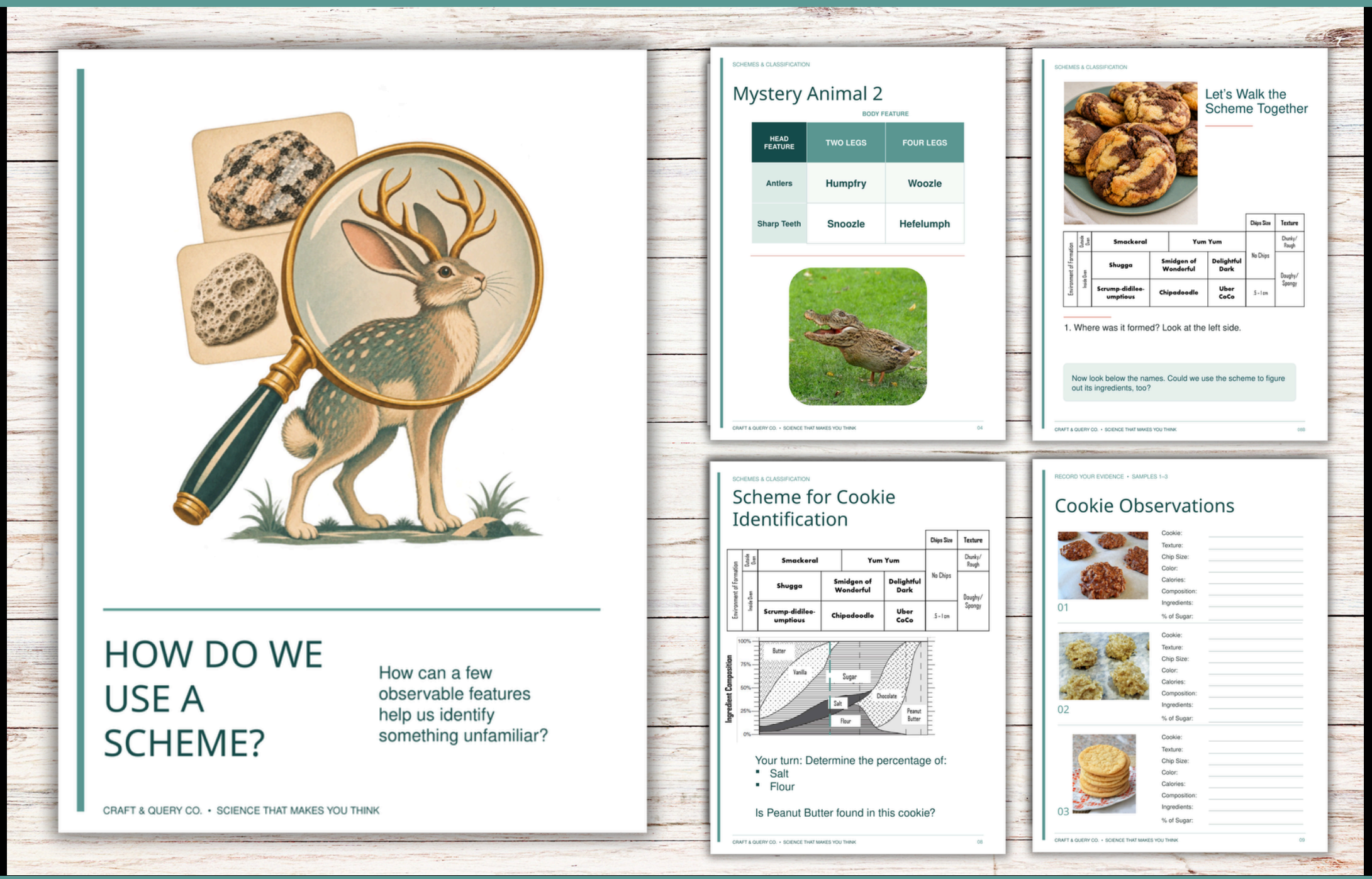
From Cookies to IGNEOUS ROCKS

2 Days

A Recipe for Rock Identification That Works



AN INVESTIGATION BY ALYSE – Craft & Query Co.

The Overview

An igneous rock identification scheme can be pretty overwhelming the first time students encounter it. There's color, texture, crystal size, mineral composition, formation environment...and suddenly students are trying to learn a whole new vocabulary while navigating a complicated chart. It's a lot to take in at once!

That's why this lesson takes a rather delicious detour. Students begin with a simple classification scheme to identify some delightfully strange imaginary animals. Then come the cookies. **But here's the clever part: the cookie identification chart is actually the igneous rock identification scheme in disguise!** The structure and reasoning are the same, but familiar cookie characteristics and ingredients take the place of unfamiliar rock properties and minerals.

