Christina School District Assignment Board

Student's First & Last Name_____ Student ID/Lunch # _____ School _____ Grade_____

Grade Level: 6th

Week of June 1st, 2020

		Day 1	**CSD PD**	**Day 2**	**Day 3**	**Day 4**
ELA		This week you will read blogs in order to become a blog writer ----------------------------- What do you already know about blogs? Have you ever read a blog? Think of a blog you've read and explain what it was about. Why did you choose to read it? Read **"What is A Blog Anyway?"** As you read, annotate important details. Summarize your understanding in 12 words exactly.		Read the blog sample 1. **Spicy cauliflower burgers** As you read make notes. Underline things you find interesting. Complete the graphic organizer for the blog	Read the blog sample 2. **"TOP ENGAGING NETFLIX MOVIES AND EDUCATIONAL SHOWS FOR STUDENTS "**As you read, make notes. Underline things you find interesting. How is this blog different/ similar to blog 1? Complete the graphic organizer for the blog	Read the blog samples 2. **"Interesting DIY Tech Accessories, Gadgets, and Gifts"**. As you read, make notes. Underline things you find interesting. How is this blog different/ similar to blogs 1 and 2. Complete the graphic organizer for the blog. **Challenge:** Create your own blog.
Math	6	*Distributive Property* *Answer "Which One Doesn't Belong?" and justify your choice. (attached) Read*		Complete 7-93, 7-94, and 7-95. (attached) Refer to Math Notes if needed.	Complete 7-96 and 7-97. (attached) Read page 11 and use examples to complete p. 11 #1-8. (attached)	Complete p. 11 #9-24. (attached) Refer to Math Notes and examples from

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		Math Notes: Distributive Property to complete 7-91 and 7-92. (attached)				p. 11 if needed.
	6+	*Addition, Subtraction, Multiplication, and Division of Integers* Answer "Which One Doesn't Belong?" and justify your choice. (attached) Without a calculator, complete 3-82 and 3-83. (attached)		Read examples p. 24. Without a calculator, complete p. 24 #21-40. (attached)	Use examples on p. 13 to complete p. 14 #1-16. (attached)	Complete Puzzle Investigator Problem (PIP) 9 - Tiling the Laundry Room. (attached)
Science		**Weathering/Erosion Poster/One Pager (2 Day Project):** Develop a poster representing weathering and erosion. It should include a creative, large visible title, important quotes/ideas, at least 2 visuals and 8 facts/ideas and a reflection or personal connection. It should be colorful and visually appealing, showing that time and effort was put into the composition and organization.		**Weathering/Erosion Poster/One Pager (2 Day Project):** Complete poster representing weathering and erosion. It should include a creative, large visible title, important quotes/ideas, at least 2 visuals and 8 facts/ideas and a reflection or personal connection. It should be colorful and visually appealing, showing that time and effort was put into the composition and organization.	**Experiment: Exploring the Erosive Energy of Waves (part 1):** Read article. In YELLOW, highlight important details about erosion. In GREEN, highlight important details in the procedure. If you are able to obtain the materials (or similar materials) involved, follow the steps involved in the procedure and observe erosion of a shoreline.	**Experiment: Exploring the Erosive Energy of Waves (part 2):** Reread article and/or notes as necessary. Whether or not you were able to replicate the experiment, write your best answers to the following (if you were unable to replicate the experiment, write what you THINK would have happened): a) Focus Question: How can the shorelines of beaches change over time? b) How are the rock particles moved from the ocean to the shore? c) Did the shoreline erode from the water, after you bobbed the water bottle up and down for two minutes? d) Did the shoreline erode more or less when there was a headland?
Social Studies		Complete Activity 1 and Activity 2 from the document titled, "Partnerships and Partitions-PART 2"		Complete Activity 3 and Activity 4 from the document titled, "Partnerships and Partitions-PART 2"	Complete Activity 5 from the document titled, "Partnerships and Partitions-PART 2"	Complete Activity 6 from the document titled, "Partnerships and Partitions-PART 2"

What Is A Blog Anyway?

You've seen the word, you've seen the websites and you may even have one. But have you ever wondered: What's the big deal about blogs?

To make sense of blogs, you have to think about the news and who makes it. We'll look at news in the 20th vs. the 21st century to make our point. In the 20th century, the news was produced professionally. When news happened, reporters wrote the stories and a tiny group of people decided what appeared in a newspaper or broadcast. Professional news was mainstream: general and limited.

The 21st century marked the point where news became both professional and personal.   A new kind of web site called a weblog or blog came onto the scene that let anyone be a reporter and publisher - often for free. As blogs became popular, they created millions of news sources and gave everyone an audience for their own version of news. Of course, we're using the word "news" loosely. But really - isn't everything news to someone?

