

AGES 8+

DIG IT UP! BUBBLING -DISCOVERY-

INSTRUCTIONS &
EXCAVATION GUIDE



WARNING: This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision

SAFETY INFORMATION

- In case of eye contact: Wash out eye with plenty of water, holding eye open if necessary. Seek immediate medical advice.
 - If swallowed: Wash out mouth with water, drink some fresh water. Do not induce vomiting. Seek immediate medical advice.
 - In case of inhalation: Move person to fresh air.
 - In case of skin contact and burns: Wash affected area with plenty of water for at least 10 minutes.
 - In case of doubt, seek medical advice without delay. Take the chemical and its container with you.
 - In case of injury always seek medical advice.
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- Read these instructions before use, follow them and keep them for reference.
 - Keep young children and animals away from the experimental area.
 - Store this experimental set out of reach of children under 8 years of age.
 - Clean all equipment after use.
 - Ensure that all empty containers are disposed of properly.
 - Wash hands after carrying out experiments.
 - Do not use any equipment which has not been supplied with the set or recommended in the instructions for use.
 - Do not eat or drink in the experimental area.
 - Do not allow chemicals to come into contact with the eyes or mouth.

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Volcano Powder



Mini Volcano with Bonus Artifact



Large Volcano with 7 Artifacts



Lava Powder



Beaker



Volcano Base Caps

Hammer



2 Chisels



Stirring Stick



Brush



Measuring Spoon



Sponge



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GET READY FOR AN ERUPTION!

Did you know that volcanoes are full of treasures like fossils, gems and other artifacts? Deep in the Earth's surface lies a variety of relics from millions of years ago. Similarly, the layers that make up volcanoes also contain numerous minerals and rock types. When volcanoes erupt, these artifacts and minerals are carried out in the lava, revealing a wealth of fun finds!

With this kit, you'll learn more about volcanoes and what you can spot inside as you watch your volcano erupt and dig out the discoveries within.



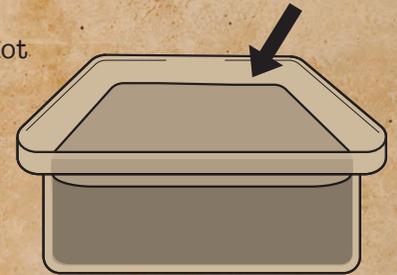
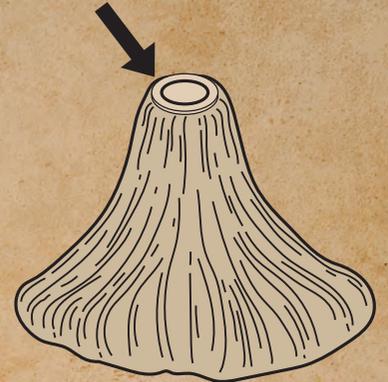
INSTRUCTIONS

Follow these instructions for the large volcano and mini volcano. The included trays and caps are sized for the large and mini volcanoes.

1. Prepare your space for the volcano. You will want to cover your work space with old newspapers or perform the eruption outside. Note that the bubbling volcano will fizz and the red dye can stain surfaces or clothing.

2. Place your tray on your prepared surface. Remove the shrink wrap from the volcano. Make sure the volcano stopper stays in place in the top of the volcano.

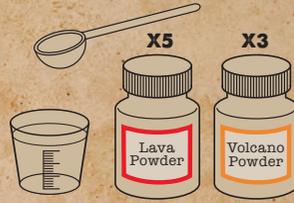
3. Fill a tray with hot water from your sink. Use about $4\frac{1}{2}$ cups for the large tray and a $\frac{1}{2}$ cup for the small tray. The tray needs to be filled almost to the top to make sure enough water can be absorbed into the volcano to cause an eruption. You may want an extra cup or two of hot water nearby in case you need to add more water after your volcano is submerged.



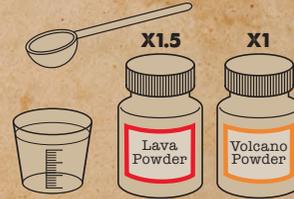
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4. Add Volcano Powder to the beaker.

FOR THE LARGE VOLCANO, add 3 scoops of Volcano Powder and 5 scoops of Lava Powder to the beaker. Use the stirring stick to mix together.



FOR THE MINI VOLCANO, add 1 scoop of Volcano Powder and 1.5 scoops of Lava Powder to the beaker. Use the stirring stick to mix together.



5. Flip volcano upside down and pour mixed chemicals into volcano base.



6. Add volcano base cap to bottom of volcano and press in tightly until flush with bottom of volcano.



7. Flip your volcano back over and place in the water tray. Quickly remove the volcano stopper. A small amount of powder may spill out the bottom as you flip your volcano but this is okay and will not impact the eruption. If your volcano does not erupt in a few seconds, you may not have added enough water, use your extra hot water to pour more into your tray immediately.



8. After the eruption is complete, continue to let the volcano soak for 2-5 minutes.



9. Remove the volcano and use the flat edges of your chisels to chip away until you discover all 7 hidden surprises in the large volcano and bonus surprise in the mini volcano. You can use the hammer to gently pound the end of the chisel to create more force. Clean your finds using the sponge and brush.



IDENTIFYING YOUR DISCOVERIES



T-REX SKULL: The jaw of a Tyrannosaurus Rex was so powerful, one bite could deliver six tons of pressure. That's strong enough to crush a car! Combined with a body as long as a school bus, it's no wonder these giant dinosaurs were known as the "king of the tyrant lizards".



