

Teacher's Guide for DIG™ *A Day in the Life of an Archaeologist*

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Onsite—Under Water (8-11)

Science Hands-On Activity/Center – “Groundtruthing”

Supplies:

Buckets/tubs/boxes

Sand

PVC pole/stick/rod

Shells, wood and metal objects

Earplugs

Place items in the bottom of buckets and cover with sand. Students wear earplugs (to simulate underwater environment) and attempt to determine what type of object is in each bucket. Invite other small groups of students from other classes to try under students' supervision.

Reading - Questions for Understanding

1. Why is it important to detect the presence of iron underwater? *Boats were made of iron.*
2. Why is the magnetometer dragged at least 60 feet behind the archaeologists' vessel? *So the magnetometer will not register the metal in the archaeologists' boat.*
3. What are some of the pieces of technical equipment used by underwater archaeologists and what are they used for?
To locate a site : (magnetometer, side-scan sonar, global positioning system-GPS, GIS (geographic information system) software/laptop computer
For groundtruthing: Scuba gear, hand-held magnetometer, metal detector, camera, measuring tape, dive slate, and hand probe
4. Where do archaeologists first conduct research to attempt to locate a site?
Libraries, archives
5. Why are pits dug underwater with sloping walls instead of vertical walls? *The constant motion of waves and currents fills a pit with mud and silt; sloping walls help compensate for possible collapsing walls.*

Trials and Terrors (12-15)

Class Discussion:

1. To prove the Tiwanakans floated boulders on totora reed boats, the archaeology team faced many obstacles. What were those obstacles? *(People did not believe it could be done, storms nearly destroyed the boat, builders had not followed instructions, winds blew against the boat, anchor did not hold, food poisoning)*

2. What personality traits did the team need to overcome those obstacles? (*possible answers: bravery, tenacity/"stick-to-it-tiveness," confidence in the face of opposition, etc.*)
3. What are some other jobs or related professions that need those personality traits? (*possible answers: detective, researcher, etc.*)

Similar story in book and film forms:

Kon-Tiki, by Thor Heyerdahl

Kon-Tiki museum link:

<http://www.kon-tiki.no/index.html>

1950 film/documentary, "Kon-Tiki"

Under the Street (16-17)

Reading for Understanding

1. In what way was Paul Huey's opinion on the location of the remains of Fort Orange different from local and state historians?

Huey's research showed that the shoreline had changed because fill had been dumped in the Hudson River over the years.

2. What do the recovered artifacts reveal about colonial Dutch life?

The settlers were well supplied, traded successfully with the native population, ate well and lived comfortably for the time.

Choosing a Site (18-20)

Cooperative Learning - Research

Digging at a site already known and field surveys are two ways, described in detail, to select a site. Have students divide into three groups and assign each group one of the following topics: 1) aerial photography, 2) ground-penetrating radar, or 3) remote sensing. Each group will research their assigned topic and report to the class what these technologies are and how they are/could be used in archaeology/choosing a site.

Laying Out a Grid (21)

Math/Science Extension Activity

Materials:

Scissors

Blue painter's tape or masking tape

Measuring Tape

Graph paper – the larger the squares, the better (regular-sized graph paper can be photocopied to increase square size)

Compass (optional)

Select a section of the classroom, without heavy furniture, on which to lay out a grid. Remove furniture temporarily. With students, determine the dimensions and *zero datum point*. Have students then measure and cut painter's tape and apply directly to the floor to form a grid in your selected area. If possible, at the zero datum point (0.0) have one line running north and south (using compass) and a second east and west. Replace furniture/objects.

Students then, on graph paper, record the location of surface objects according to their floor grid. Discuss what clues about classroom activity future archaeologists might infer from their grids.

All in a Day's Work (22-24)

Reading/Writing/Discussion

Have students read the article for homework and write two questions, one factual and one for discussion. Use selected questions for class review/discussion.

Civics Extension/Discussion

If there were laws to protect archaeological sites on private property, what might be some possible problems?

Bill's Toolbox (25)

Link to Art

Name the "low-tech" tools used to prepare for Archaeology Day at Cahokia. "*Scoop*" (*plastic jug with the bottom cut away*), *trowel*, *first aid kit*, *shovel*, *buckets*, *dust broom and pan*, *screen*

Have students imagine being an archaeologist or an inventor in the year 2050. What kinds of new technology might be invented by then to help archaeologists?

Have students sketch one of the tools mentioned or an invention that the student imagines. Display in the classroom or hallway.

Back at the Lab (26-28)

Show and Tell

Have students bring in an object from home that has been exposed to some process that has caused it to decay, e.g. rust, rotting, yellowing (e.g. paper), fading, heat, humidity, sun, mold, etc. Have students show their objects to the class, tell how it has decayed and the class can discuss how further decay could be controlled. Display the objects on a table.

Extra Challenge, Wrap-up Activity Discussion/Writing

Students can brainstorm ideas and record on butcher paper as a whole group and then write individually or in small groups.

1. Compare and Contrast two or more of the archaeologists whose stories are told in this issue. What were their challenges? How did they face these challenges? How were their tasks similar? Different? Do you think you would like to be an archaeologist? Why or why not? In your opinion, which archaeologist had the most interesting project?

Or

2. Pretend you are in charge of an archaeology project/dig. Based on what you've learned from this issue, (including the "Top 5 Challenges on a Dig," p.5), write a 1-page job description/outline for an archaeologist you need to hire. Would you like this job? Why or why not?

