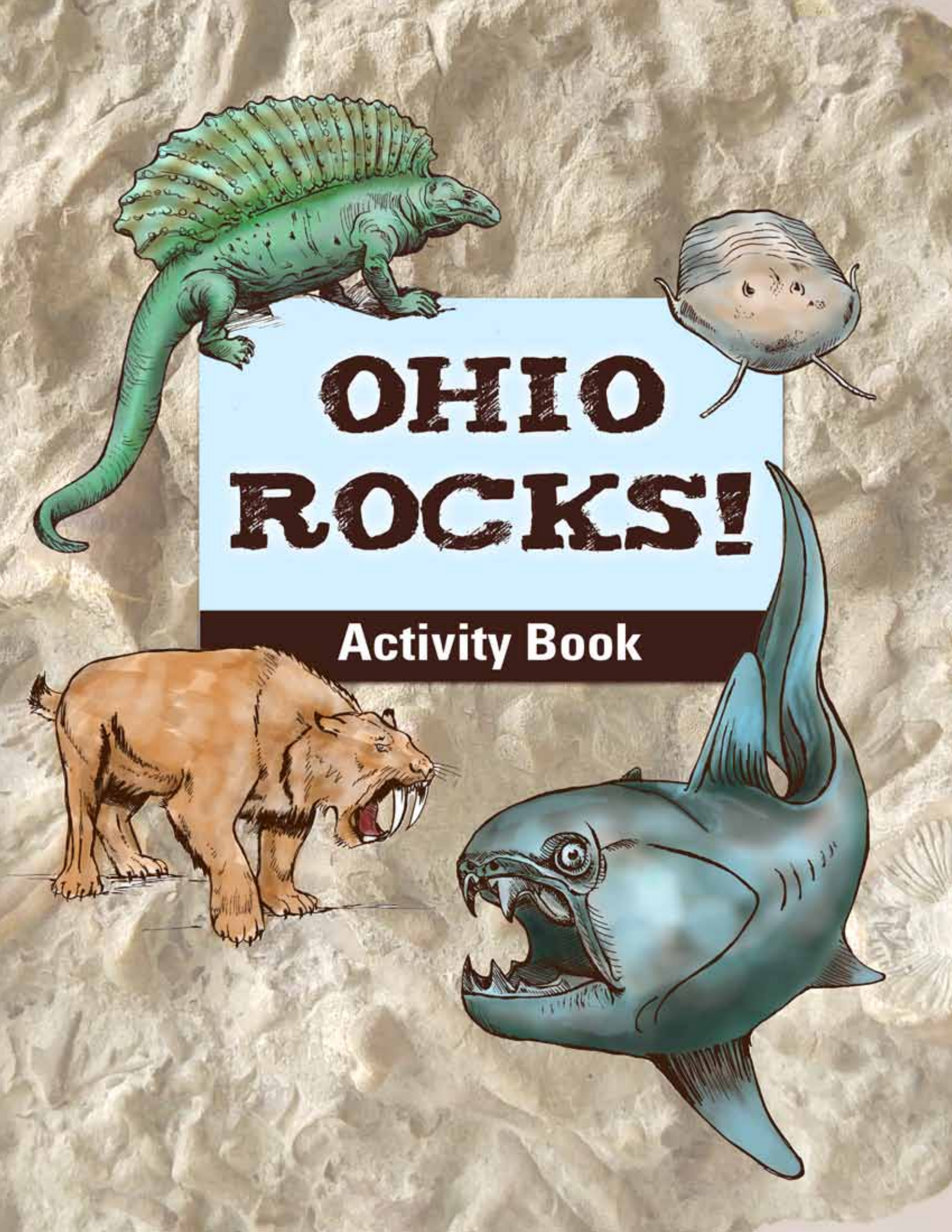

OHIO
ROCKS!
Activity Book

Content Development by Chuck Salmons and Madge Fitak

For more educational resources, visit the Division website:
ohiogeology.com

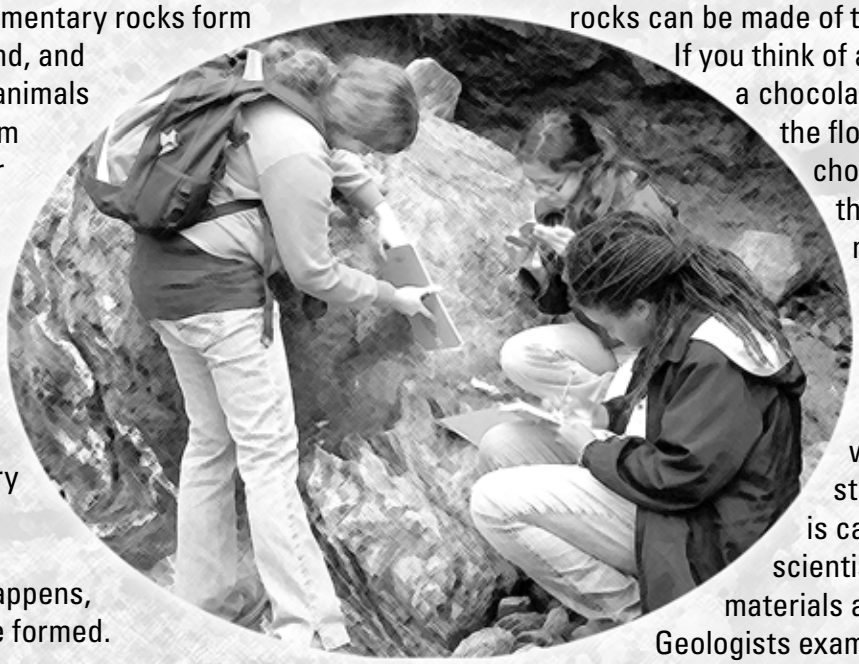
Have you ever looked closely at a rock? Did you see striking patterns or beautiful colors in it? Was it dull or did it sparkle? Did it fall apart easily or was it very hard? Have you ever wondered where rocks come from or how they formed? If so, then turn the page to begin exploring...

Color the logo above to make it look like your favorite rocks.

GETTING TO KNOW OHIO'S ROCKS

You may not know it, but rocks are very important to us. They tell us the story of how the land around us was formed. And rocks are used to make products that are found in almost every home and used by us every day.

There are three kinds of rocks: *sedimentary, igneous*, and *metamorphic*. Sedimentary rocks form from layers of mud, sand, and remains of plants and animals that settle to the bottom of seas and lakes. Over time, these soft layers harden into rocks. Igneous rocks form when hot, molten rock called *magma* cools very quickly and becomes solid. Sometimes sedimentary and igneous rocks are changed by heat and pressure. When this happens, metamorphic rocks are formed.



Most of Ohio's rocks are sedimentary rocks that we find at or near the land surface. These rocks include *clay, shale, limestone, sandstone,* and *coal*. They are mined to make everyday products. In some parts of Ohio, the rocks are not visible because they are covered by soil. This soil is removed so that the rocks can be mined.

