suitable treasure to search for and provides an overview of the location.

## Supporting the teaching of computing

So, how does geocaching relate to the teaching of computing? One of the aims of the computing national curriculum is to ensure all pupils “can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems”. The use of GPS on a digital device enables children to see how technology can be used for navigation and other practical applications, along with providing a brilliant opportunity



for examining how the underlying technology functions.

The curriculum also asks that teachers should ensure pupils “are responsible, competent, confident and creative users of information and communication technology”. By examining the properties of a geocache, planning a route, and preparing for an adventure, children are taking responsibility for the use of technology and developing

World framework’s statements related to ‘Managing online information’ and ‘Privacy and security’ could be explored through the use of the geocaching website too.

Much of the subject content covered by the national curriculum relates to understanding the internet, such as how data is transferred between devices, and the functionality of network components. As the information for each geocache

## FINDING YOUR FIRST GEOCACHE

There are likely to be geocaches near you right now! To get started:

- Download the Geocaching® app on your smartphone or tablet
- Open your app, choose a nearby cache, and navigate to it
- Find the cache and sign the logbook
- Share details of your hunt by logging your find

Make sure you undertake the activity safely and follow the ‘Getting started’ guidance from the Geocaching.com website: [helloworld.cc/Geocache](http://helloworld.cc/Geocache).

You can also watch the Treasure Hunt video from the CAS #CASInspire20 series, where I hunt out a local geocache with my daughter: [helloworld.cc/SummerCAS](http://helloworld.cc/SummerCAS).

## “ CREATIVE TREASURE CONTAINERS INCLUDE HOLLOWED-OUT LOGS AND FAKE PINE CONES

their independence. In addition, by participating on the geocaching community pages, such as by reporting details of a recent find, children are experiencing how to contribute appropriately to an online forum and suitably manage their online safety. A number of the Education for a Connected

is stored online, terms such as ‘server’ and ‘packets’ can be used in discussions with primary schoolchildren, while older children can examine the process of digital communication and how data is represented in more detail. Finally, finding geocaches and participating in the community groups enables us to develop many areas of computational thinking. For example, in order to find a geocache, children need to use their logical reasoning and perseverance.

### Cross-curricular links

Geocaching can be used to develop pupils’ knowledge and understanding of a range of curriculum subjects. Temporary containers can be placed around the school grounds or the local area, which could contain items or information to collect. For example, pieces of a floor plan for a historical building could be collected, which would be put together back at school. The topic could then be researched further and sections of the building developed as part of Art or DT, or even using free 3D modelling software such as SketchUp or Tinkercad.

To locate geocaches, children can be given mathematical problems to solve, or



■ Geocaching gives children an opportunity to use technology in an outdoor environment

## STAYING SAFE

Geocaching is undertaken at your own risk, and you should take suitable precautions before commencing the activity, including, but not limited to, a consideration of:

- **Appropriate online behaviour:** guidance should be given to children about how to stay safe online and what to do if they feel unsafe
- **Device usage:** GPS can drain the battery quickly and geocaching may increase your data usage; it would be beneficial to take a backup device or a physical map with you
- **Safety:** tell someone where you are going
- **Clothing and footwear:** check the weather before you set off and ensure appropriate clothing and footwear are worn and additional items carried with you
- **Equipment and provisions:** appropriate food and drink should be taken, along with a first aid kit and mobile phone

The National Trust has a number of safety tips for exploring outdoors: [helloworld.cc/SafeOutdoors](http://helloworld.cc/SafeOutdoors).

Geocaching.com also has guidance on staying safe: [helloworld.cc/SafeGeocache](http://helloworld.cc/SafeGeocache).

be provided with tasks to develop their understanding of directional language. Geocaches can also provide a focus for a tour of the local area, or as part of outdoor learning or forest school.

So, how can you begin geocaching in your school? Read the ‘Finding your first geocache’ and ‘Staying safe’ boxes, locate a few geocaches yourself, and log your finds online. The Geocaching® app is free for both Apple iOS (iPad/iPhone) and Android, which means it could be installed on your school’s existing tablet devices to be used by children.

Have you used geocaching in the classroom, or perhaps have other ideas for curriculum links? Do get in touch on Twitter at [@computingchamps](https://twitter.com/computingchamps). <sup>(HW)</sup>

### NEIL RICKUS

Neil is a Senior Lecturer in Computing Education at the University of Hertfordshire, a primary education consultant for the BCS, and the founder of Computing Champions. He is a CAS community leader, a CEOP Ambassador, and a Raspberry Pi, Google, and Microsoft Certified Educator ([@computingchamps](https://twitter.com/computingchamps)).