With a blog...A business owner can share news about his business. A mother can share news about her family. A sport's star can share news with fans. These people are all "bloggers".

How did this happen? Well, blogs made sharing news on the web easy. Anyone with an idea can start a new blog with the click of a button and share news minutes later. Here's how blogs work.

Blogs are websites that are organized by blog posts - these are individual news stories, like articles in the paper. Bloggers simply fill out a form and with the click of a button, the blog post appears at the top of the web page, just above yesterday's news. Over time, the blog becomes a collection of these posts, all archived for easy reference.

Also, each blog post can become a discussion through comments left by readers. Blogs make the news a two-way street. Additionally, Bloggers often work together. In addition to comments, you'll read each other's posts, quote each other and link your blogs together. This creates communities of bloggers that inspire and motivate each other.

Whether it's their ease of use or the opportunities they offer, blogs have been adopted in a very big way. Since 2003, there have been over 70 million blogs created, each with its own version of news. So, the big deal about blogs is that they gave people like you the power of the media and creates a personal kind of news that appeals to a high number of small audiences.

Common Blog Features

- Blogs can use any layout and can cover many different topics, but they all have basic characteristics in common.
- Blog entries usually have a title that describes or relates to the content of the entry. Titles are usually set off in a layout with a bold font.
- Blog entries usually include the date and specific time that they were posted (a timestamp).
- The blogger's name is usually listed with the timestamp. By default, blogs usually end "Posted by [blogger's name]."
- Depending upon the blog site, you may also find other kinds of information with each blog entry.
- Blogs often contain pictures or links to other products
- Readers and the blogger can usually comment on (or reply to) a blog entry. The comments can turn into a dialogue, with the readers and blogger talking together.

spicy cauliflower burgers

OH YES I DID.

I most definitely DID make cauliflower burgers!

With cauliflower (as in the veg-e-ta-bel cauliflower) and quinoa and almonds and eggs and other non-meat stuff. I absolutely, for surely, deliciously did that. It is part veggie-burger, part rule-breaker. We are just straight up defying traditional food categories over here.

Guess what? Even regular-burger-loving Bjork loved these little babes.

Here's what's about to go down:

- a golden brown, cheesy, spicy cauliflower+quinoa burger
- a layer of Magic Green Sauce
- a layer of cilantro lime slaw bcuz crunchy is necessary
- a layer of creamy chipotle mayo compliments of Christmas gifting – one thing, though: do normal people get things like chipotle mayo for Christmas?
- a jalapeño cheddar bun, because who can even walk by those in the grocery store without buying them?! be real with yourself.
- A VERY HAPPY EATER

These burgers are literally everything. Is that the right use of literally? Cool and fresh because of that avocado-based sauce and all the lime and cilantro in the slaw, but also a little fiery because those cauliflower burgers are packin' the heat, just the right amount of crunchy thanks to the purple slaw, and a little smooth+creamy because of the smooth chipotle mayo on top.

As with almost all meatless burgers that I've encountered, these want to crumble a bit. See also: fails.

But after several rounds with the recipe, I discovered that with enough eggs and enough, umm, cheese (so maybe I just used cheese as a key binding ingredient – can we move on already?), they hold together beautifully.

Not only do they hold together, but they get a lusciously golden brown exterior that is screaming to be smeared with sauces and toppings and packed into a jalapeño cheddar bun.

Amiright tho?

Here's the deal: Over the last year or so, I've realized that I don't really like to make healthy trades when it comes to cooking. Like, if you're going to have a burger, just eat a regular burger. **With the exception of a few things, like cauliflower sauce instead of cream-based sauce. But in general, that's mostly how I feel about it.

But friends, I truly, honestly, deeply and very seriously LOVE a good meatless burger. I might even love a made-from-scratch veggie burger MORE than a traditional burger. The texture? The flavor? It is so much more interesting and satisfying tha– okay, I'm getting glares. I'll stop.

So around here we love veggie burgers, we also love cauliflower, and we mostly love quinoa except when it tastes a little dirty, but we forgive these things for the versatility and health factors, no? So this cauliflower burgers recipe is not so much a "healthy swap" for a burger and more of something that our type of food peeps truly love to eat.

It's cauli-burger go-time!

ABOUT LINDSAY

A little thing about me: I ♡ FOOD. I also love food photography. I wrote an ebook that can help you learn your camera and I also teach food photography workshops in Minneapolis.