Students learn to navigate the scheme, distinguish observable characteristics from information the chart provides, and even calculate ingredient percentages using my "Super Magical Measuring Paper." By the time the actual igneous rock scheme appears, students already know how it works! They can focus their attention on the geology instead of trying to learn the chart and the science simultaneously.

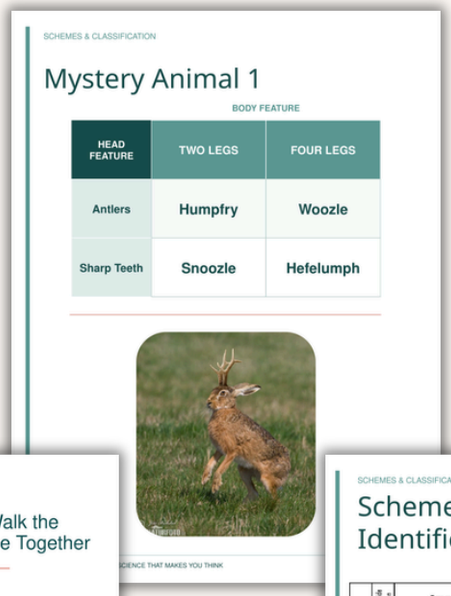
And identifying rocks is only part of the lesson. Once students understand how to use the scheme, they begin exploring WHY rocks have different crystal sizes. A hot cocoa comparison helps them reason about cooling rates, while a quick alphabet-writing activity models the relationship between time and crystal growth.

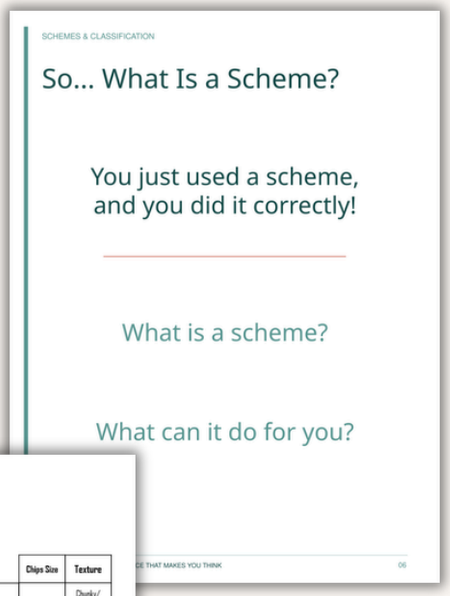
Finally, students bring everything together at mystery rock stations. They use observable characteristics, the classification scheme, and their understanding of cooling to identify rocks and explain how they formed. The same thinking they practiced with cookies now helps them uncover the history of real rocks.

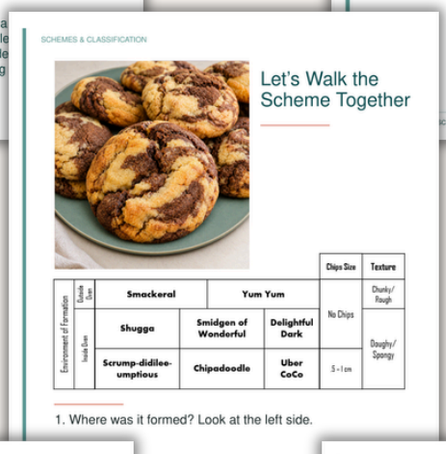


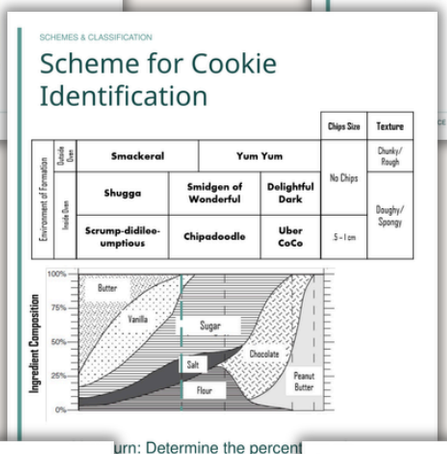
Start with Cookies!

