March 13, 2020

Dear Parents/Guardians,

Our school is following guidelines provided by the State of Ohio and the Ohio Department of Education and the Governor as it relates to exercising caution in regards to the COVID-19. These agencies have advised us to create school activities for our students. You will find several activities and instructional suggestions for students to utilize during this school closure. These activities are planned within a three week time frame. Feel free to complete the activities at your own pace. Our goal is to maintain student skills that have already been taught this school year. With this practice, students will be able to return to school and pick-up where we left off.

If you have any additional questions or comments, please feel free to contact us through email or Class Dojo.

Sincerely,

Grade 4 Team

Mrs. Adair Social Studies/Science, ritt_adair@tccsa.net
Mrs. Cunningham, Intervention Specialist, ritt_jcunningham@tccsa.net
Ms. Fach Intervention Specialist, ritt_afach@tccsa.net
Mrs. Milosevich Math, ritt_metzger@tccsa.net
Mrs. Rahe English Language Arts/Reading, ritt_arahe@tccsa.net

Google Classroom
To join Google Classroom you do not need a chromebook. You just need a computer or laptop with internet access. Then, you may go to the Rittman Elementary website -- Student -- Google Classroom. Your child already has an email and password.

Example Student Name: Henry Spencer
Graduation Year: 2028
Email: 28hespencer@mail.rittman.k12.oh.us
Password: Your child should know their own password. If not, please email or Dojo us.

Rittman Elementary Website: http://www.rittman.k12.oh.us/es
Google Classroom: http://classroom.google.com

Grade 4 ELA - Mrs. Rahe

I will check my email, dojo, and Google Classroom periodically! See you online! :)

- Sunshine Work (following directions and review skills)
- Notice and Note Log (notice signposts on log or Google Classroom)
- Writing Typing Prompts (Google Classroom, create doc and label each date)
- Novel Study Choice Board with any book (Google Classroom, create docs or slides)
- i-READY (students have their own username and password, access lessons daily)
  https://login.i-ready.com/
- Reading Passages
- Review vocabulary words (create pictures, sentences, etc.)
- Quizizz (no login required, student may use their own email and find own quizzes related to vocabulary)
  https://quizizz.com/
- Spelling Words (practice spelling words)
- Extension Project: Paper Bag Character Study (follow directions in the pack)
- Epic (online books)
  https://www.getepic.com/sign-in

Grade 4 ELA - Intervention Specialist - Ms. Fach

- Spiral ELA Review- review of phonics skills
- Fix-Up Sentences- Fix the errors in the sentence and write it correctly
- Build 7-up Sentences- Rewrite each sentence adding details, try to include at least 7 words
- Reading Passages and Questions
- Daily Quick Write
- Epic (books online) https://www.getepic.com/sign-in
- i-Ready Lessons (Students have their own username and passwords)
  - https://login.i-ready.com/
- List of Sight Words
  - Practice: write, spell, read, type in a document in google classroom
- Text Structure Review: Compare/Contrast & Problem/Solution

4th Grade Math
Review Items to Access:

- **Mathantics.com**

When on the site you can watch any video on Numeracy, Arithmetic, Algorithms (Part 1 and Part 2), Fractions, Fraction Arithmetic, and Mixed Numbers.

- **OTHER ONLINE MATH LEARNING/PRACTICE OPTIONS:**

- **https://login.i-ready.com/**
- **https://play.prodigygame.com/**

PAPER/PENCIL WORKSHEETS:

- **COMPLETE ANY/ALL THAT YOU CAN IN THE PROVIDED MATH PACKET**

Mrs. Adair: Science and Social Studies

Science Activities:

1. Go to www.schooltube.com

   Type in Bill Nye and a topic (see the list below) in the search bar. Enjoy the video. These videos will review topics we have covered in science.

   Earth Processes: mountains, volcanoes, caves, sinkholes, glaciers, valleys, plains, hills, trenches, plateaus, barrier islands, continental drift, seafloor spreading, Theory of Plate Tectonics

   Matter: states of matter, Law of Conservation of Matter, physical and Chemical changes, atoms

   Energy: static electricity, current electricity, conductors and insulators, Electrical circuits, switches, renewable and nonrenewable energy sources, Fossil fuels and alternative energy resources

2. Go to www.studyjams.scholastic.com

   Click on Science and explore the following topics:

   Landforms, volcanoes, earthquakes, igneous rocks, sedimentary rocks, metamorphic rocks, fossils

   Play the video and take the quiz at the end. Check your answers

3. Go to www.mysteryscience.com

You will have to sign up for free lesson access. Once you are signed up, click on any of the following for a lesson and activities. Hard copies of worksheets will be attached.

Work of Water

Birth of Rocks

Energizing Everything

4. Go to https://classroommagazines.scholastic.com/support/learnathome.html

Both science and social studies material can be found here. Choose whatever interests you at the 4th grade level! Have fun!

Social Studies Activities:

I have listed some of the topics that we have studied this year and will include some practice samples for you to work on. I would strongly suggest having a little fun and looking for videos and information about these topics on some of the following websites.

www.youtube.com www.schooltube.com

***I am also including, as a hard copy, all the materials needed to complete work on the French and Indian War Escape Room we began on Thursday. Realizing most students didn't take this home with them at the day's end, you can just start over if you like!

**There is also a packet of Ohio Map activities for you to practice.

Topics we have studied:

Groups of people that have lived in Ohio:

- **Prehistoric people: Paleo, Archaic, Woodland, Fort Ancient People**
- **Historic People: Delaware, Miami, Ottawa, Seneca, Shawnee, Wyandot**
- **The French and Indian War**

Technological innovations that originated in Ohio:

- **The lightbulb**
- **The phonograph**
- **The traffic light**
- **The Gas mask**
- **The cash register**

Map Skills:

- **Using a compass rose**
- **Using map scale**
- **Labeling**
- **Physical and political maps**
- **Longitude and latitude**
- **Interpreting maps**

TOP SECRET

You are among a select group chosen to carry out a secret mission. Your mission, should you choose to accept it, is a top secret war investigation.

The Case:

Colonel Washington and his troops are struggling at their new fort called Fort Necessity. They did not evaluate the land before building. The fort is constantly flooding and supplies are getting ruined. In an effort to save the supplies, Colonel Washington has ordered his troops to find a safe, dry, secret hiding spot in the woods.

Washington's troops find a large hollowed out tree covered by moss in the deep woods. They decide to hide their supplies in the tree where no one will see them. They were told to write down the coordinates of the hiding spot so the supplies can be located in the future or in poor weather conditions.

Several nights have passed and French troops can be heard in the far off distance. Washington commands his troops to get the supplies from the secret location to prepare for battle. Soldiers search for hours but they can not find the tree where they hid the ammunition. No one wrote down the coordinates and now a few soldiers are lost in the middle of the woods. How far east should they go? How many feet north?

Your job is to find the 4 digit coordinates which will lead the General to the supplies and protect them from invasion. You will use a code name and solve the puzzles by decoding clues. Your code name is your favorite dessert PLUS the first letter of your FIRST name found below.

My Code Name is _____

A= Avalanche	F= Fire	K= Knight	P= Peacemaker	U= Undercover
B= Bolt	G= Goblin	L= Lightning	Q= Quest	V= Virus
C= Cyclone	H= Hurricane	M= Magic	R= Racer	W= Wind
D= Daredevil	I= Ice	N= Ninja	S= Storm	X= eXplorer
E= Energy	J= Jet	O= Oasis	T= Thunder	Y/Z= Zip

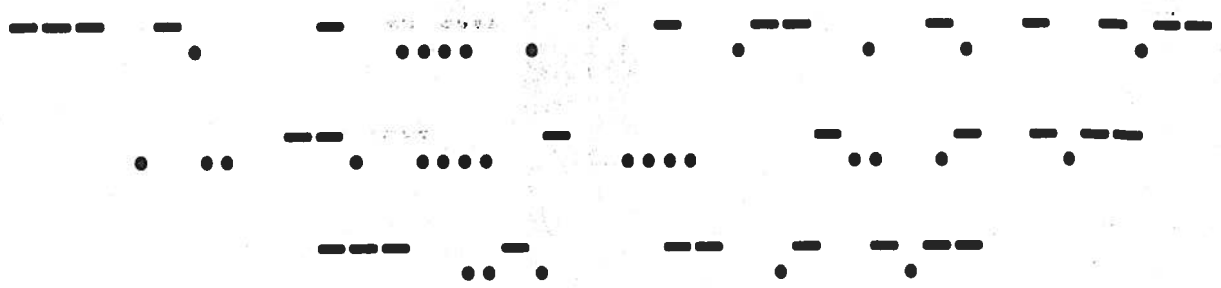
Clue # 1

- The name of the French and Indian War is a bit misleading. The war was not the French versus the Indians. The French and Indians were actually allies fighting on the same side.
- The French and Indian alliance fought against the British who paired up with a few different Indian tribes as well.
- France and Britain had been fighting in Europe but the battle had spread to North America. French and British colonists were living in America at that time.
- British Americans far outnumbered the French. Therefore, the French colonists relied on the local Indian people to help them fight the British.
- This war was an important event leading up to the Revolutionary War in the colonies.
- In America, the fighting was referred to as the French and Indian War. It was a part of the Seven Years' War which was a global war in Europe, happening in the same time period.
- The French and Indian War began in...

7	4	8	4	24	12	4	4	24	5	1	5	12	2	5	17	3	22	9	24	6		
4	24	6	4	6	1	24	7	4	8	4	24	12	4	4	24	7	1	25	12	2		
12	18	22	4	4																		

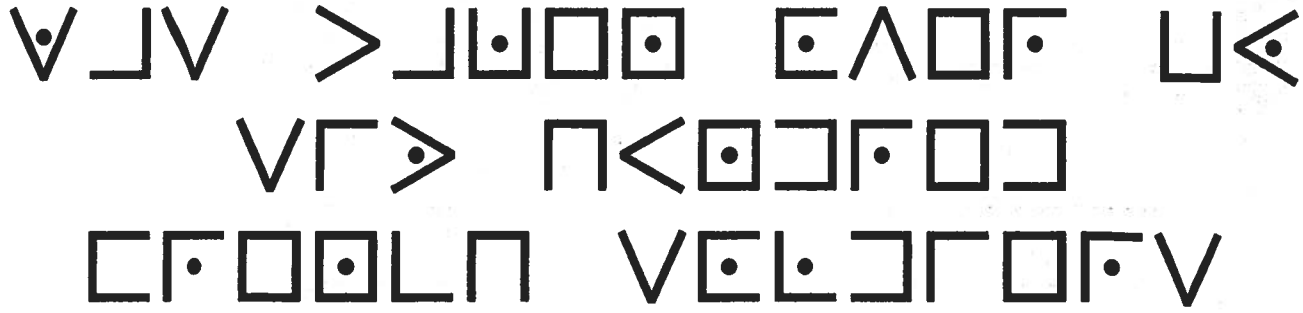
Clue # 2

- French colonists lived in the area currently known as Canada. During the time of the French and Indian War, the area was known as New France.
- The British and the French both claimed ownership of land between the Appalachian Mountains and the Mississippi River. Both countries wanted the land for trade and settlements. British colonies were already beginning to expand west.
- Claiming the land, the French built Fort Duquesne on the Ohio River.
  - France wanted control of the Ohio River but the British refused to allow that to happen.
- Due to the building of the fort, the first battle of the French and Indian War was the Battle of Jumonville Glen.
- George Washington, joined by forty men, led a surprise attack on Fort Duquesne.
- The French, led by Joseph Jumonville, returned fire using muskets but quickly surrendered.
  - This opening battle took place in 1754...



Clue # 3

- The battle of Fort Necessity was July 3, 1754.
- George Washington and 293 men put together a small, poorly built log fort which he called Fort Necessity. Unfortunately, the fort was built on low lying grounds that would often flood.
- Within days, hundreds of French soldiers surrounded Fort Necessity and forced Colonel Washington to surrender.
- He was sent back to Virginia to tell the British that the Ohio Territory was now French territory. The British were angry with the message and decided to respond with force.
- General Edward Braddock and Colonel Washington were again sent to takeover Fort Duquesne.
- The British marched in straight lines on their way to Fort Duquesne making it easy for the French and Indians to fire from behind trees, rocks or hills. Braddock was killed in the battle.
- The British were outnumbered and Washington told his troops to retreat back to Fort Necessity.
- From the woods, the French put heavy fire on Fort Necessity.
- Washington ordered his troops to fire back, but their aim was poor.
- Adding to the problems was a heavy rain that soaked the fort and gun powder.
- Fort Necessity...



Clue # 4

Hint: ⇨ then ⇩

- Multiple French, Indian and British battles took place over several years.
- In 1756, the French captured Fort Oswego and took 1,700 British prisoners captive.
- In 1757, the French also took Fort William Henry killing around 150 British soldiers.
- By 1758, Britain made peace with most of the Native American Indians who then began to end their alliance with the French.
- In 1759, the British claimed victory and occupied the French city of Quebec, Canada.
- In 1760, Montreal, Canada was captured by the British.
- France agreed to give all of its land in North America back to Britain and Spain agreed to give up Florida.
- The Treaty of Paris was signed, ending the French and Indian War on...

5231212434412415 1431331432

5431453133143131 33 5442351415

1432243131

4 Digit Coordinates

First number :

The number of French soldiers that took over Fort Necessity MINUS 596. _____

Second number :

The year the Treaty of Paris was signed MINUS 1761. _____

Third number :

What number is represented by "_ _ _ _ . " ? _____

Last number :

What number is the letter "S" in clue #1? _____

Four things I learned...

Write a 1-2 sentence summary from each clue. You must use complete sentences and your OWN words.