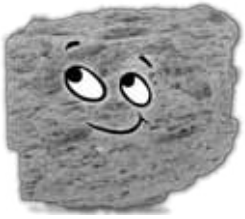
Some of Ohio's most important rocks are very deep below ground where we can't see them. These rocks are mostly igneous and metamorphic rocks that over time have shaped the way the land looks today. But some sedimentary rocks also are found underground. For example, salt is mined from the ground beneath Lake Erie. And other sedimentary rocks that are deep below ground produce oil and gas.

All rocks are made of *minerals*. Minerals are made of the same substance throughout and take the form of *crystals*, which come in many different shapes. But rocks can be made of two or more minerals. If you think of a rock as being like a chocolate chip cookie, then the flour, butter, sugar, and chocolate used to make the cookie are like the minerals.

Earth is made of many different kinds of rocks and minerals, as well as oil, gas, water, and soils. The study of these materials is called *geology*, and the scientists who study these materials are called *geologists*. Geologists examine rocks very closely to understand how they were formed and how they have changed over time. The science of geology can also help us find new uses for rocks and minerals.

Geology allows us to explore our world in exciting ways. The activities in this book will give you an opportunity to learn more about Ohio's rocks, where they came from, and the many different ways that we use them, just like a geologist.

So, have fun getting to know Ohio's rocks. Let's get started!