TOP ENGAGING NETFLIX MOVIES AND EDUCATIONAL SHOWS FOR STUDENTS

Etcetra James

Netflix movies are now an important past-time activity for people who are now on a stay-at-home quarantine amidst the global pandemic. Most residents around the world are now enjoying the luxury of using online media as a way to entertain. Netflix is now taking advantage of offering movies for all residents who want to maximize the comfort of their homes. Here are some top engaging Netflix movies and educational shows for students at home.

BRAINCHILD

Brainchild is an educational Netflix movie that targets a young audience interested in science. The movie talks about scientific experiments. There are detailed simple experiments that present the scientific explanation of how things work. The movie is educational because it helps students understand the mechanics of experimenting with science. One example is how sunlight can cause flames using a magnifying glass. Experimentation satisfies the younger audience due to its visual stimulating experimentation.

AMERICAN PROMISE

Teachers in history require students to watch this movie because it presents the socio-political history of the United States. American Promise is a show on Netflix for students because it talks about how politics work in the United States. It reveals the importance of knowing how the political norms of the country affect the younger generation. One example is the importance of casting votes during the US election. Students will realize how to choose wisely when voting for a politician during the election. The movie helps students how the election is important for choosing the leaders of society.

RACE TO NOWHERE

One of the top shows on Netflix is the Race to Nowhere. It is a movie, presenting a psychological pressure on the teenagers in their studies. The purpose of the movie is to show how patience and perseverance of learning are important to students. Scenes related to the everyday struggle of school-age students to accomplish their dreams through rough studying and sacrificing their time. The realistic presentation shows how the younger generation struggles before becoming future leaders and role models of our society.

ON THE WAY TO SCHOOL

One of the best teen shows on Netflix is the movie On the Way To School. The movie looks at the conditions of remote places where schools are scarce. It reveals a glimpse of children who walk 10 miles from home each day to school. The scenes present a sad reality for impoverished nations how they struggle to provide education for children. The main characters of the movie show how children cross the jungle on their way to school. While on their way, children are risking their lives by becoming a potential prey for wild animals along their path.

Overall, Netflix is helping young students at home to watch meaningful shows that can improve study skills. Teachers recommend while staying at home due to the ongoing pandemic, children watch educational movies and television series to stimulate their learning experience. Movies with a semi-documentary presentation show how some students should feel lucky to be living in a comfortable household. Netflix is an important instrument for students to understand the reality of going to school and having a job. Students who become successful in life are those who take a risk in challenging their path and absorb obstacles as future leaders in our society.

January 26, 2020

Have you ever wanted to add some oomph to your gadgets? Something to give them some life and make them stand out a bit? We're going to show you 7 gadget projects that will help you do just that.

Now sure, you could buy most of these things at the store, but why pay tons of money for something when you can make it yourself? Right? Detailed instructions will show you how to build these cool projects!

1. Earbud Holders

Earbuds are great but those pesky wires always seem to find some way to tangle up and cause problems. The solution? A **convenient** holder made from a plastic card. Frugal and functional!

You'll Need:
- An expired plastic credit card or membership card.
- Utility or X-acto Knife (heavy duty)
- Electric drill with drill bit
- Cutting board

2. Cross-Stitch iPhone Cases

There are a ton of great iPhone cases on the market (almost an endless amount), but have you ever wanted a completely unique case? Well, the only way to accomplish that goal is to make your own. Cross-stitch iPhone cases aren't too difficult to make, and they're completely customizable. Pick your favorite pattern and get to work! These would make for a great handmade gift as well.

You'll Need:
- Leese Design's iPhone 4 Cross Stitch Case
- Caroline Vincent's Sampler Workbook: Motifs and Patterns, page 17.
- All threads used in this version are Sajou Retors du Nord 4-ply embroidery floss
- Leaves: 2039, 2405, 2529
- Branches: 2227
- Bird: 2010
- Bird's eye and legs: 2234

4. iPhone Stand

Have you ever wanted to stand your iPhone up on its own for a hands-free, mini-theatre experience? There are products on the market to help you accomplish this, but why spend money when you can make your own? You won't need much to make one of these DIY iPhone stands, and you can customize it with your own fabric as well.

You'll Need:
- Thick cardboard (I used the back of an old note pad)
- Ruler
- Craft Knife
- Fabric (at least 27cm by 30cm)
- Pins
- Large Needle/ Darning Needle and thick thread (Or wool)
- Scissors
- A Sewing Machine (optional)

Final Thoughts: When I think of gadgets I automatically think of cold, bland electronics. That's just often how they are. However, with a bit of craftiness and love, you can bring some warmth and personality into your gadgets. I hope these DIY tech accessories have inspired you to create some awesome accessories for your own gadgets. Let us know what you're planning to create!