Clue 1: _____

_____

_____

Clue 2: _____

_____

_____

Clue 3: _____

_____

_____

Clue 4: _____

_____

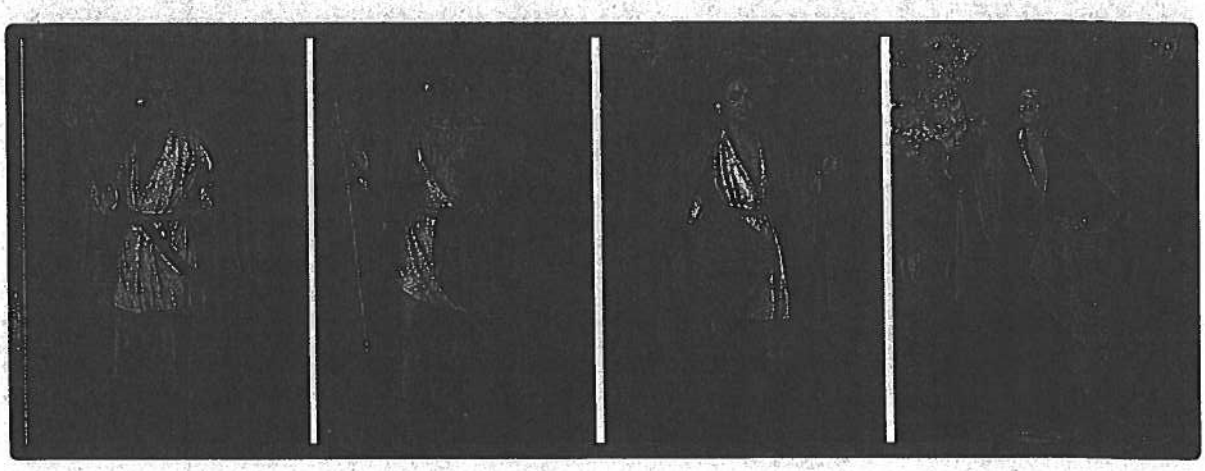
_____

A = 9	N =
B =	O =
C =	P =
D = 6	Q =
E = 4	R = 22
F = 5	S =
G =	T =
H =	U = 3
I =	V = 8
J =	W =
K =	X = 25
L =	Y = 2
M =	Z =

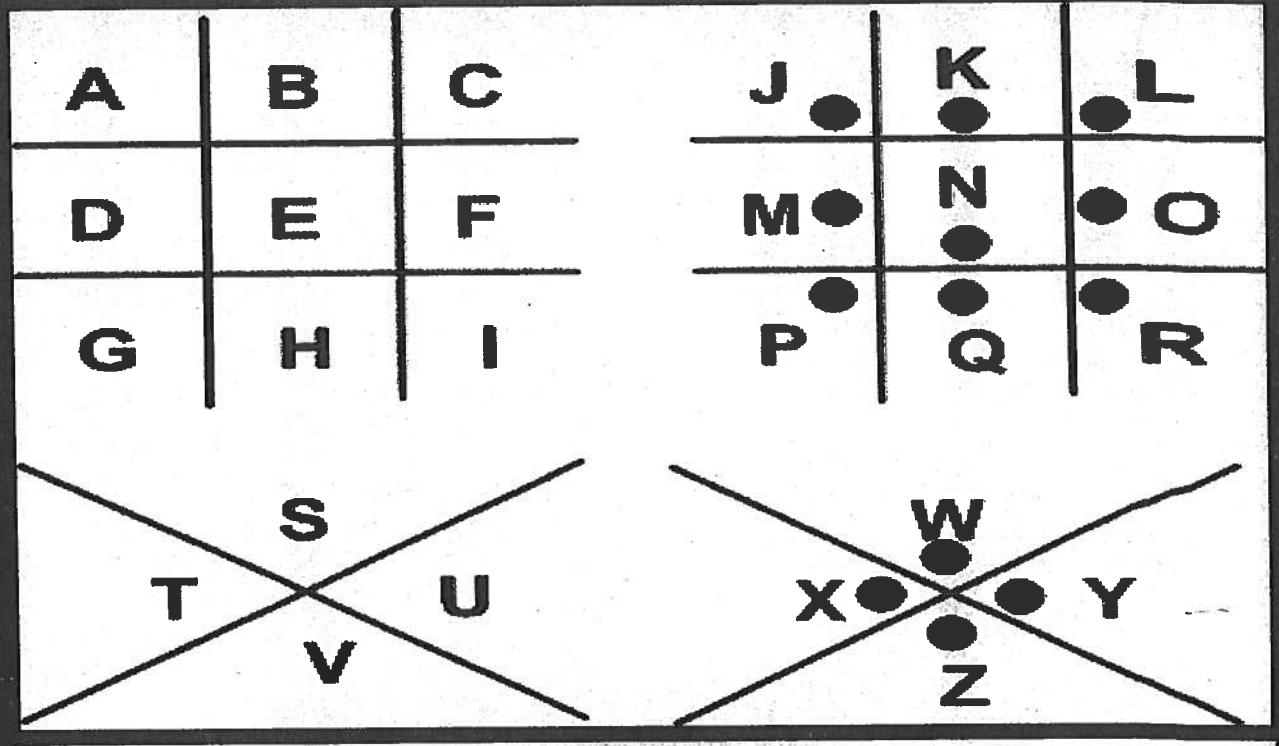
A	●	▬			
B	▬	●	●	●	
C	▬	●	▬		●
D	▬	●	●		
E	●				
F	●	●	▬		●
G	▬	▬			●
H	●	●	●	●	
I	●	●			
J	●	▬	▬		▬
K	▬	●	▬		
L	●	▬	●	●	
M	▬	▬			
N	▬	●			
O	▬	▬		▬	
P	●	▬	▬		●
Q	▬	▬		●	▬
R	●	▬		●	
S	●	●	●		
T	▬				

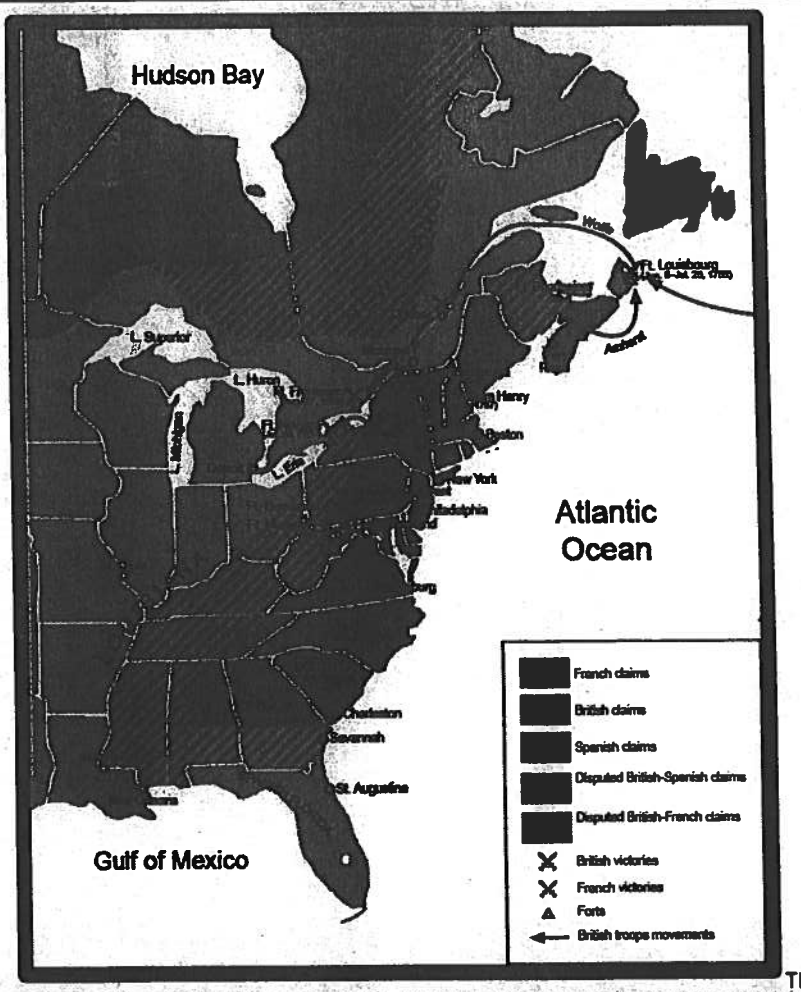
U	●	●	▬		
V	●	●	●	▬	
W	●	▬	▬		
X	▬	●	●	▬	
Y	▬	●	▬	▬	
Z	▬	▬	●	●	

1	●	▬	▬	▬	▬
2	●	●	▬	▬	▬
3	●	●	●	▬	▬
4	●	●	●	●	▬
5	●	●	●	●	●
6	▬	●	●	●	●
7	▬	▬	●	●	●
8	▬	▬	▬	●	●
9	▬	▬	▬	▬	●
0	▬	▬	▬	▬	▬



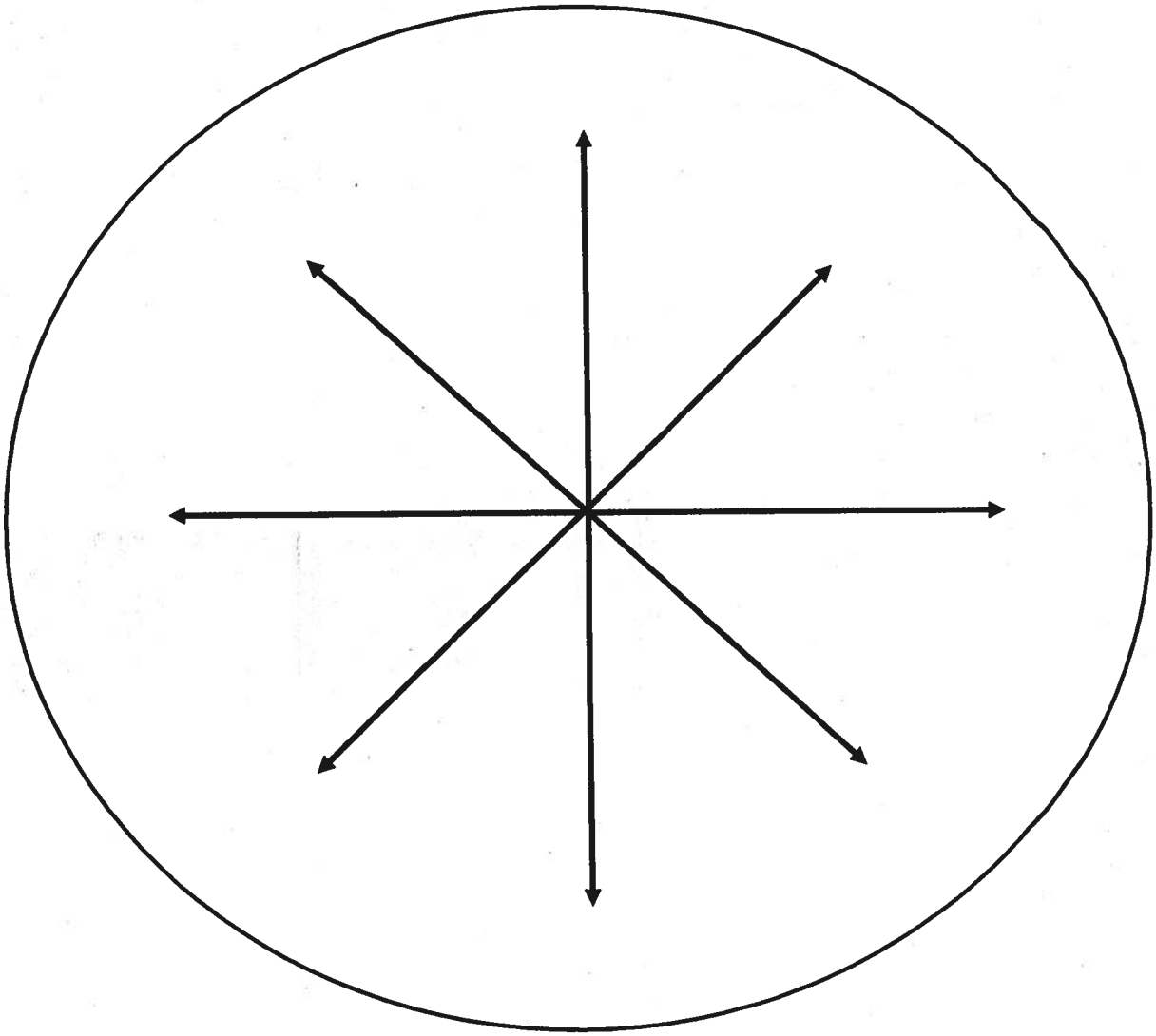
	1	2	3	4	5
1	D	B	E		C
2	K		H	I/J	F
3		P	N	O	M
4	T	R		Q	S
5		Z	X	V	W





Student Notes

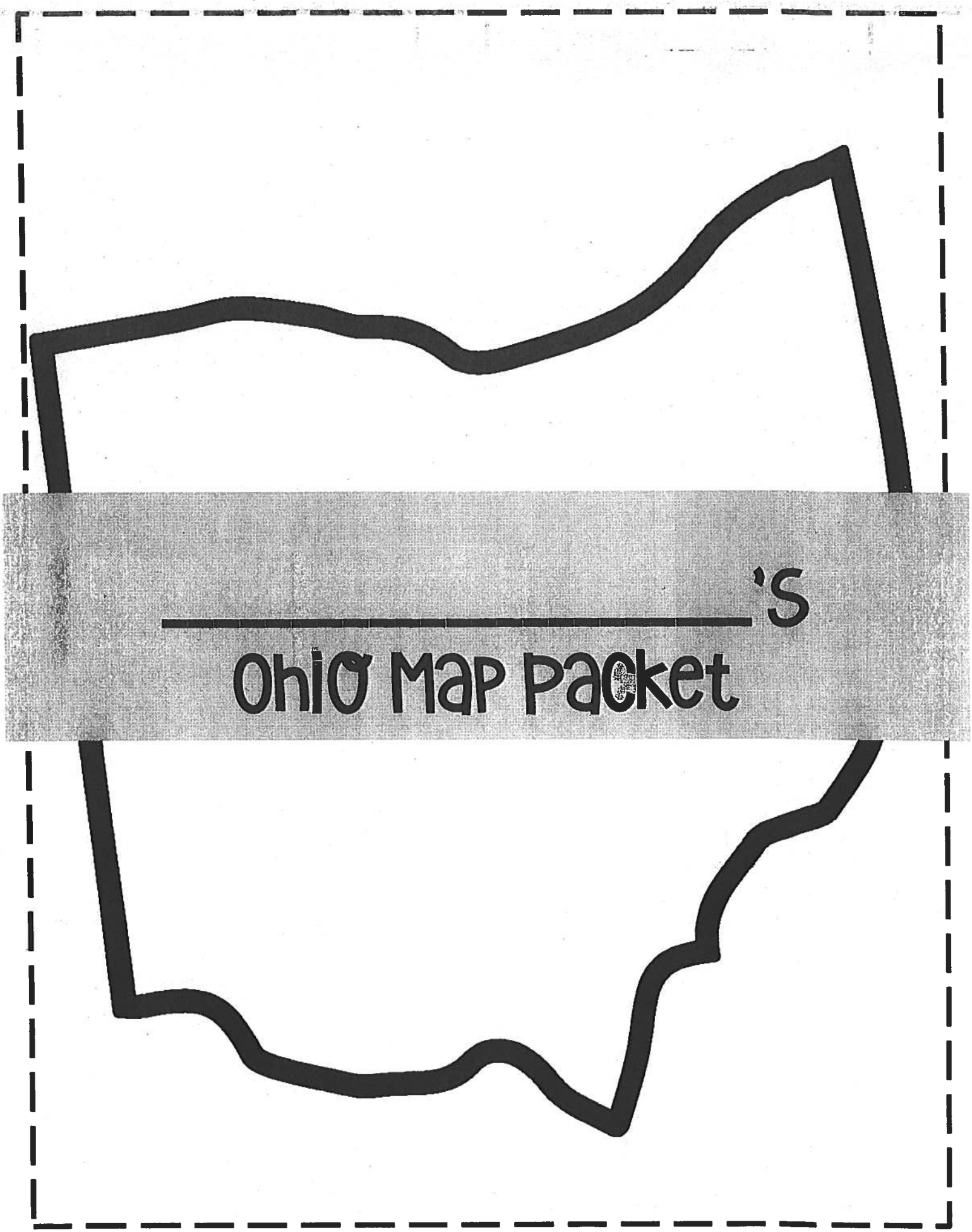
Directions: Label the compass rose below using **cardinal** and **intermediate** directions from the word bank to use as a support throughout this assignment.