sedimentary

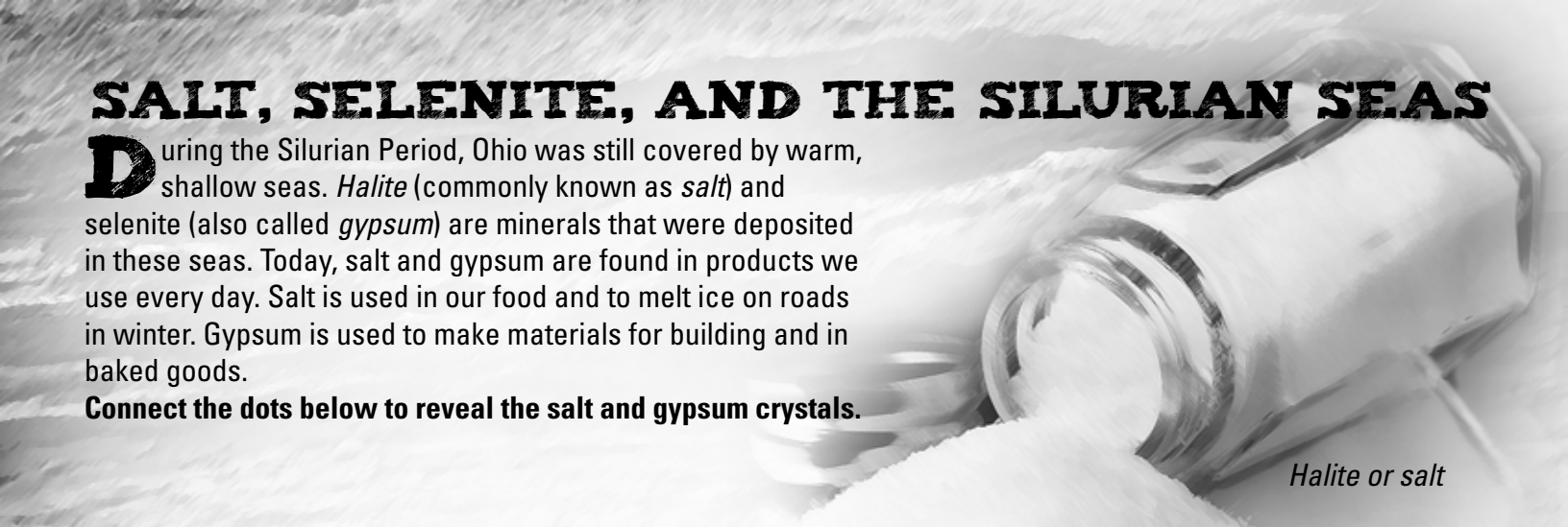
metamorphic

igneous

SALT, SELENITE, AND THE SILURIAN SEAS

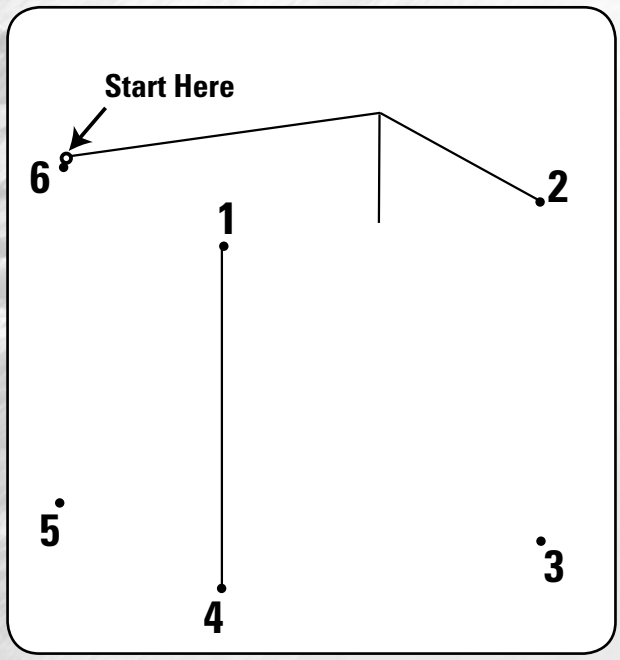
During the Silurian Period, Ohio was still covered by warm, shallow seas. *Halite* (commonly known as *salt*) and selenite (also called *gypsum*) are minerals that were deposited in these seas. Today, salt and gypsum are found in products we use every day. Salt is used in our food and to melt ice on roads in winter. Gypsum is used to make materials for building and in baked goods.

Connect the dots below to reveal the salt and gypsum crystals.