SNOWFLAKE OBSIDIAN: No, those aren't snowflakes on your stone, but they sure look like it! The snowflake-shaped patches are the result of partially formed mineral crystals. Snowflake obsidian rocks are formed from volcanic lava that cools down too quickly for crystals to form.



RAPTOR CLAW: Did you know that velociraptors had retractable claws? Some scientists believe they used their claws not only for hunting but for climbing trees too! Velociraptors also earned the nickname "speedy thieves" from the Latin meaning of their name: "velox" for swift and "raptor" for robber.



RED OBSIDIAN: Known as "nature's glass" due its glossy appearance, obsidian often forms underground near volcanic vents but can also form when lava comes into contact with water. Red obsidian is formed when trace elements, such as iron oxide, are mixed in.

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LAPIS: This blue discovery is a metamorphic rock, meaning it was modified by heat. When existing rocks and minerals are heated by magma and then cooled over time, lapis can form. It is often used as gemstones, beads and other decorative materials.



VELOCIRAPTOR SKULL: With a body the size of a turkey and birdlike feathers, you might think velociraptors had a beak too, but they actually had a narrow jaw with teeth. When those teeth grew dull or fell out, velociraptors grew new ones, just like modern-day crocodiles do!



SYENITE: You've uncovered a relatively rare rock! Similar to granite but much less common, syenite is formed when igneous rocks—rocks made from magma—partially melt. They're naturally found in only a few areas of the United States.

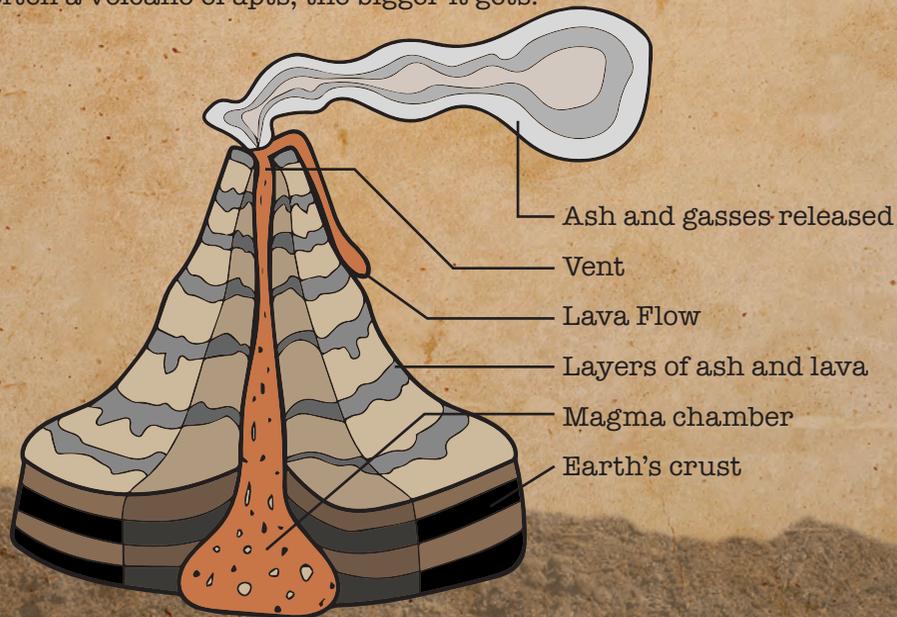


AMMONITE: Ammonite fossils are considered index fossils, because they are common and can be used to identify the time period of nearby fossils. While many ammonites were small in size, the largest ammonite fossil found to date was over 6 feet long!

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HOW ARE VOLCANOES FORMED?

The Earth's crust is a puzzle made up of giant pieces called tectonic plates. These plates are constantly moving, and when they collide, they can form mountains. The mountains that have very hot, melted rock called magma, beneath them are known as volcanoes. When pressure builds up beneath the Earth's surface, the magma shoots up and out of the volcano, causing an eruption. Lava—which is what we call magma that breaks through the Earth's surface—then coats the outside of the volcano. The more often a volcano erupts, the bigger it gets.



FUN VOLCANO FACTS

Impress your friends and family with your awesome volcano knowledge!

Q: Where does the word “volcano” come from?

A: Volcanoes were named after the Roman god of fire: Vulcan.

Q: How hot does lava get?

A: Lava can reach up to 2,282 degrees Fahrenheit. If you tried to use a glass thermometer to test the temperature, the glass would melt!

Q: What is the world's biggest active volcano?

A: Mauna Loa in Hawaii. It's over 13,600 feet tall! Scientists believe this volcano started erupting as early as 1 million years ago.

Q: Is Earth the only planet where volcanoes are found?

A: No, the biggest known volcano in our solar system is not on Earth at all...it's on Mars! This volcano called Olympus Mons, is 13 miles high and 373 miles wide. That's wide enough to fit over 6,500 football fields inside!

DID YOU KNOW?

The Ring of Fire is a belt in the Pacific Ocean that contains over half of the world's volcanoes. There are over 450 volcanoes just in this region!

WARNING:

This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Only for use by children 8 years of age or older. Keep small children and animals away from experiments. This kit must only be used under the strict supervision of adults who have familiarized themselves with the experiments and safety precautions state in the instruction booklet.

Caution! Do not allow chemicals to come in contact with any part of the body, particularly the mouth and eyes.



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