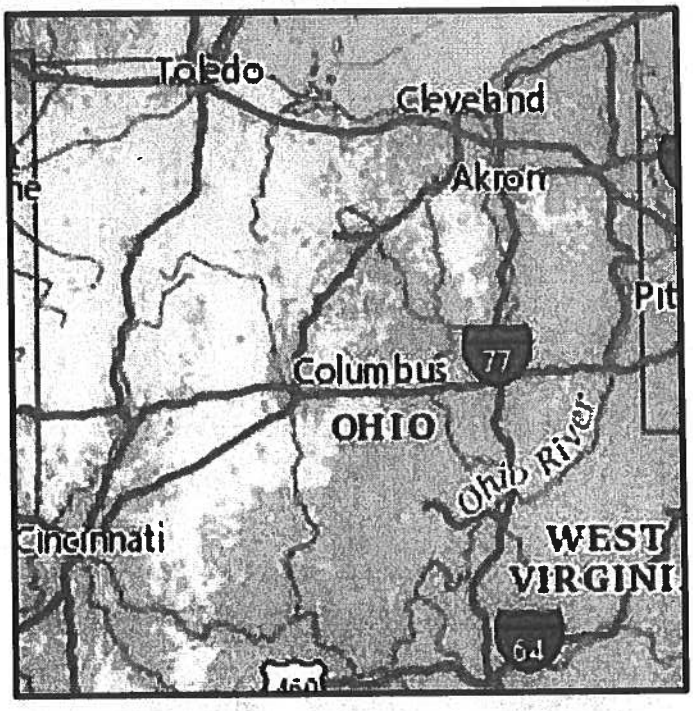
Word Bank

North	South	East	West
Northwest	Northeast	Southwest	Southeast

Scale shows relative distances on maps and can be used to determine how far locations are from one another. Use this information as you practice these skills in the activities that follow!



Map Skills Practice



Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Scale

_____ = 50 miles

Questions

1. What direction would you travel if you were to go from Cincinnati to Columbus? Is this a cardinal or intermediate direction?

_____

2. What direction would you travel if you were to go from Columbus to Toledo?

_____

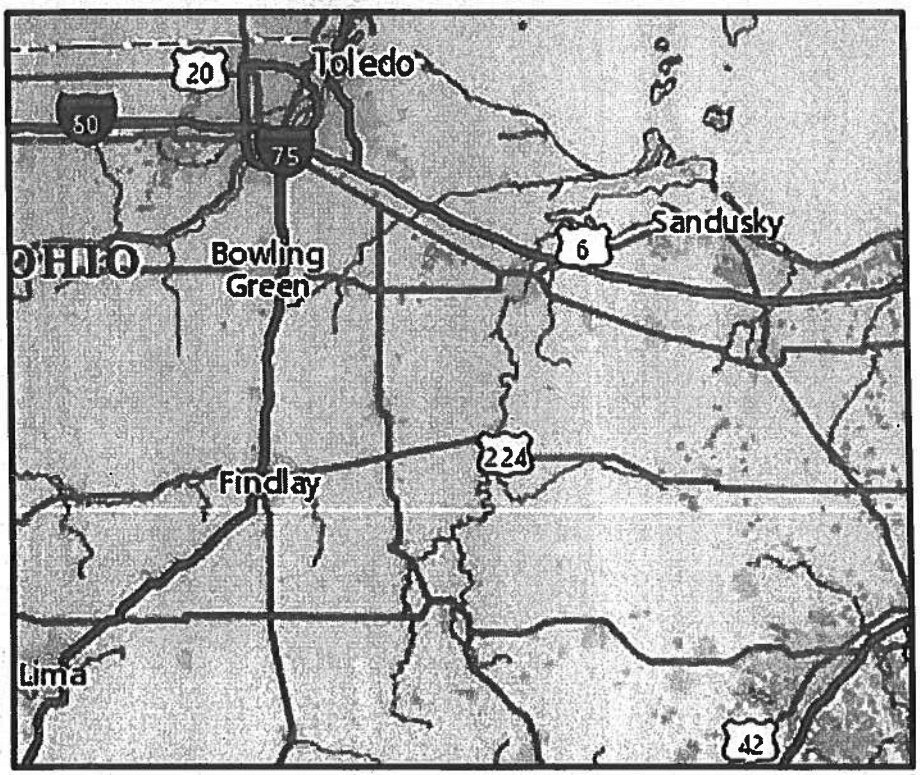
3. What is the relative direction of Akron to Toledo?

_____

4. About how far is Akron from Columbus?

_____

Map Skills Practice



Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Scale

_____ = 20 miles

Questions

5. What direction would you travel if you were to go from Findlay to Lima? Is this a cardinal or intermediate direction?

_____

6. What is the relative direction of Bowling Green to Findlay?

_____

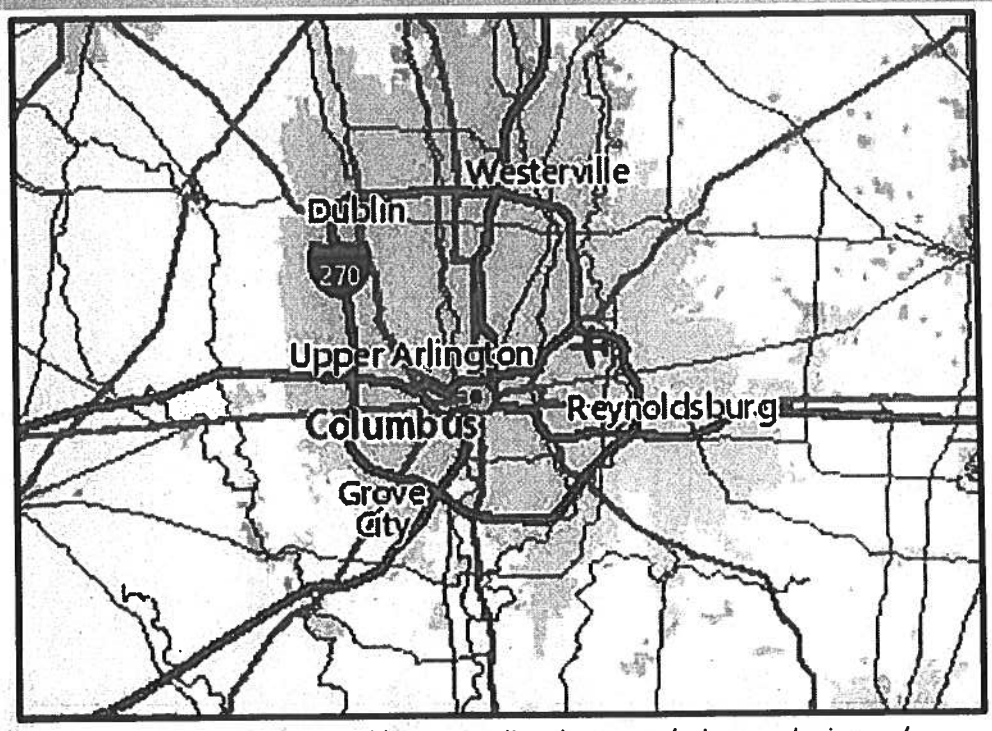
7. What is the relative direction of Sandusky to Toledo?

_____

8. About how far is Sandusky from Findlay?

_____

Map Skills Practice



Scale

_____ = 10 miles

Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Questions

9. What interstate goes around Columbus?

_____

10. If you were to travel from Columbus to Westerville, what direction would you be traveling?

_____

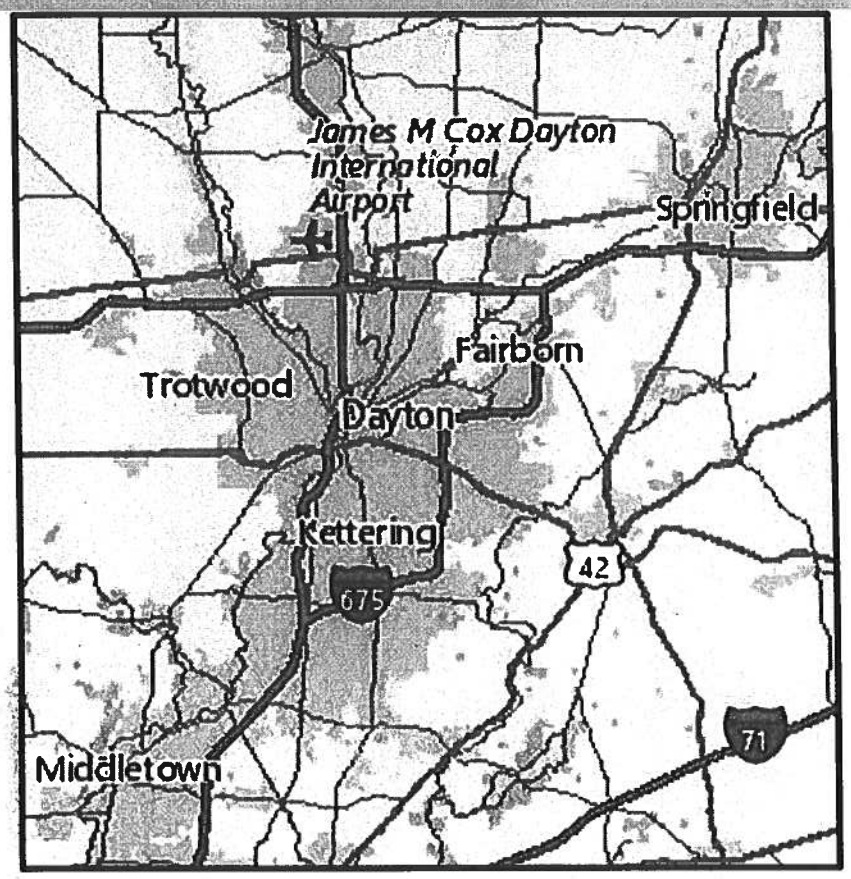
11. What is the relative direction of Reynoldsburg to Columbus?

_____

12. About how far is Westerville from Grove City?

_____

Map Skills Practice



Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Scale

_____ = 5 miles

Questions

13. The Dayton International Airport is _____ of Dayton.

14. If you were to travel from Springfield to Dayton, what direction would you be traveling?

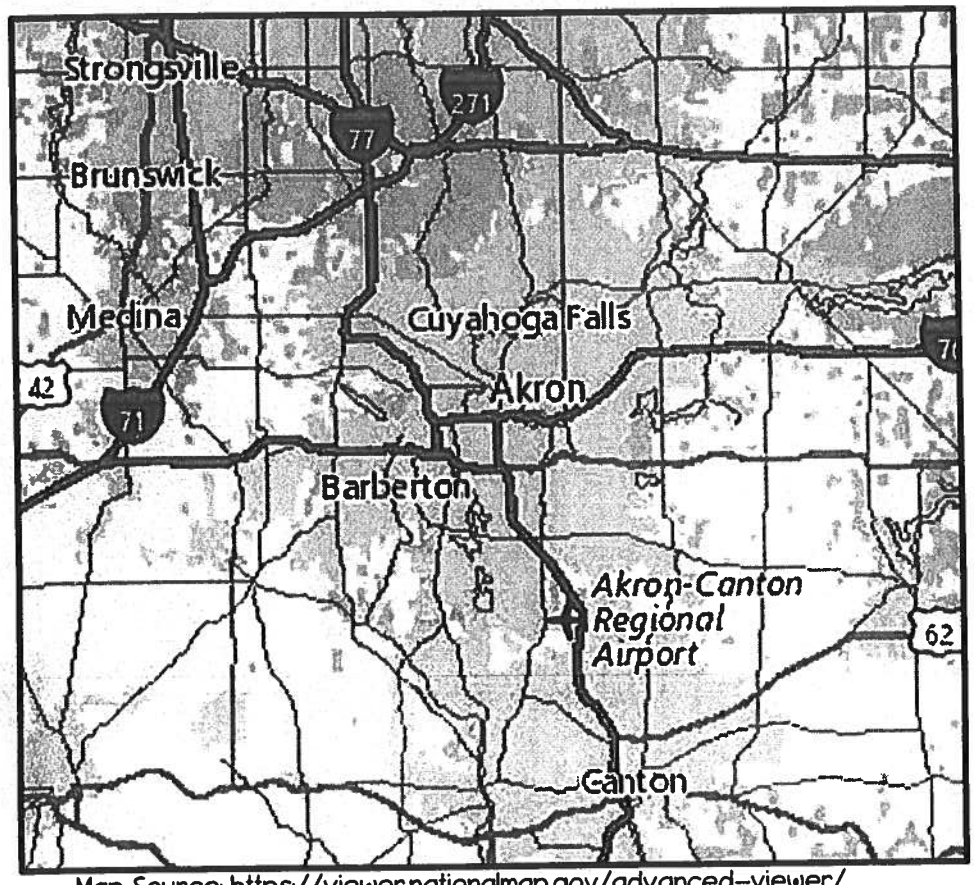
_____

15. What is the relative direction of Middletown to Dayton?

_____

16. About how far is Kettering from Springfield? _____

Map Skills Practice



Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Scale

_____ = 10 miles

Questions

17. The Akron-Canton Regional Airport is _____ of Canton.

18.. If you were to travel from Medina to Cuyahoga Falls, what direction would you be traveling?