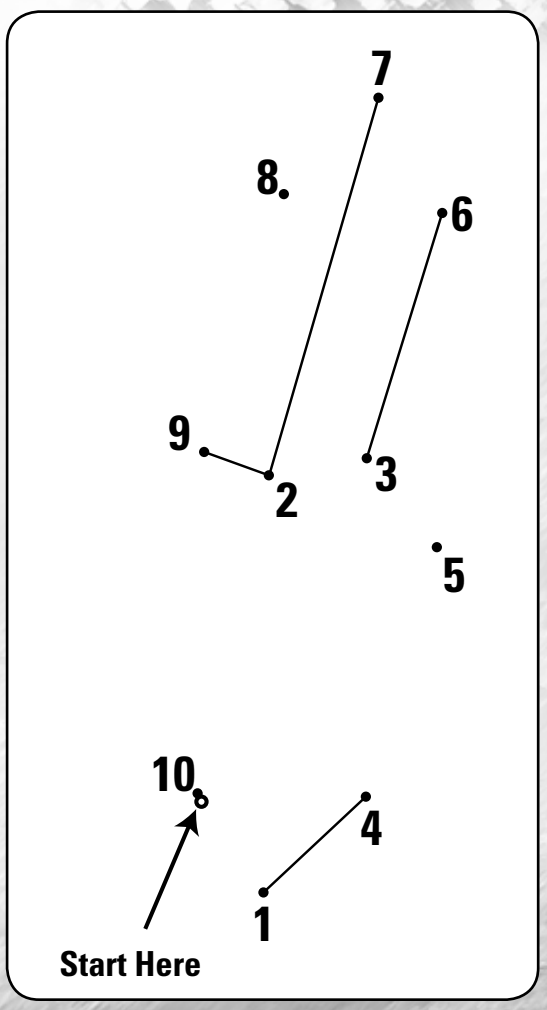


Halite or salt

HALITE



SELENITE



Selenite or gypsum

OHIO IN THE AGE OF FISH

The seas that covered Ohio during the Devonian Period were full of amazing creatures. But this time period is known as the Age of Fish because of the many kinds of fish that lived in these seas. One of the most famous is *Dunkleosteus*, a large fish that grew up to 30 feet long and had the strongest bite of any fish - even stronger than the Great White sharks that live today.

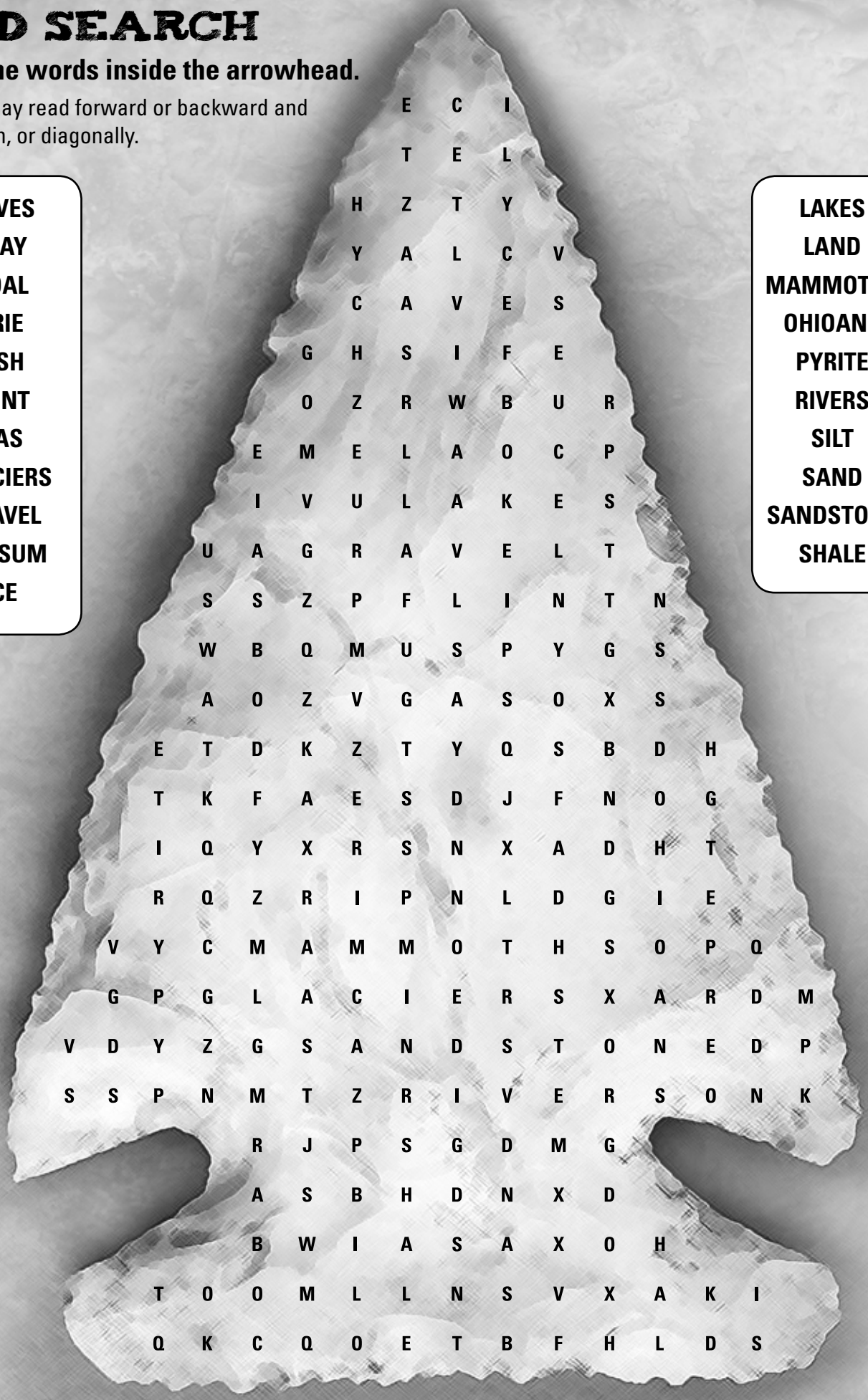
Color the scene below to bring the *Dunkleosteus* to life!

