

Dig It Up – Archaeology

Prep Time: 30 minutes

Activity Time: 75 – 100 minutes

SUGGESTED GRADE LEVELS: 5th and 6th

SAFETY INFORMATION : Be careful not to get dig pit material into eyes! Wear safety glasses if available

SUMMARY OF ACTIVITIES

- Activity 1: Learn about archaeology and start collecting dig pit data prior to digging
- Activity 2: Set up dig pit--create grids and label each section
- Activity 3: Dig pit adventure--put together clues about a civilization

VOCABULARY

Archaeology – Archaeology is the study of past cultures through the material (physical) remains people left behind

Excavation – The exposure, processing and recording of archaeological remains. Such a site excavation concerns itself with a specific archaeological site or a connected series of sites, and may be conducted over as little as several weeks to over a number of years.

IMPORTANT INFO TO KNOW

Archaeologists use remains to understand and re-create all aspects of past culture, from the daily lives of ordinary people to the grand conquests of emperors. Often, objects are buried and have to be carefully uncovered or excavated before they can be studied. In many cases, they are the only clues archaeologists have to help them reconstruct the lives of ancient people. These objects are like pieces of a giant jigsaw puzzle that the archaeologist must solve.

Kids experience in a kinesthetic way the fact that excavating an archaeological site destroys it, so that afterwards there is no possibility of checking information not recorded. This is why accurate data collection is extremely important in archaeology, and participants will be practicing those skills today.

MAKING THE DIG PITS:

Choose whatever items you'd like to add to your layers! Some ideas are below:

Rainforest Dig Pits:

1. Bottom layer – Play-Doh or Modeling Clay
2. Middle layer –Soil
3. Top layer – Mulch
4. Place the following items throughout the layers:
 - a. Feathers, coins, rings, fake insects, leaves

Desert Dig Pits:

1. Bottom layer – Mulch

2. Middle layer – Soil
3. Top layer – Sand
4. Place the following items throughout the layers:
 - a. Rings, coins, fake insects, fake desert plants

Beach Dig Pits:

1. Bottom layer – Play-Doh or Clay
2. Middle layer – Soil
3. Top layer – Sand
4. Place the following items throughout the layers:
 - a. Shark teeth, coins, rings, feathers

ACTIVITY ONE (40 mins.)

MATERIALS

- 1 – pre-made dig pit
- 1 – ruler
- 5 – toothpicks
- 1 – plastic spoon
- 1 – paintbrush
- 4 - dixie cups each filled with a different substrate (each cup with have either dirt, sand, plah-doh, etc.)
- 1 – roll of kite string
- 1 – pair of scissors
- 1 – roll of masking tape

WHAT TO DO

1. What is archaeology? Let kids give several answers. *Archaeology is the study of past cultures through the material (physical) remains people left behind*
2. What are ways archaeologists can gather this data?
3. We will be using dig pits from unknown locations to discover where the pits came from and what possible environment they were in. Once you figure out the type of environment the dig pit is from, you must formulate a theory about the history of the location.
4. Before we can just start digging, we need to collect data and set up our dig sites. The layers of earth, the depths of each layer, and the location within the dig pit where an object is found will all make a difference when we analyze the data
5. Pass out the tools (paintbrush, plastic spoon, toothpicks, paintbrush) and dixie cups filled with the different substrates. Using the tools and working with the substrates in the cups, let kids decide which tools work best for each substrate. This is important when it comes time to actually dig.
6. Now it's time to set up the grid lines on our dig pits!

OPPORTUNITY FOR INQUIRY

Old text, pictures, and of course items left behind. But they have to find all of this data themselves.

OPPORTUNITY FOR INQUIRY

Can more than one type of tool work for each substrate? Yes! It depends on what the item is.



7. If you have ever seen a dig site, you notice it is split up into a grid. Why do you think that is?
8. Time to create grids on our own dig pits
9. Using a ruler, measure the length and width of the dig pit opening.
10. Decide how large you would like each section to be - remember, each of the tools must be able to easily fit in each section for digging.
11. Now using the string, scissors and tape, create the grid you measured out on your actual dig pit. Make sure the sections are equal and the edges of the string taped down well. See image above for help/ideas!
12. Decide how you want to label each section (numbers or letters) and write that onto a piece of tape, and place somewhere on the dig pit container in that quadrant. This will help us to better identify where objects are found!
13. Now that we have our dig pit successfully set up, it is time to dig!

OPPORTUNITY FOR INQUIRY

It allows the archaeologist to collect the most accurate data, and be able to explain the exact location of a found item much easier.