_____

19. What is the relative direction of Cuyahoga Falls to Akron?

_____

20. About how far is Canton from Akron? _____

_____'s Trip Across the State Project

Example

Directions: On the outline of the United States below, label **seven** cities in their correct location. You will also need to create a scale for your map. After that, follow the directions on the next page.

Scale

= 250 miles

Example

Directions: In the space that follows, write down a series of directions to go with your Trip Around the State map! Be sure to include distance and direction, as well as a mix of cardinal and intermediate directions. This should go directly with the journey you have created on the previous page.
Example: Starting at Washington, D.C., travel 200 miles Northeast to New York City.

1. Starting at New York City, travel 500 miles West to Columbus.
2. From Columbus, travel 1,000 miles South to Miami.
3. From Miami, travel 1,000 miles Northwest to Austin.
4. From Austin, travel 750 miles Northwest to Denver.
5. From Denver, travel 750 miles Southwest to Los Angeles.
6. From Los Angeles, travel 1,000 miles North to Seattle.
7. From Seattle, travel 500 miles Southeast to Boise.

*Miles are rounded to the nearest increment of 250.

Trip Across the State Project

Directions: On the outline of the state below, label **seven** cities in their correct **location**. You will also need to create a scale for your map. After that, follow the directions on the next page.

Scale

Trip Across the State Project

Directions: In the space that follows, write down a series of directions to go with your Trip Around the State map! Be sure to include distance and direction, as well as a mix of cardinal and intermediate directions. This should go directly with the journey you have created on the previous page.

Example: Starting at Washington, D.C., travel 200 miles Northeast to New York City.

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

5. _____

_____

6. _____

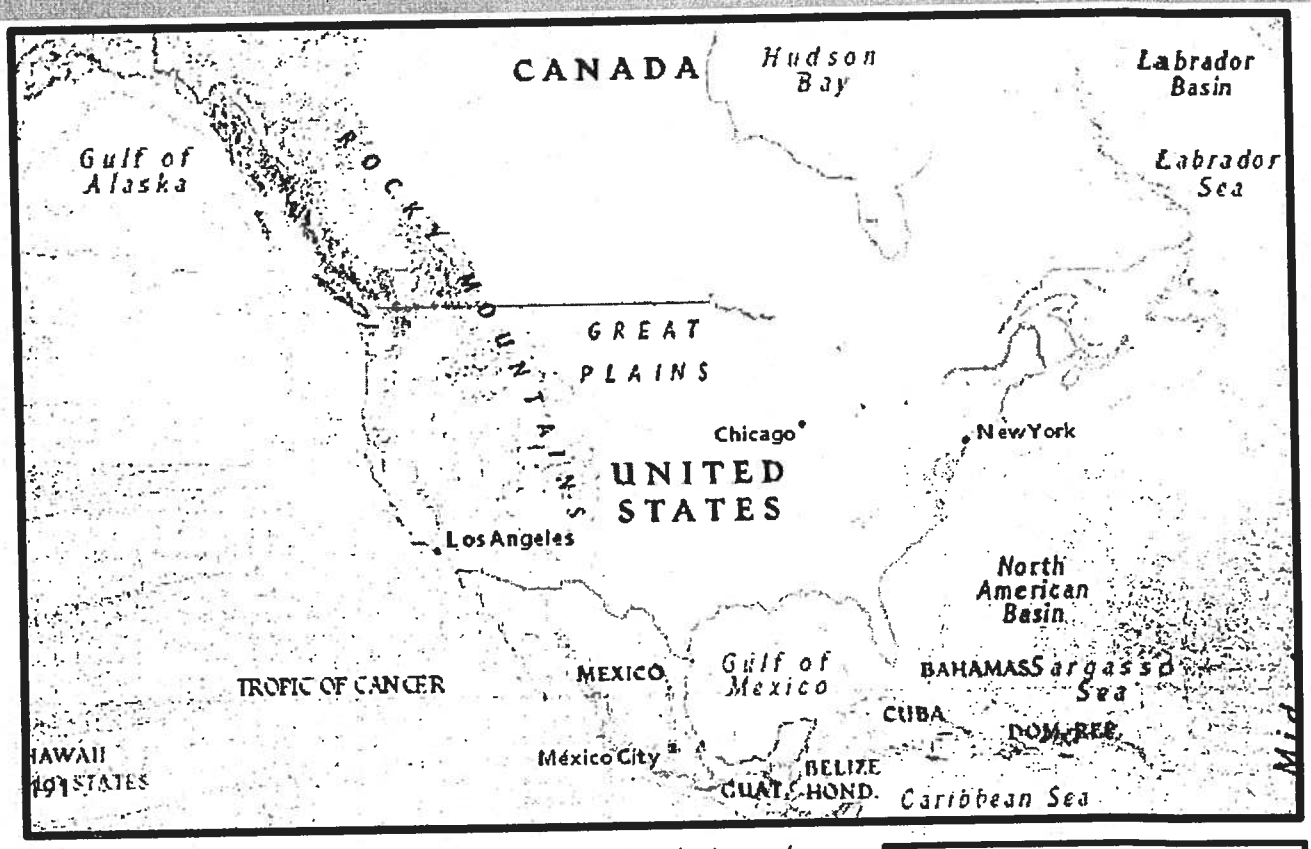
_____

7. _____

_____

_____'S
Extra Practice Packet

Extra Practice



Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Scale

_____ = 500 miles

Questions

1. What country is located directly North of the United States?

_____

2. What direction would you travel to go from Los Angeles to New York?

_____

3. What is the name of the mountain range labeled on the map?

_____

4. About how far is Mexico City from Chicago?

_____

Extra Practice

Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Scale

_____ = 400 miles

Questions

5. What is the relative direction of Salt Lake City to Minneapolis? Is this a cardinal or intermediate direction?

_____

6. What direction would you travel to go from Ottawa to Montreal?

_____

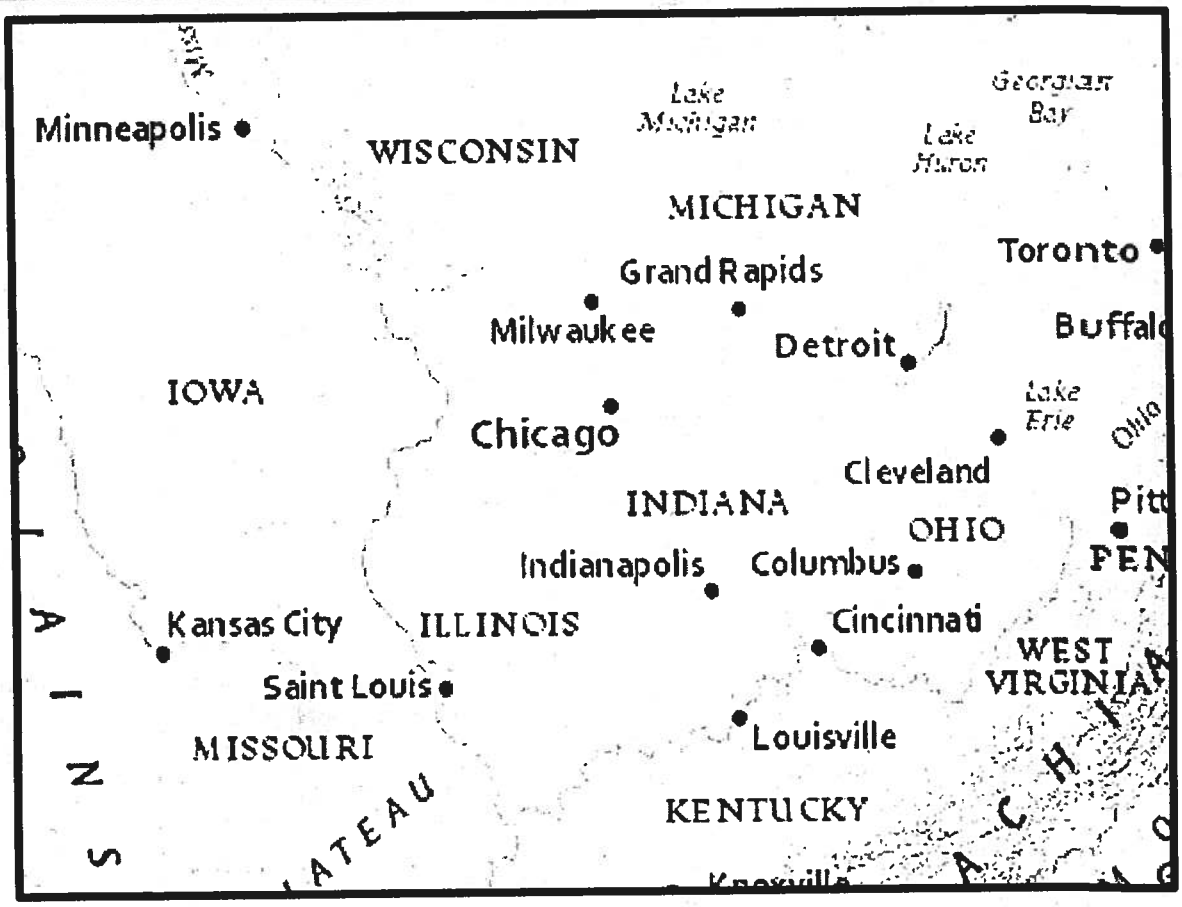
7. What city labeled on the map is closest to Los Angeles?

_____

8. About how far and in what direction would you travel to go from Cincinnati to Dallas?

_____

Extra Practice



Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Scale

_____ = 100 miles

Questions

9. What direction would you travel to go from Detroit to Columbus? Is this a cardinal or intermediate direction?

_____

10. What is the Northernmost city labeled on the map?

_____

11. Fill-in-the-blank: Cleveland is _____ of Indianapolis.

12. About how far is Louisville from Grand Rapids?

_____

Extra Practice

Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Scale

_____ = 250 miles

Questions

13. What direction would you travel to go from Memphis to Dallas? Is this a cardinal or intermediate direction?

_____

14. What state is Orlando located in?

_____

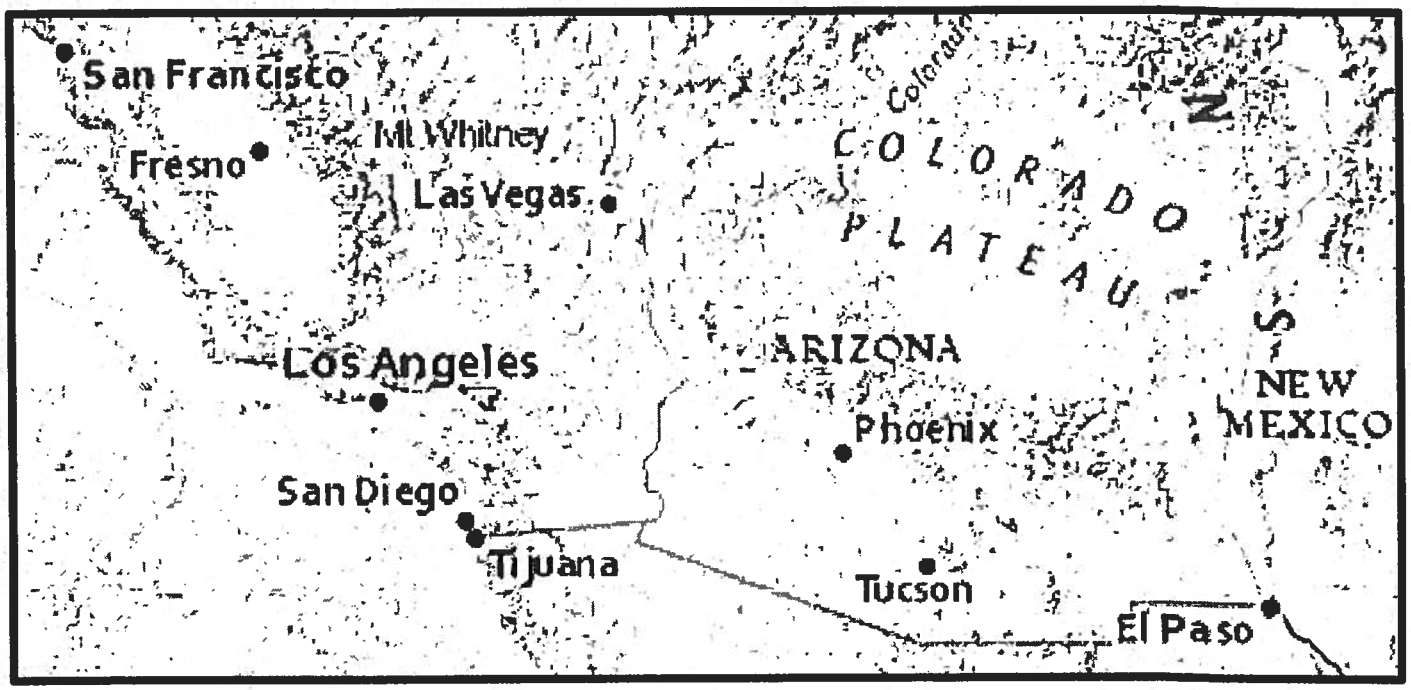
15. If you lived in Georgia and traveled West, what would be the first state you would go through?

_____

16. About how far and in what direction would you travel to go from Birmingham to Raleigh?

_____

Extra Practice



Map Source: https://viewer.nationalmap.gov/advanced-viewer/

Scale

_____ = 125 miles

Questions

17. What city labeled on the map is closest to El Paso?

_____

18. What is the relative direction of New Mexico to Arizona? Is this a cardinal or intermediate direction?

_____

19. What direction would you travel to go from Phoenix to Fresno?

_____

20. About how far is Las Vegas from San Diego?

_____

The Alchemist's Potion
PART 1

Name: _____

Date: _____

My Initial Model

1a) In the box below, draw a picture of what you think happened to make the dull penny become shiny. It's ok if it's just a guess for now. Label your drawing. If you want, include things that are too small to see.