WORD SEARCH

Look for the words inside the arrowhead.

The words may read forward or backward and across, down, or diagonally.

CAVES
CLAY
COAL
ERIE
FISH
FLINT
GAS
GLACIERS
GRAVEL
GYPSUM
ICE
LAKES
LAND
MAMMOTHS
OHIOANS
PYRITE
RIVERS
SILT
SAND
SANDSTONE
SHALE



CALCITE

DOLOMITE

CELESTINE

PYRITE

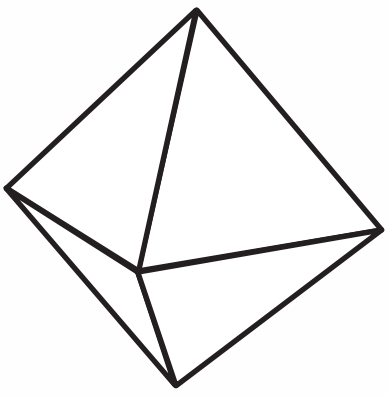
SPHALERITE

CRYSTALS ARE COOL

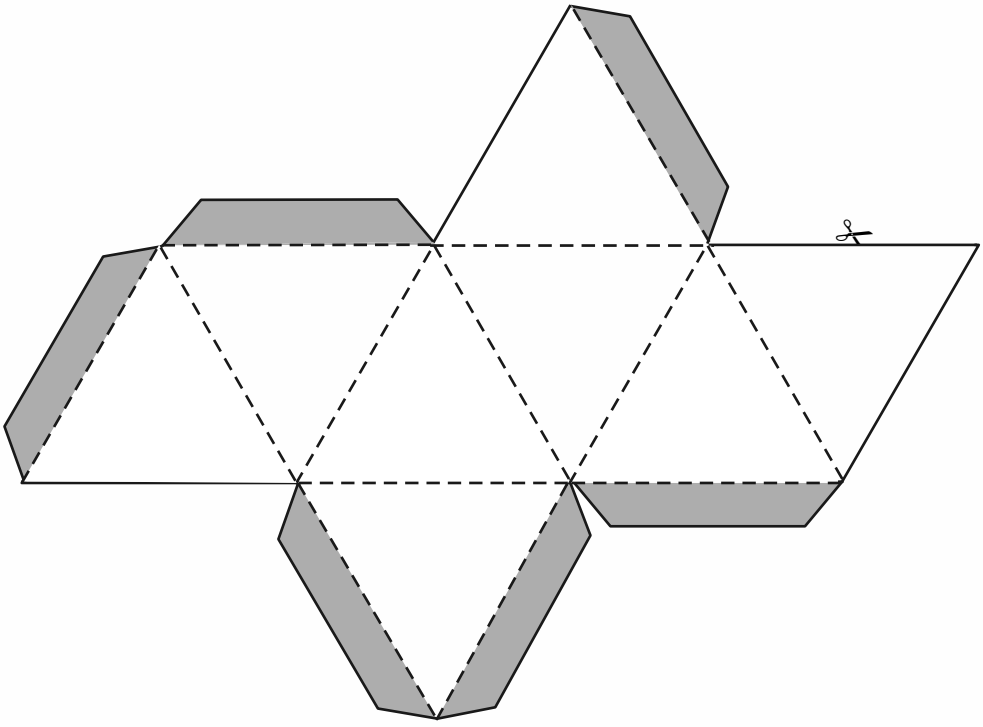
Minerals come in the form of *crystals*, and crystals can take many different shapes and colors. Sometimes minerals come in more than one crystal shape. Minerals common in Ohio include calcite, fluorite, quartz, celestine, dolomite, sphalerite, and pyrite. Pyrite is sometimes referred to as "fool's gold" because of its appearance, which is similar to real gold.

Color the shapes, and then cut them out along the solid outer lines. Then fold along the dotted lines, and glue the shaded flaps to make models of crystals common in Ohio.

octahedron crystal



PYRITE

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