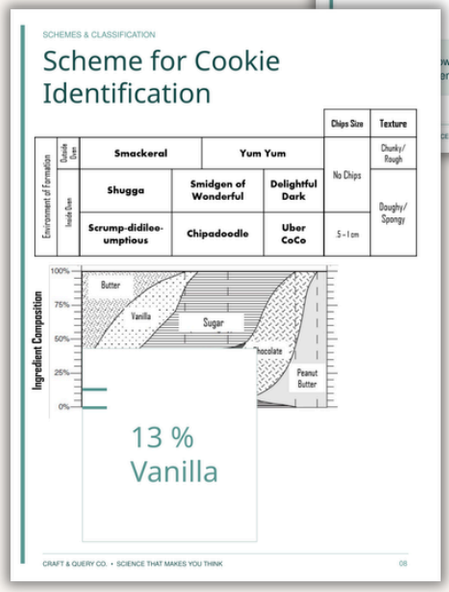


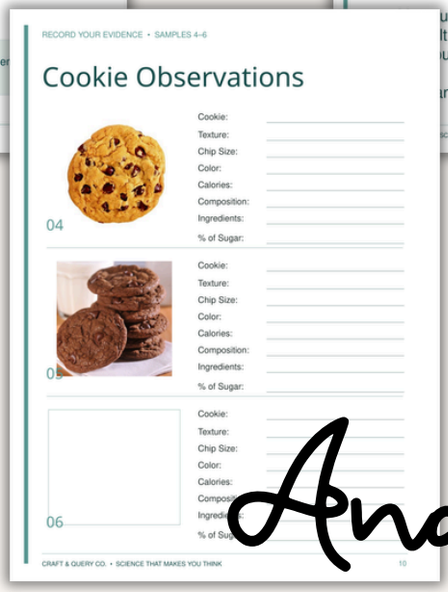


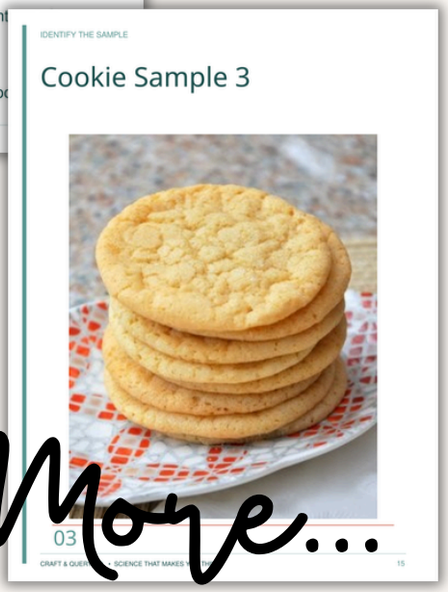












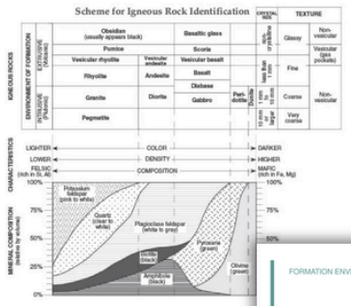
And More...

Then Rocks...

IGNEOUS ROCK IDENTIFICATION

Rocks don't come with labels, either

The cookies were practice. Now let's try the same detective work with igneous rocks. Fewer calories. More minerals.



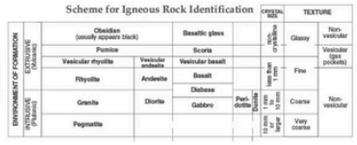
Reference: NYS Physical Setting/Earth Science Reference Tables (2011), p. 6

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IGNEOUS ROCK IDENTIFICATION

Three Clues to a Rock's Name

We use three things we can observe to find an igneous rock's name in the scheme.



Three clues help us find the name:

COLOR: lighter, darker, or mixed
CRYSTAL SIZE: fine, coarse, very coarse
TEXTURE: glassy, vesicular, non-vesicular

IGNEOUS ROCK IDENTIFICATION

Color Can Be Tricky!

Pink, dark, salt-and-pepper... and then there's obsidian. What do you notice?



RHYOLITE
Pink



BASALT
Dark



ITE
and dark



OBSIDIAN*
Black and glassy

FORMATION ENVIRONMENT | THINK FIRST

The Great Hot Cocoa Cool-Down

Two servings of hot cocoa start at the same temperature. One is in an open mug. The other is sealed inside a thermos.



OPEN MUG
to the air

INSULATED THERMOS
Protected from

e cools faster? What is the therm
differently?

ALPHABET CRYSTAL SIMULATION

We're Growing Crystals... With Letters?

Yes, the alphabet. Trust me for a minute. Each letter is one more building block added to ONE imaginary crystal.

A B C D E F G...

1. Write the alphabet in ALL CAPITAL LETTERS as fast as you can.
2. Start at A again for every round.
3. The second I say STOP, your pencil freezes.
4. If you reach Z, start again at A.

letters about the same size. We're r
FAR your crystal grows!

FORMATION ENVIRONMENT | MAKE AN INFERENCE

Crystals Tell a Story

We can't watch most igneous rocks forming. But we CAN look at the crystals they left behind.