1b) Figuring out why the penny became shiny is tricky. Can you think of questions about the pennies and liquid that will help you figure it out?

_____

_____

_____

_____

_____

_____

_____

My Revised Model

2a) Your ideas might have changed since your last drawing. In the box below, draw what you think happens when dull brown copper pennies get shiny. Label your drawing. If you want, include things that are too small to see.

2b) Explain your drawing: _____

_____

_____

_____

_____

_____

_____

_____

_____

You'll fill in Part 2 of this worksheet on another day, when you do the next Mystery

ACTIVITY PREP:
Bowl Labels

As part of your activity prep:

- Cut out these labels.
- Tape them on or beside the bowls of testing liquids.

Soapy Water
Vinegar
Salt & Vinegar
Salty Water

Test like an alchemist

What happens to a copper penny when you dip it in…

Soapy Water

Vinegar

Salt & Vinegar

Salty Water

Remember, you did Part 1 of this sheet last Mystery (questions 1 & 2).

The Alchemist's Potion
PART 2

Name: _____

Date: _____

Set Up

3a) Write the date and time. In the box below, draw what your experiment looks like now.

Date: _____ Time: _____

3b) Describe the liquid in the bag:

_____

_____

3c) Read what you wrote in question 2b (on Part 1 of the worksheet from last Mystery).

3d) Remembering what you wrote in 2b, think about what might happen in this experiment. Write your ideas:

_____

_____

_____

_____

_____

Explanation

4a) Make a drawing that explains how you think the copper got onto the nail. Label your drawing. If you want, include things that are too small to see.

4b) What evidence do you have to support the explanation that you drew? (Use information from your observations or from videos you saw in class.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

Your experiment may take a few hours to finish. If you notice something changing in the bag, draw a picture on the back of this page and write down the time.

Results

Name: _____

MYSTERY science

Chemical Magic | Mystery 3

Describe what happened:

	WATER (not acid)	VINEGAR (acid)
BAKING SODA	What happened?	What happened?
PURPLE LIQUID	What happened?	What happened?
BAKING POWDER	What happened?	What happened?

1). Would you use baking soda to test whether or not a substance is an acid? YES / NO
Why or why not? _____

2). Would you use purple liquid to test whether or not a substance is an acid?
YES / NO Why or why not? _____

3). Would you use baking powder to test whether or not a substance is an acid?
YES / NO Why or why not? _____

Which are acids?

Test Substance #1:

4). I tested _____

using _____

What happened?

Do you think it's an acid? YES / NO

Test Substance #2:

5). I tested _____

using _____

What happened?

Do you think it's an acid? YES / NO

Mixing Sheet

Practice

Practice

Practice

Practice

MIX THESE TWO THINGS:

	WATER (not acid)	VINEGAR (acid)
BAKING SODA		
PURPLE LIQUID		
BAKING POWDER		

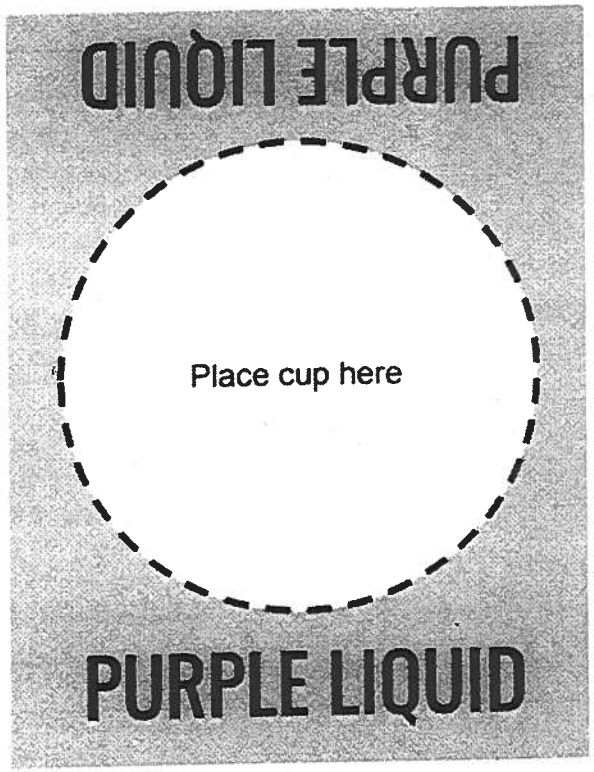
Test Substance #1:

Test Substance #2:

'esting Supplies

/ou need:

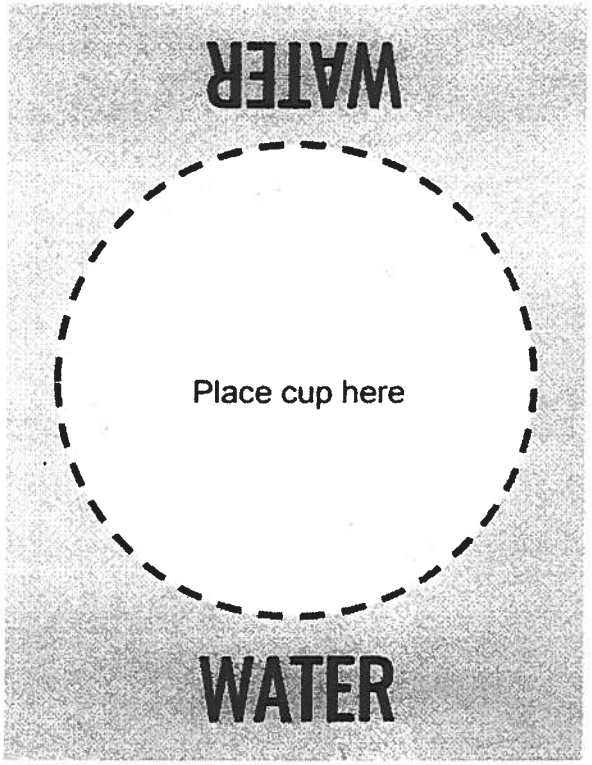
- 1 Straw
- 2 Craft Sticks or Spoons
- Baking Soda
- Purple Liquid
- Baking Powder

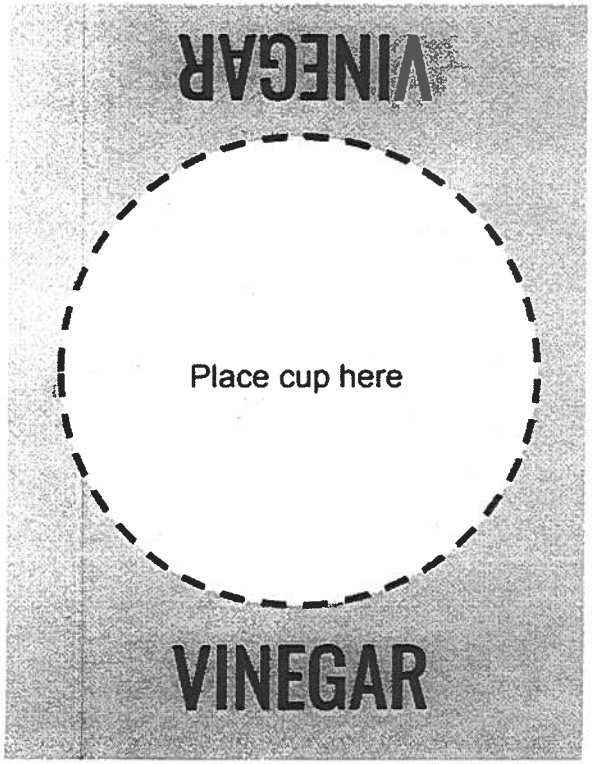


Acid Reaction Supplies

You need:

- 2 Straws
- Water
- Vinegar





practice space

practice space

practice space

practice space

practice space

MIX THESE TWO THINGS:

	BAKING SODA	BORAX	GLUE	VINEGAR
MILK *Mix milk with everything*				
BAKING SODA *Mix baking soda with everything but milk (you already mixed baking soda and milk!)*				
BORAX *Mix borax with everything but milk and baking soda (you already mixed those!)*				
GLUE *Mix glue with everything but milk, baking soda, and borax (you already mixed those!)*				

Name: _____

Name: _____

Takes notes on what happened in each box.

Was there a reaction? If so, did it make goo?

	BAKING SODA	BORAX	GLUE	VINEGAR
MILK				
BAKING SODA				
BORAX				
GLUE				

Capturing Chaos

Name: _____

Experiment #1

1). Describe what happened when you mixed baking soda and vinegar in your sealed bag:

_____

_____

_____

2. Think about why that happened. Draw a picture (or pictures) below that will show what you think made that happen. Write labels and captions if you need them to make your ideas clear. You can include things that are too small to see.

Experiment #2

With your partner, decide on your second experiment and answer the questions below. If your first experiment exploded, we challenge you to make your bag inflate until it ALMOST pops, but doesn't!

3. What is your goal? _____

4. Last time, you used 6 spoons of vinegar and 1 spoon of baking soda. What will you do differently this time?

_____

5. What happened? Why do you think that happened? _____

_____

_____

Stretchy Bag Templates

STRETCHY BAG

stop

stop

STRETCHY BAG

stop

stop

STRETCHY BAG

stop

stop

STRETCHY BAG

stop

stop

Name: _____

Volcano Discoveries

1. Suppose you wanted to tell an explorer where to look for volcanoes. Check the box of the sentence you would choose.

   - ☐ You can find just as many volcanoes in the middle of a continent as you can near the coast.
   - ☐ You can find more volcanoes near the ocean than you can in the middle of the continent.

2. If you had to describe how the volcanoes on your map are arranged, what sentence would you choose?

   - ☐ The volcanoes are scattered evenly across the map.
   - ☐ The volcanoes are in groups near the coast.

3. What if you **wanted** a volcano to pop up in your backyard? Where would you choose to live and why? Use information from your map to explain.

_____

_____

_____

Name: _____

Volcano Discoveries

1. Suppose you wanted to tell an explorer where to look for volcanoes. Check the box of the sentence you would choose.

   - ☐ You can find just as many volcanoes in the middle of a continent as you can near the coast.
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   - ☐ The volcanoes are in groups near the coast.

3. What if you **wanted** a volcano to pop up in your backyard? Where would you choose to live and why? Use information from your map to explain.

_____

_____

_____

North America Map: Volcano List

Name: _____

Name: _____

1). Make sure you have the map that goes with this page. It should look like this:

2). Read the location of each volcano out loud so your partner can draw them on the map. *After* each is done, put a checkmark in the box.

Added to map?	Location	Name of Volcano	Country	Year Last Erupted
o	6, Y	Kilauea	Hawaii, USA	2015
o	16, R	Lassen Peak	California, USA	1915
o	17, S	Mammoth Mountain	California, USA	1400
o	5, K	Mount Aniakchak	Alaska, USA	1931
o	1, M	Mount Cleveland	Alaska, USA	2014
o	7, H	Mount Redoubt	Alaska, USA	2009

Switch jobs with your partner now so you get a chance to map and they get a chance to announce.

o	15, O	Mount St. Helens	Washington, USA	2008
o	9, G	Mount Wrangell	Alaska, USA	1999
o	24, Z	Pacaya	Guatemala	2013
o	21, Y	Parícutin	Mexico	1952
o	22, Y	Popocatepetl	Mexico	2015
o	18, W	Tres Virgines	Mexico	1857

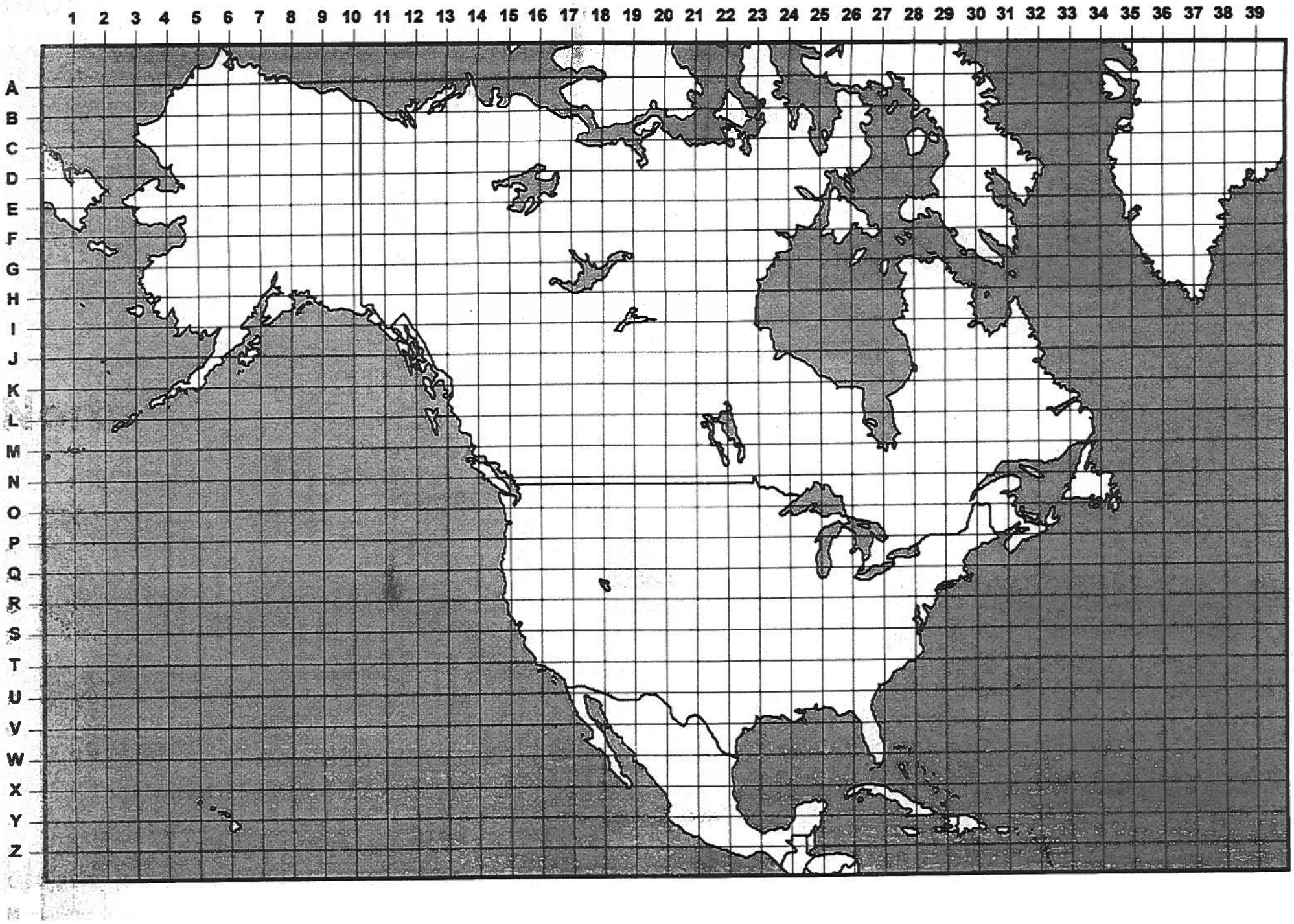
North America Map

Name: _____

Name: _____

MYSTERY science

The Birth of Rocks | Mystery 1



South America Map: Volcano List

Name: _____

Name: _____

1). Make sure you have the map that goes with this page.
It should look like this:

2). Read the location of each volcano out loud so your partner can draw them on the map. *After* each is done, put a checkmark in the box.

