



Drone Exploring: Career Spotlights

Archaeology — Club

Overview: Archaeologists use drones to spot clues about the past that are nearly invisible from the ground — patterns in soil, shadows, and plant growth that hint at buried walls, roads, or foundations. In this session, youth learn how a bird's-eye view can reveal hidden history and practice spotting patterns in aerial images, then try a mini grid-mapping activity like real archaeologists use to record a site.

OBJECTIVES

- Introduce youth to the career of using drones in archaeology to find and map historical sites.
- Explain how patterns like crop marks and shadow marks can reveal buried structures from the air.
- Practice spotting patterns in aerial images through a hands-on activity.
- Build respect for historical sites and the importance of careful, non-destructive exploration.

SUPPLIES

- Flip chart or whiteboard and markers
- Printed aerial photos showing crop marks, shadow marks, or known archaeological sites (search online for kid-friendly examples)
- Rope, string, or chalk to mark a grid on the ground
- Small objects (rocks, blocks, or cards) to hide as mock artifacts within the grid
- Printed handouts: How Drones Help Archaeologists and Site Grid Map

ADVISOR NOTES

- Emphasize that real archaeological sites are protected, and digging or disturbing them without permission is against the law and disrespectful to history and to descendant communities.
- If outdoor space is limited, do the grid-mapping activity on a tabletop with a printed grid instead of on the ground.
- Point out that patience and careful documentation are just as important in archaeology as the flying itself.
- Consider inviting a guest speaker (a local archaeologist, museum educator, or GIS mapping professional) to share how aerial tools are used in real fieldwork. See Optional Extensions.
- If no guest speaker is available, Advisors can run the entire session using this outline and the resource links below.

SESSION OUTLINE

- **Welcome and Icebreaker** (10 min)
 - “History Detectives:” Ask youth what clues might tell someone a building used to stand somewhere, even after it’s gone.
- **Safety Moment (Respecting Historical Sites)** (10 min)
 - Never touch, dig, or remove anything from a real archaeological site — always report finds to a professional.
 - Drones let archaeologists study sites from above without disturbing the ground.
 - Ask: “Why do you think it matters to protect historical sites for other people to study and enjoy later?”
- **Mini-Lesson: How Drones Help Archaeologists** (15 min)
 - Show sample aerial images and point out crop marks (color differences in plants) and shadow marks (shadows revealing bumps or dips) that can hint at buried walls or roads.
 - Discuss how drones can quickly and safely map large areas that would take much longer to survey on foot.
- **Activity: Spot the Pattern** (15 min)

- In small groups, examine printed aerial images and try to identify unusual patterns that might indicate something buried below.
- Groups share what they noticed and why it stood out.
- **Activity: Site Grid Map Challenge** (20 min)
 - Mark off a grid representing an archaeological site and hide several mock artifacts in it ahead of time.
 - Teams search the grid row by row, recording exactly which grid square each artifact was found in on the Site Grid Map handout — without moving anything until it's recorded.
- **Wrap-Up Share-Out** (10 min)
 - Discuss why recording the exact location of a find matters just as much as finding it.

REFLECTION SECTION

Advisor Note: Some sample questions are below. They are designed to help the participants apply what they have learned to their own interests. You are welcome to use these questions or develop your own.

Focusing Questions

- What was the trickiest pattern to spot in the aerial images?
- What surprised you about how careful archaeologists must be when recording a find?

Analysis Questions

- Why can a drone view from above reveal things a person walking on the ground would miss?
- Why does it matter to record exactly where something was found, instead of just what was found?

Generalization Questions

- Where else in life does careful record-keeping matter, even when it feels slow?
- What's one thing you'd like to learn next about history or archaeology?

Challenge: This week, look up one archaeological site near where you live (or one you find interesting) and share one fact about it.

OPTIONAL EXTENSIONS

Guest Speaker: Invite a local archaeologist, museum educator, or GIS mapping professional to share how aerial tools are used in real fieldwork, in person or by video call.

Advisor-Led Option: If a guest speaker isn't available, Advisors can run this session using the outline above and the resource links below. No outside expert is required.

Resource Links: search "drone archaeology crop marks" on a video platform for kid-friendly explainer videos of real aerial archaeology discoveries.

Group Extension: Design a site map poster of an imaginary discovery, labeling the grid, found objects, and a scale legend.

Handout: How Drones Help Archaeologists

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Read through the key ideas below before starting the Spot the Pattern activity.

Crop Marks

Differences in how plants grow above buried walls or ditches, often showing as color or height differences visible from above.

Shadow Marks

Low-angle sunlight can cast shadows that reveal small bumps or dips in the ground, hinting at buried structures.

Non-Destructive Survey

Using a drone lets archaeologists study a large site from above without digging or disturbing anything.

Why It Matters

Aerial surveys help archaeologists decide where a careful, permitted excavation might be worth doing later.

Handout: Site Grid Map

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As your team searches each row of the grid, record exactly where you find each mock artifact.

Grid Square	What Was Found	Notes
A1		
B2		
C3		
D4		