TIPS FOR FACILITATORS

For a plastic shoebox sized container, dividing into six quadrants works well - you don't want the sections too small to fit the tools in

WHAT'S HAPPENING

Many archaeologists have a background in geology. When you are digging, it is important to know the types of rocks, minerals, soils, etc. you may encounter. If you don't, it's hard to know which tools to use. Granite is extremely hard, so a soft brush will not work, a chisel may be necessary. When looking through sand, a chisel will not be helpful at all, a soft brush will work much better. It is extremely important to split up the dig site into smaller spaces. It allows archaeologists to more accurately explain where an item was found, and if there are any items or bones clumped together in certain areas.

ACTIVITY TWO (60 mins.)

MATERIALS

- 1 – pre-made dig pit
- 1 – pair of scissors
- 1 – roll of masking tape
- 1 – ruler
- 2 – paper plates
- 6 – plastic bags
- 1 – permanent marker

- 1 – small pail
- 5 – toothpicks
- 1 – plastic spoon
- 1 – paintbrush
- 1 – pair of tweezers or forceps
- 2 – pairs of gloves (optional)
- 1 – set of goggles (optional)

WHAT TO DO

1. Pass out gloves, tools, empty pail, paper plates, and plastic bags.
2. It is time to start digging!
3. Think back to the first activity and which tools will work best for each layer. You are not allowed to grab anything out with just your hands. Work one quadrant at a time, putting extra substrate in the empty pail as you dig. When you find items, carefully remove them.
4. As items are discovered, clean them and put them in the plastic bags, and label each bag by quadrant. This will help you remember where you found each object.
5. When finished excavating, begin discussing which environment the dig pit is from – Desert? Rainforest? Beach?
6. Discuss the types of items found – do these artifacts give any clues to the location of your dig pit?
7. Now let's make a final decision – what type of environment do you hypothesize your dig pit is from? Using the artifacts you found, create a brief history of that location. Use your imagination, and make it exciting!
8. Time to clean up. Students can now use their hands to dig for anything left, then throw away the dirt, sand, etc.

OPPORTUNITY FOR INQUIRY

As kids dig, ask why they are using the tools they are using, and as they start to discover items, start asking what that discovery might mean about the location of the dig pit

When making final hypotheses on where their dig pit come from, and when the answer is revealed, ask what other locations they considered and why. There are a lot of regions that have similar layers, but for this activity we just chose three.

WHAT'S HAPPENING

In the real world, a dig ends with questions that are still unanswered and reconsideration of hypotheses that were not validated. Today we were able to finalize some dig site locations, but we still have questions about the people who left some of the non-biological items behind. But because archaeologists know they have to collect all data possible as they excavate, they can take that information with them to continue research using publications, previous dig site information, and similar location data.

REFERENCES

1. <https://www.archaeological.org/>
2. <https://www.sfu.ca/archaeology/museum/exhibits/virtual-exhibits/doing-archaeology-in-the-classroom-a-sandbox-dig.html>

MATERIALS

ITEM NAME	DESCRIPTION	AMOUNT NEEDED
CLEAR PLASTIC CONTAINER, SHOEBOX SIZED	 <p>Can be found at Target, Amazon, Walmart</p>	1 per dig pit
SMALL BUCKET OR CONTAINER	To put dig pit material in after it is excavated	1 bucket
PERMANENT MARKER	To label dig pit quadrants and excavation bags	1 marker
PLASTIC BAG, SANDWICH OR GALLON	Need one bag for each dig pit quadrant	At least 6 bags
PLASTIC SPOON		1 total
TOOTHPICKS		5 total
TWEEZERS OR FORCEPS		1 total
PAINTBRUSH OR TOOTHBRUSH		1 total
RULER		1 total
MASKING TAPE		1 roll
SCISSORS		1 pair
SAFETY GOGGLES (OPTIONAL)		1 pair per person
GLOVES (NITRILE OR GARDENING – OPTIONAL)		1 pair per person
KITE STRING		1 roll
SAND	Take from outside, or can be found at most hardware stores	2 containers
PAPER PLATE	For collecting and separating dinosaur bones	2 plates
3D DINOSAUR PUZZLE	<p>Possible Options:</p> <p>Calary 3D Wooden Puzzle Simulation Animal Dinosaur Assembly DIY Model Toy for Kids https://tinyurl.com/wwzgy4n</p> <p>Dinosaur 3D Puzzle 1 Pack - 10" Assorted Paleo Dino Skeleton https://tinyurl.com/wtvgf3x</p>	2 puzzles

SOIL	Take from outside, or can be found at most hardware stores or on Amazon	6 cups
SAND	Take from outside, or can be found at most hardware stores or on Amazon	6 cups
PLAY-DOH OR CLAY		4 cups
ARTIFACTS FOR DIG PIT	<p>Have fun with this! You can use whatever you have around the house, or get a variety of trinkets</p> <p>Shark Teeth – Amazon</p> <p>Plastic coins and rings – Amazon</p> <p>Fake leaves and insects – Amazon</p> <p>Feathers – craft stores or Amazon</p>	At least 5 of each object – use as many artifacts as you would like in the dig pits