Added to map?	Location	Name of Volcano	Country	Year Last Erupted
o	29, V	Burney	Chile	1910
o	29, Q	Copahue	Chile	2012
o	29, T	Mount Hudson	Chile	1991
o	28, C	Nevado del Ruiz	Colombia	2012
o	29, P	Planchón-Peteroa	Chile	2010
o	30, L	Pular	Chile	1990

Switch jobs with your partner now so you get a chance to map and they get a chance to announce.

o	28, D	Reventador	Ecuador	2014
o	29, I	Sabancaya	Peru	2013
o	30, K	San Pedro	Chile	1960
o	26, A	Turrialba	Costa Rica	2015
o	30, J	Wallatiri	Chile	1985
o	24, D	Wolf	Galápagos, Ecuador	2015

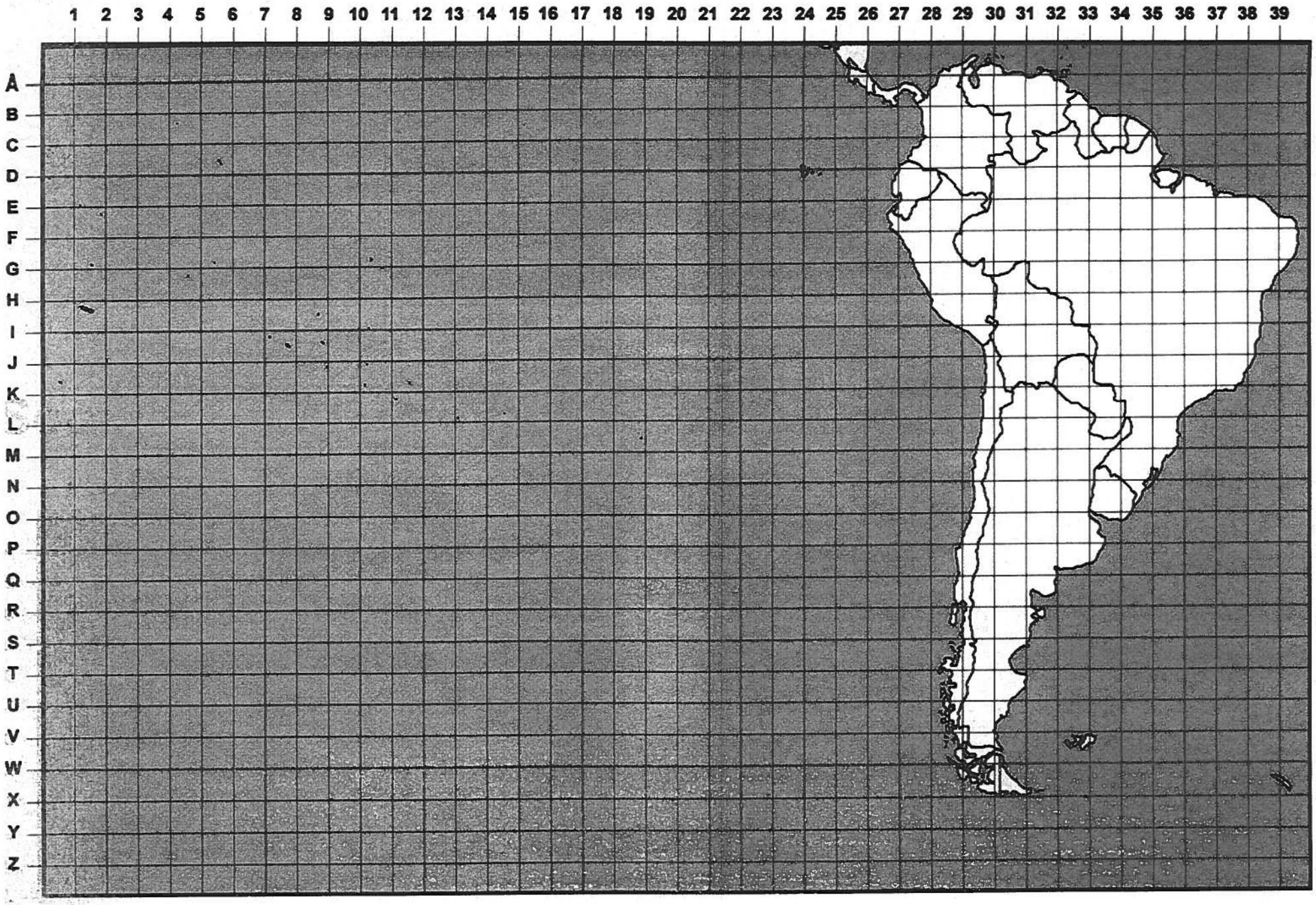
South America Map

Name: _____

Name: _____

MYSTERY science

The Birth of Rocks | Mystery 1

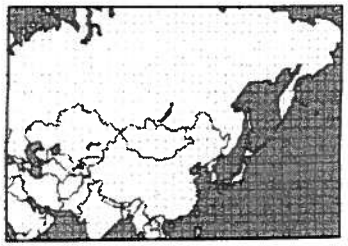


Asia Map: Volcano List

Name: _____

Name: _____

1). Make sure you have the map that goes with this page.
It should look like this:



2). Read the location of each volcano out loud so your partner can draw them on the map. *After* each is done, put a checkmark in the box.

Added to map?	Location	Name of Volcano	Country	Year Last Erupted
o	32, N	Chirinkotan	Russia	2013
o	31, P	Chirpoi	Russia	2013
o	39, M	Gareloi Volcano	Alaska, USA	1989
o	23, X	Guishan Island	Taiwan	1795
o	34, J	Klyuchevskaya Sopka	Russia	2015
o	33, L	Koryaksky	Russia	2008

Switch jobs with your partner now so you get a chance to map and they get a chance to announce.

o	34, K	Kronotsky	Russia	1923
o	26, T	Mount Aso	Japan	2004
o	28, T	Mount Fuji	Japan	1707
o	29, Q	Mount Meakan	Japan	2008
o	26, U	Sakura-jima	Japan	2013
o	34, L	Zhupanovsky	Russia	2015

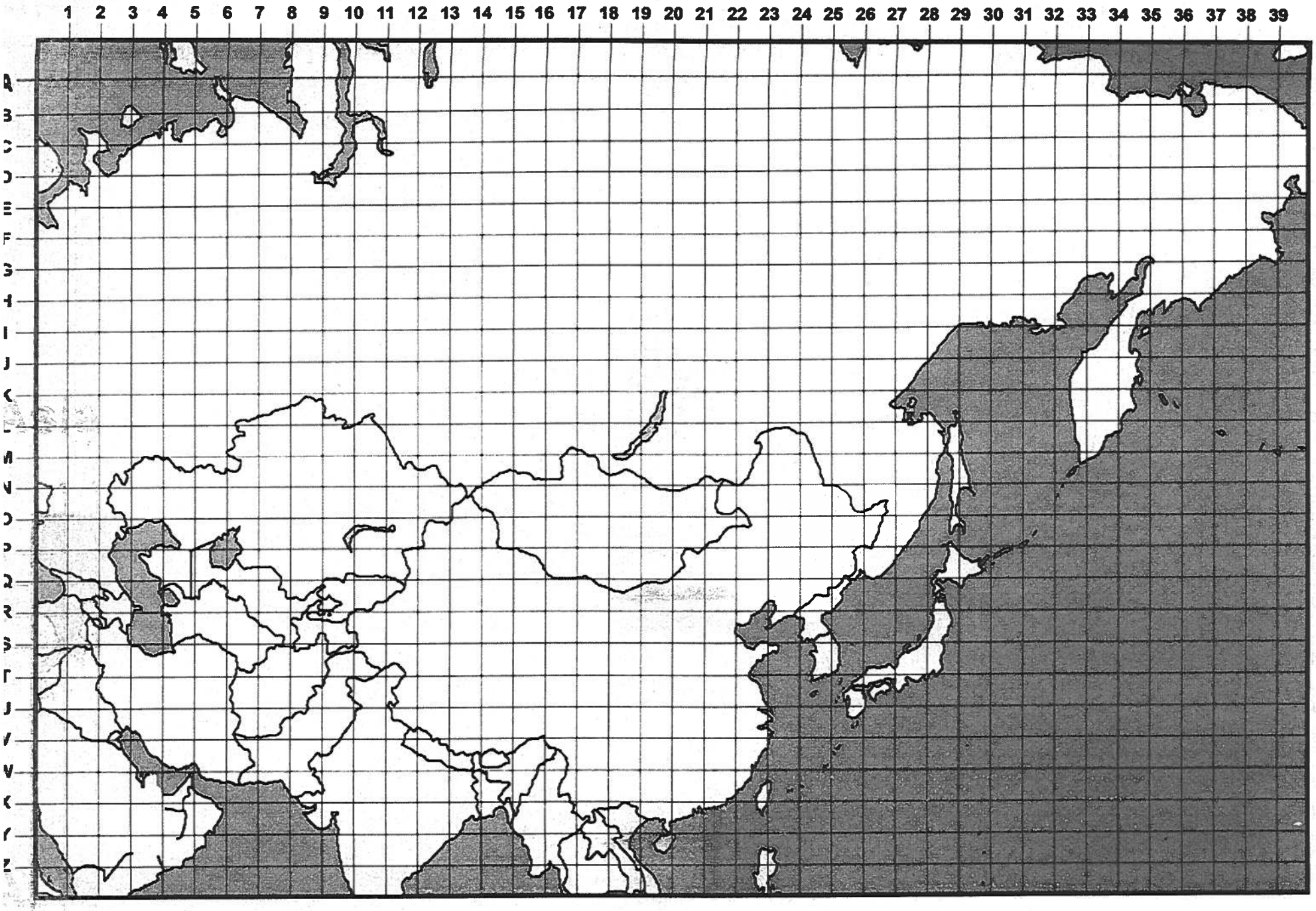
Asia Map

Name: _____

Name: _____

MYSTERY science

The Birth of Rocks | Mystery 1



Australia & Nearby Islands Map: Volcano List

Name: _____

Name: _____

1). Make sure you have the map that goes with this page.
It should look like this:

2). Read the location of each volcano out loud so your partner can draw them on the map. *After* each is done, put a checkmark in the box.

Added to map?	Location	Name of Volcano	Country	Year Last Erupted
o	32, F	Bagana	Papua New Guinea	2006
o	23, G	Egon	Indonesia (Java)	2005
o	31, F	Garbuna Group	Papua New Guinea	2005
o	18, E	Kaba	Indonesia (Sumatra)	2000
o	24, A	Kanlaon	Philippines	2006
o	30, F	Manam	Papua New Guinea	2006

Switch jobs with your partner now so you get a chance to map and they get a chance to announce.

o	21, G	Merapi	Indonesia (Java)	2010
o	38, Q	Mount Tongariro	New Zealand	2012
o	19, F	Papandayan	Indonesia (Java)	2002
o	22, G	Rinjani	Indonesia (Java)	2004
o	17, D	Sinabung	Indonesia (Sumatra)	2014
o	24, D	Soputan	Indonesia (Java)	2007