GRANITE
Large visible crystals



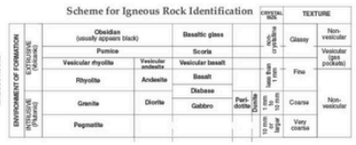
BASALT
Crystals too small to see

Which rock probably cooled underground? Which cooled at the surface? Use your alphabet experiment as evidence.

FORMATION ENVIRONMENT | USE THE SCHEME

Now Check the Scheme

Find GRANITE and BASALT. Then trace each one to the "Environment of Formation" labels on the left.



Do the EXTRUSIVE and INTRUSIVE rows match your predictions?

Slow cooling underground: mor LARG stals.
Fast cooling at the surface: S ALL cr ass.

NYS Physical Setting/Earth Science Reference Tables (2011), p. 6

IGNEOUS ROCK IDENTIFICATION | GUIDED PRACTICE

The Name Was Only the Beginning

Our mystery rock is...

GRANITE



WHAT DID WE NOTICE?

Mostly light-colored
Crystals we can see
Coarse, interlocking texture

KEEP FOLLOWING THE SCHEME

Where did this rock form? Which minerals make up most of it?

Ca s LARGE crystals cool? me investigation?

And More...

The Rock Stations

ROCK 01



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ROCK 02



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ROCK 03



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ROCK 04



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ROCK 05



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ROCK 06



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ROCK 09



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ROCK 14



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ROCK 16



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And More...

Scaffolded. Logical. Hands-On.

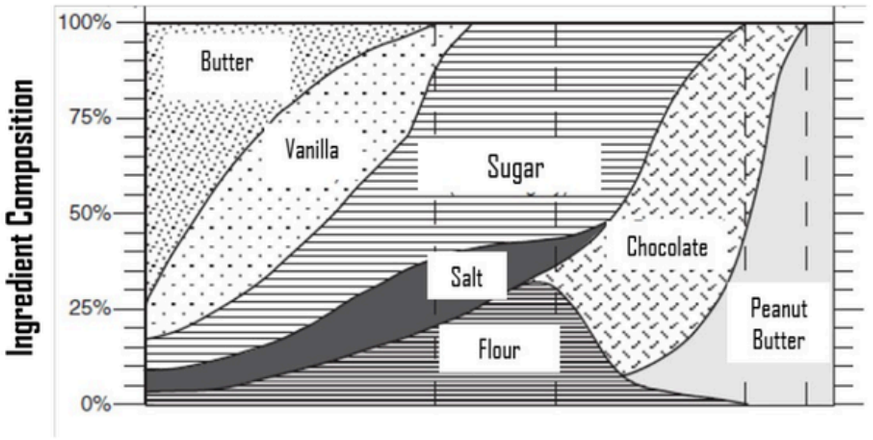
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Cookies Have Ingredients, Too

PART C • MEASURE & INFER

Follow the cookie's position straight down through the composition graph. Use the measuring paper to estimate each ingredient.

INGREDIENT COMPOSITION



OUR CLASS EXAMPLE

Sugar: _____ Vanilla: _____

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ock Mystery Stations (Slide 47)

RD SHEET • ROCKS 01–04

erve the rock, then use the scheme. List its minerals and identify which mineral upies the largest percentage at that position in the graph.

OCK 1

Color: _____ Crystals: _____

Texture: _____

Rock name: _____ Formed: _____

Minerals present: _____

Most abundant mineral: _____

OCK 2

Color: _____ Crystals: _____

Texture: _____

Rock name: _____ Formed: _____

Minerals present: _____

Most abundant mineral: _____

OCK 3

Color: _____ Crystals: _____

Texture: _____

Rock name: _____ Formed: _____

Minerals present: _____

Most abundant mineral: _____

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How Do We Use a Scheme?

PART A • MYSTERY ANIMALS

Name: _____ Period: _____

For each mystery animal, record the two features you observe. Then use the scheme to find its name.

HEAD FEATURE	BODY FEATURE: TWO LEGS	BODY FEATURE: FOUR LEGS
Antlers	Humpfry	Woozle
Sharp Teeth	Snoozle	Hefelumph

Why Teachers Love This

- A little station setup up front, then reusable investigation materials.
- Makes a complicated rock classification scheme far less intimidating.
- Complete lesson with slides, notes, models, and detailed teaching guidance.

I thought at first the cookie part was kind of random - fun for sure, but random. But when we got to rocks, I was like, oh, I already know how to do this!
~Why Kids Love It

Whats Included

- Step-by-step teacher guide
- 20-slide animal and cookie introduction
- 5-page animal and cookie student notes
- 5 color cookie station posters + measuring-paper handout
- 21-slide igneous rock lesson
- 10-page igneous rock student notes
- Igneous rock scheme cheat sheet
- 16 double-sided mystery rock cards (two layout options)

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Hope to See You There!

~ Anya