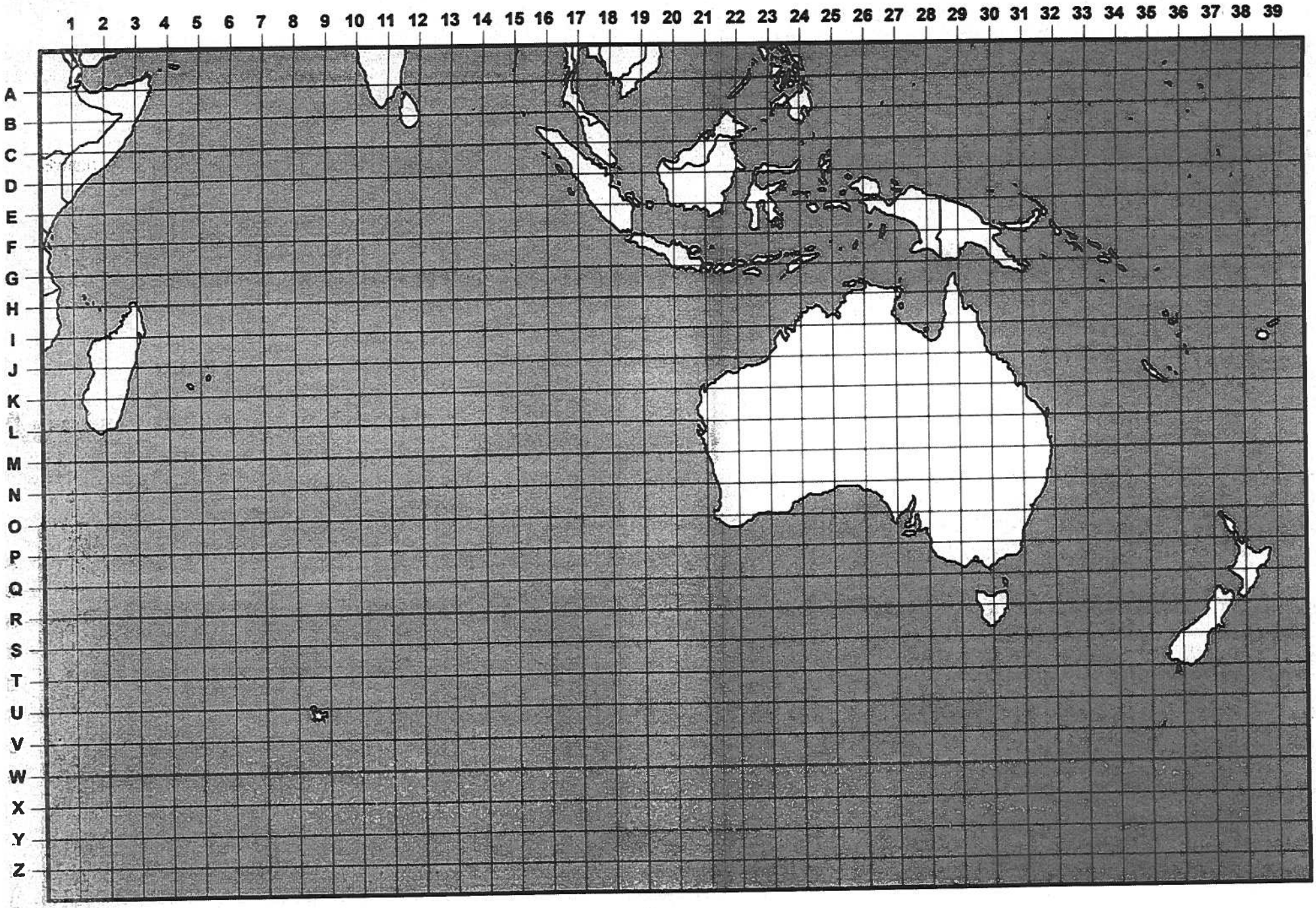
Australia & Nearby Islands Map

Name: _____

Name: _____

MYSTERY science

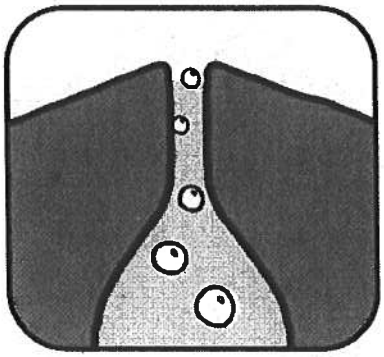
The Birth of Rocks | Mystery 1



Name:_____

Lava Experiment #1

Bubbles form in lava as it rises up from deep underground. With a straw, you can add bubbles to your lava, too.



1. Stir each sample with your straw, then blow bubbles in each cup. Note: bubbles in the thick lava may not look like the bubbles you're used to. Watch for craters when they burst through the surface.

2. Which lava is it **easiest** to blow bubbles in? **the thin lava** **the thick lava**

3. See if you can blow **just 1 bubble** in each cup.

Can you do it in the thin lava? Explain: _____

_____

_____

Can you do it in the thick lava? Explain: _____

_____

_____

4. How are the bubbles different in the different lavas?

_____

_____

_____

Name:_____

Lava Experiment #2

5. With your partner, put 1 spoonful of the **THIN** lava on the plate. Try to make it into a mountain-shape. Draw a picture in the box showing how tall it turned out:

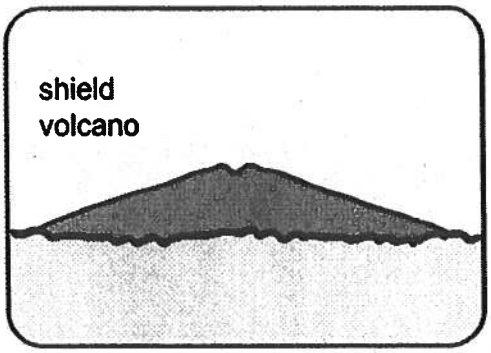
6. Repeat step 1 with the **THICK** lava.

7. What kind of lava do you think **shield volcanoes** have? Why?

_____

_____

_____

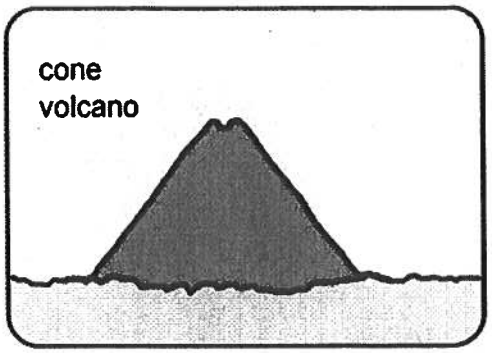


8. What kind of lava do you think **cone volcanoes** have? Why?

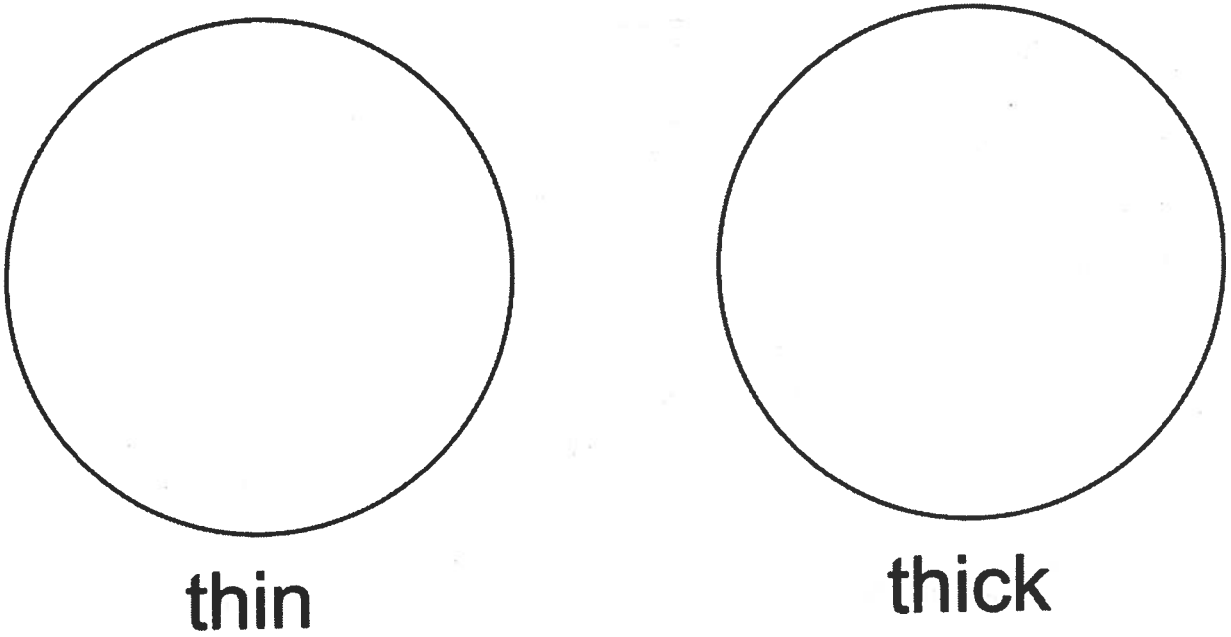
_____

_____

_____



Watch the next video to see which type of bubbles makes volcanoes explode!


thin
thick

Name: _____

Sugar Shake Data Sheet

1
Draw what your sugar cube looks like here:

2
What will it look like after 200 shakes? Draw your best guess here:

3 How many edges does a sugar cube have? _____

4

Trial #	Shake this many times:	Describe the shape of the sugar cubes you shook. How did they change?	How many edges still have some color?
#1	40		
#2 switch jobs	40		
#3 switch jobs	40		
#4 switch jobs	40		
#5 switch jobs	40		

5 You've done 5 trials of 40 shakes each. That's 200 shakes! What do the sugar cubes look like now? Draw one in the box:

6 Does your drawing match your guess in question 2? Yes No

Name:_____

Saving My Slide-City Home

What's the name of your plan? _____

Explain how your plan will protect your house or prevent a landslide:

_____

_____

_____

_____

Draw your plan in this box.

put sticker here

put sticker here

put sticker here

put sticker here

This land belongs to:

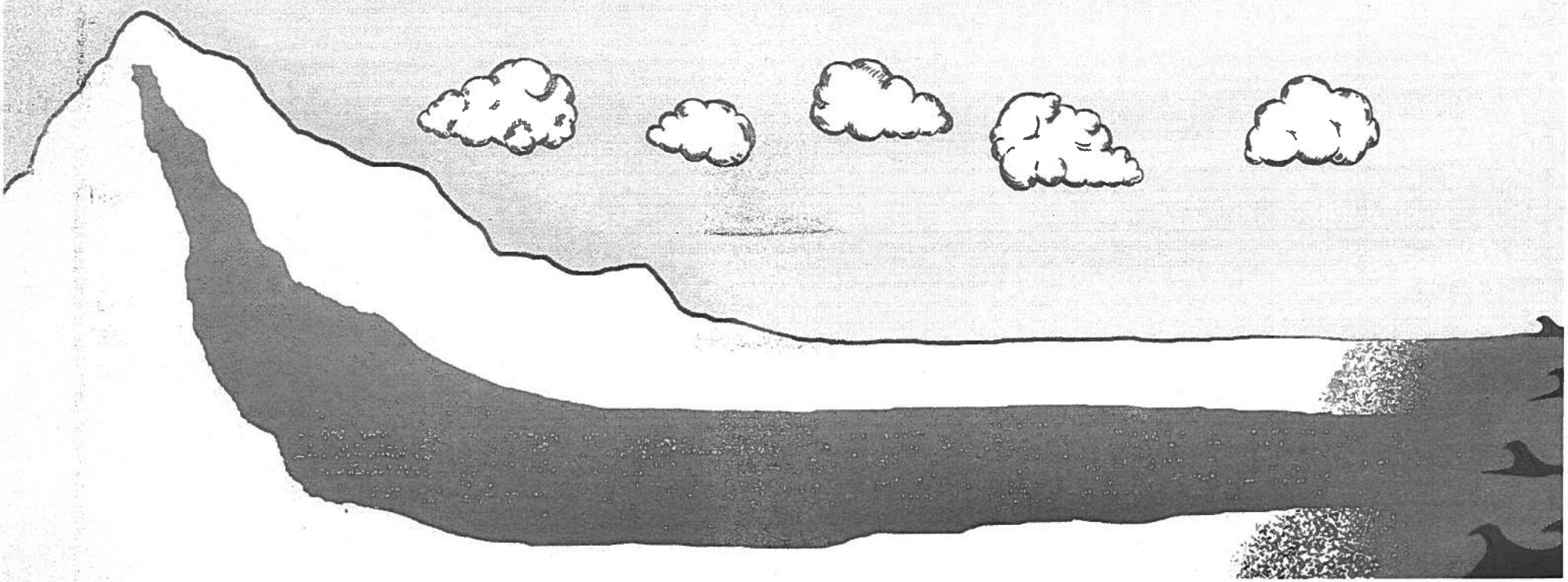
_____

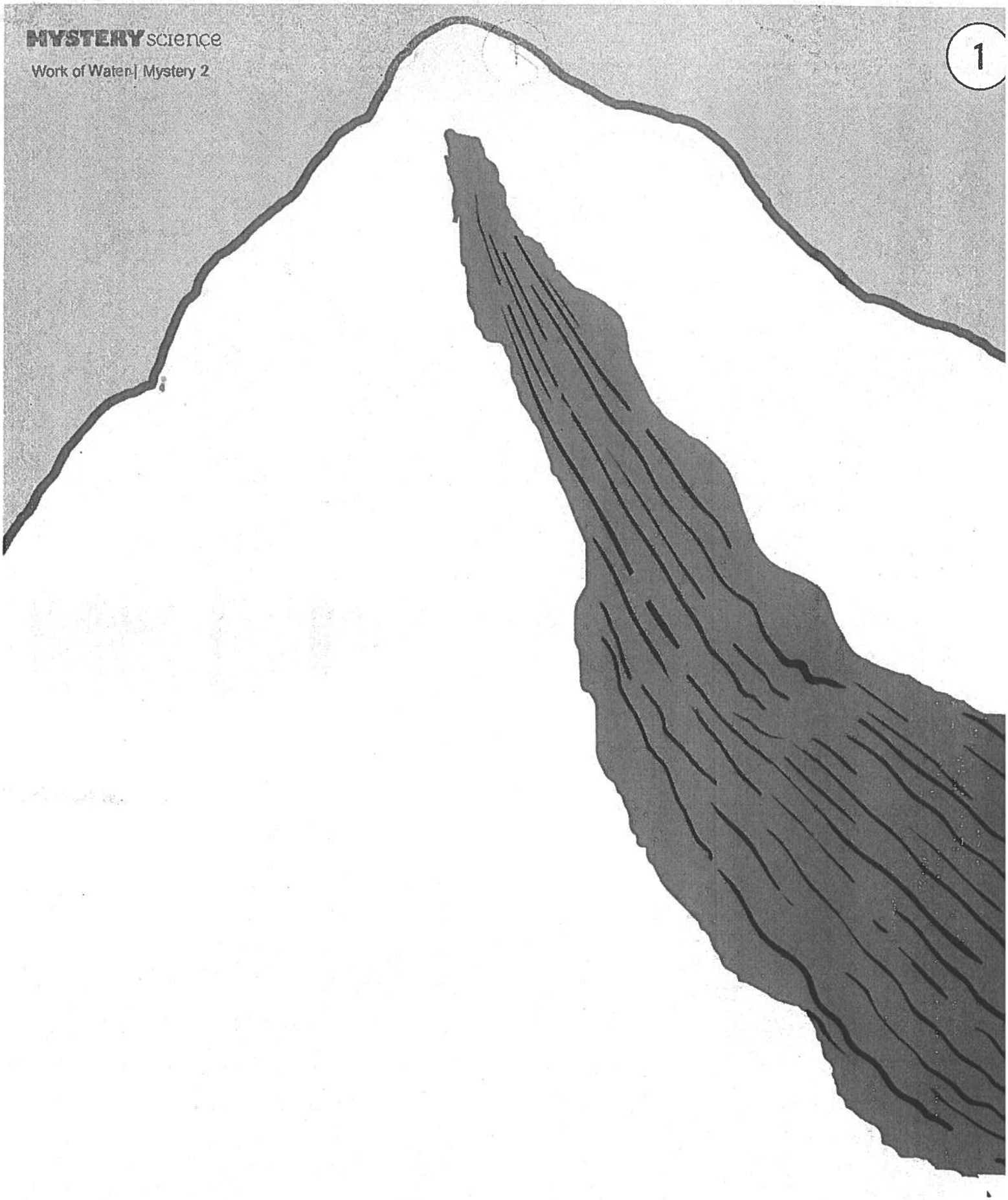
Draw the river rocks

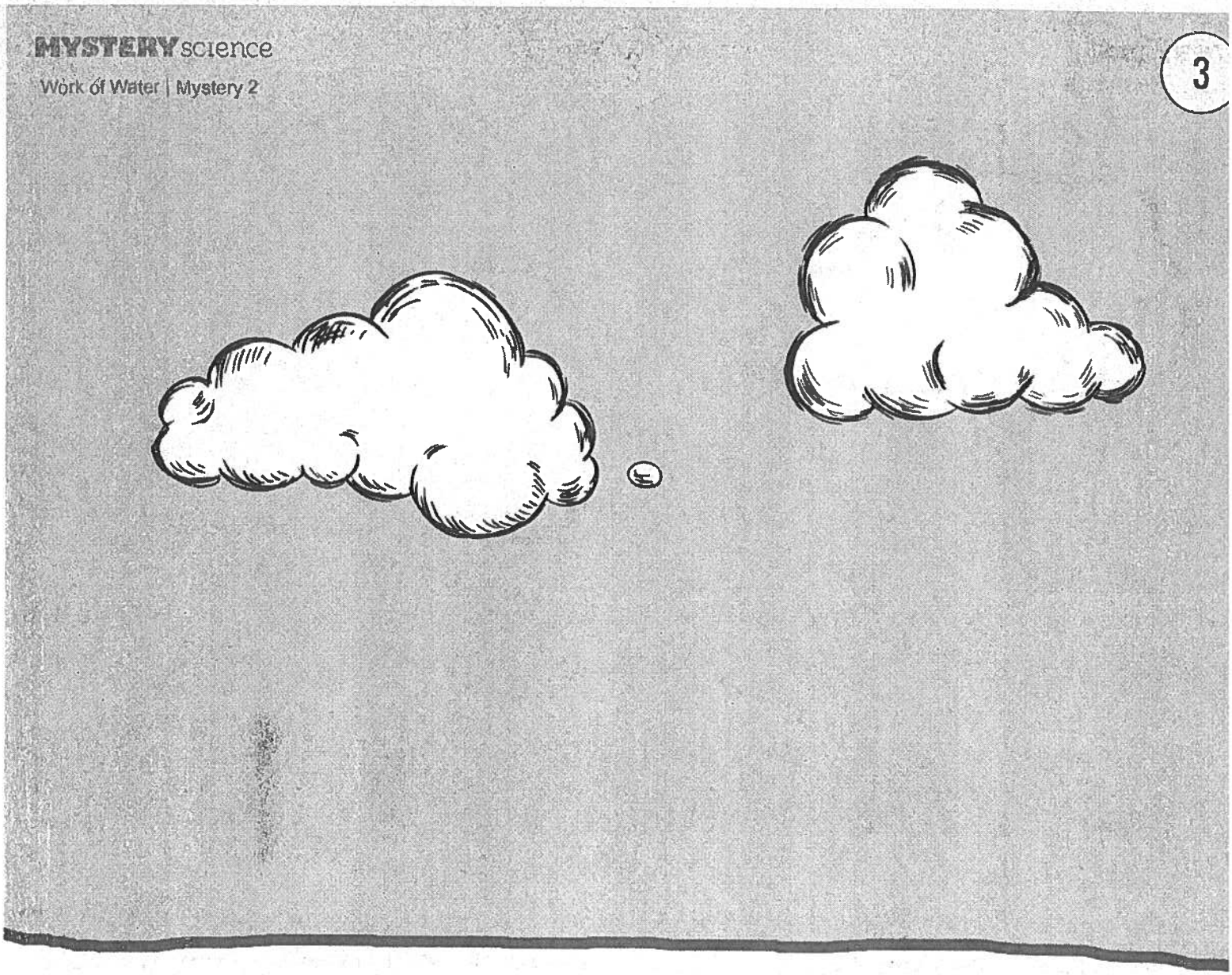
MYSTERY science
Work of Water | Mystery 2

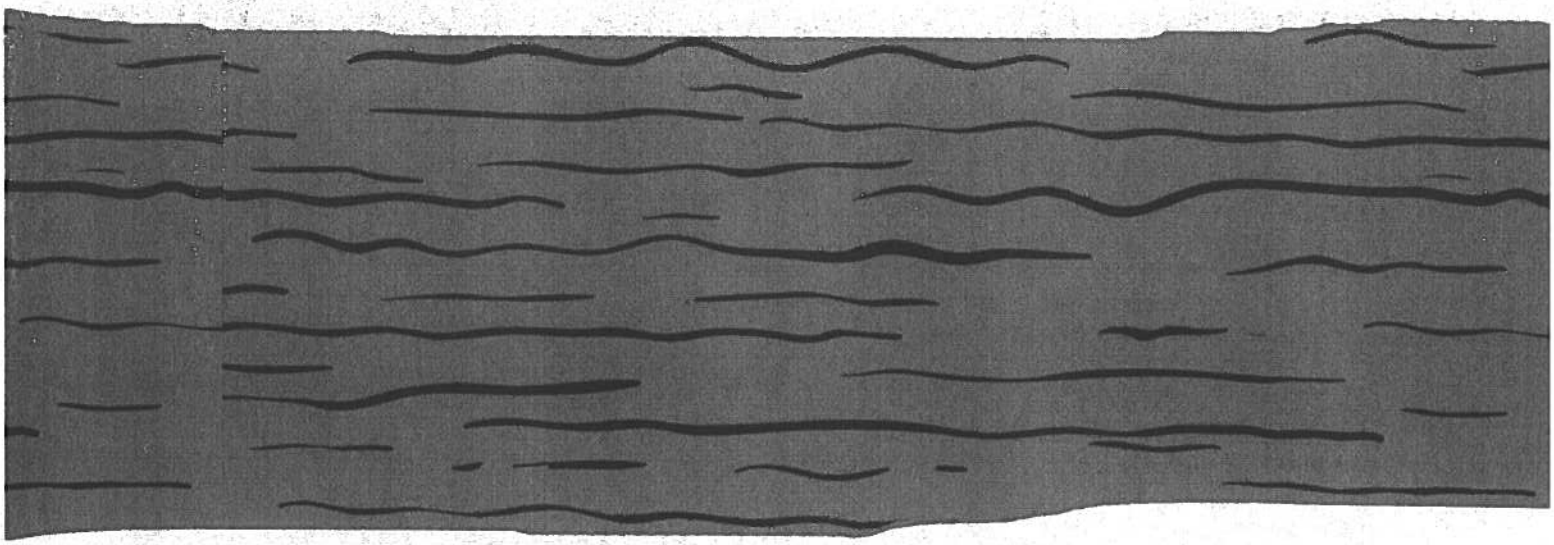
Name: _____

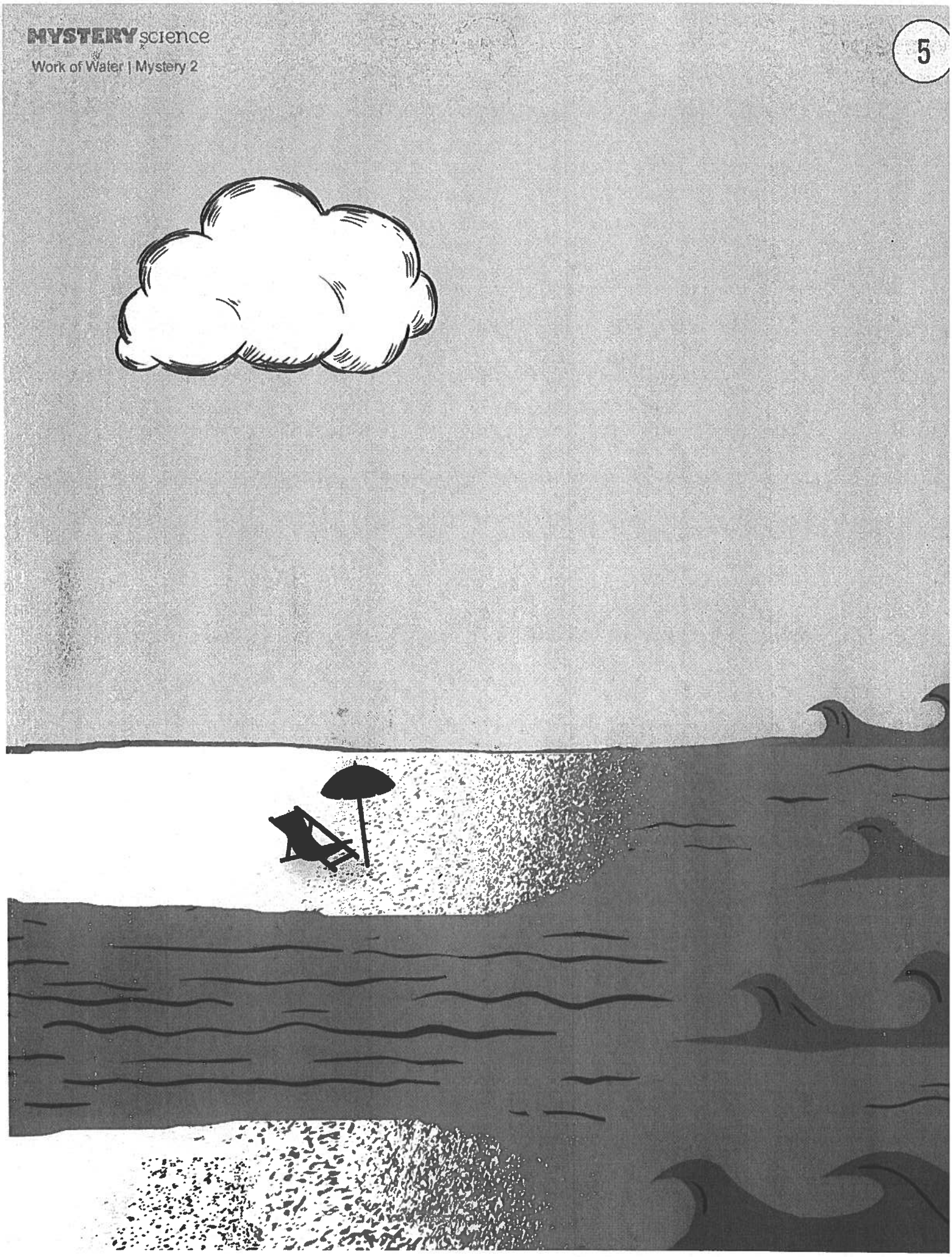
Draw rocks breaking up in the river, starting at the top of the mountain and ending at the ocean.









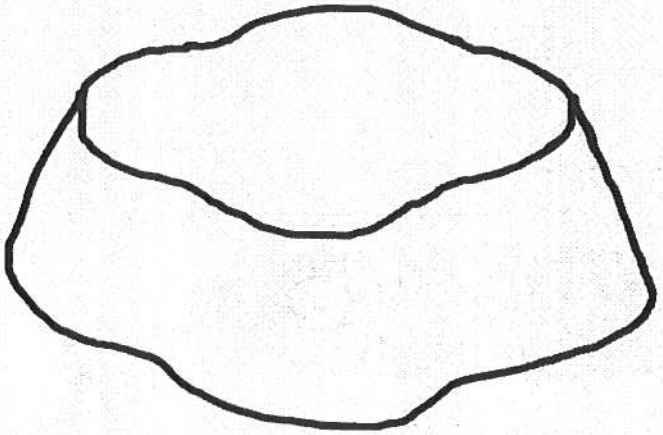


How did water change your land?

Name: _____

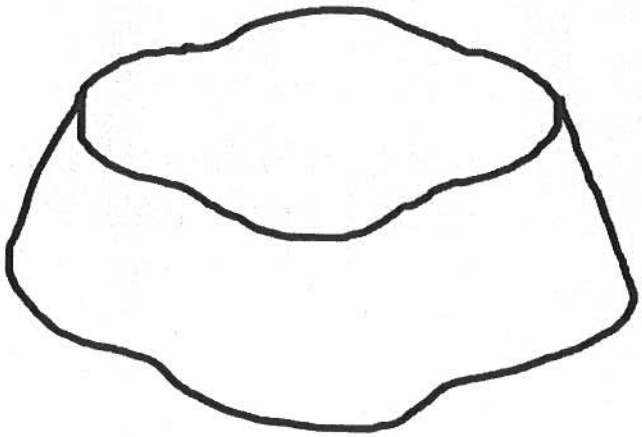
Rainstorm # 1

Draw what happened:



Rainstorm # 2

Draw what happened:

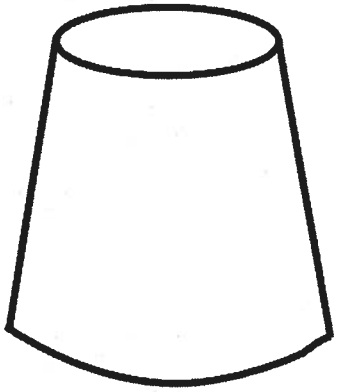


Save the Hills

Name: _____

First Test

1. Draw and label what you added to your first hill to try to protect it from erosion.



What do you think will happen?

_____

_____

_____

2. Draw what your first hill looked like after the rain.

What did happen?

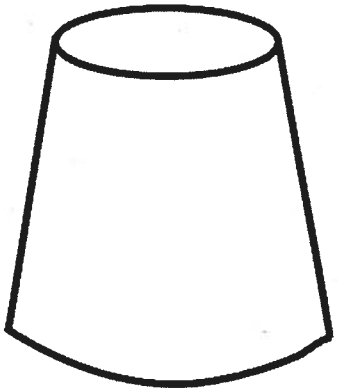
_____

_____

_____

Second Test

3. Draw and label what you added to your second hill to try to protect it from erosion.



What do you think will happen?

_____

_____

_____

4. Draw what your second hill looked like after the rain.

What did happen?

_____

_____

_____