	Day 1	Day 2	Day 3
What do you notice about the blog?			
What do you like?			
What do you dislike?			
What is the blogger's purpose in writing?			
Who is the audience?			
What did you learn about blogs by viewing the sample?			

Challenge: Create your own blog

Think about the following questions. Choose 1 of the styles form the blog samples and 1 of the prompts below to create your own blog. Most blogs have pictures- cut out magazines or draw pictures to compliment your blog.

- What hobbies do you have?
- Share a picture of any collections you have or tell your readers how you got interested in a hobby.
- What's the best book you've read lately? What did you like about it?
- Look in your phone choose a picture you've taken recently and tell about it.
- Describe your favorite meal to have for dinner.
- List all the ways you can think of to earn money around the house.
- Review a movie you've watched.
- Tell about your time being restricted by the stay-at-home order.

  - ❖ Be sure to include blog features.
  - ❖ Have someone in your home read your blog, ask them to write a comment to your blog.

Distributive Property

Which One Doesn't Belong? Why?

(tile diagram: 2 x-tiles and 6 unit tiles)	$2(x + 3)$
(tile diagram: 2 x-tiles and 6 unit tiles)	(tile diagram: 3 x-tiles and 6 unit tiles)
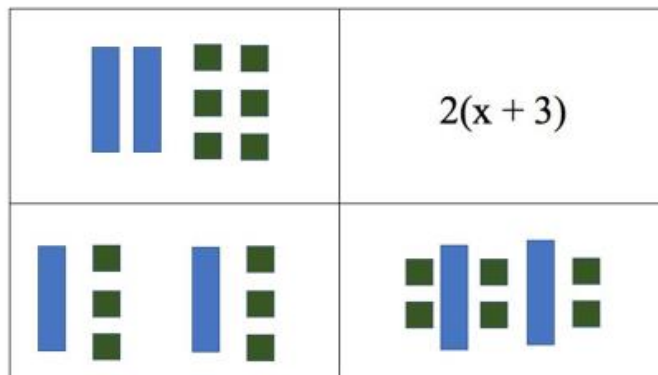
Methods and Meanings

Math Notes

Distributive Property with Variables
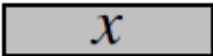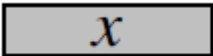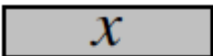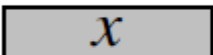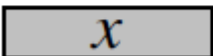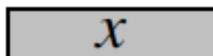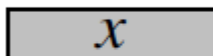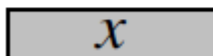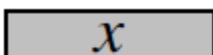
Remember that the **Distributive Property** states that multiplication can be "distributed" as a multiplier of each term in a sum or difference. Symbolically, this can be written as:

a (b + c) = ab + ac and a(b−c) = ab−ac

For example, the collection of tiles at right can be represented as 4 sets of x+3, written as 4(x+3). It can also be represented by 4 x-tiles and 12 unit tiles, written as 4x+12.

4 sets
of $x + 3$
$$4(x + 3) = 4x + 12$$

7-91 The table you use to record your steps will have only two trials, but it will add a new column to represent the algebra tiles with an algebraic expression. Choose different numbers for the trials. Decide how to write algebraic expressions that represent what is happening in each step.

Steps	Trial 1	Trial 2	Algebra Tile Picture	Algebraic Expression
1. Pick a number.			x	
2. Add 7.			x	
3. Triple the result.			x x x	
4. Add 9.			x x x	
5. Divide by 3.			x	
6. Subtract the original number.				

7-92 For this number trick, the steps and trials are left for you to complete by using the algebraic expressions. To start, copy the table below on your paper and build/draw each step with algebra tiles.

Steps	Trial 1	Trial 2	Algebraic Expression
1.			x
2.			x+4
3.			2(x+4)
4.			2x+20
5.			x+10
6.			10

   a. Describe Steps 1, 2, and 3 in words.

b. Look at the algebra tiles you used to build Step 3. Write a different expression to represent those tiles.

c. What tiles do you have to add to build Step 4? Complete Steps 4, 5, and 6 in the chart.

d. Complete two trials and record them in the chart.

7-93 In Step 3 of the last magic trick (problem 7-92) you rewrote the expression 2(x+4) as 2x+8. Can all expressions like 2(x+4) be rewritten without parentheses? For example, can 3(x+5) be rewritten without parentheses? Build/draw 3(x+5) with tiles and write another expression to represent it. Does this work for all expressions?

7-94 Diana, Sam, and Elliot were working on two different mathematical magic tricks shown below. Compare the steps in their magic tricks. You may want to build/draw the steps with algebra tiles.

   Magic Trick A

1. Pick a number
2. Add 3.
3. Multiply by 2.

   Magic Trick B

1. Pick a number.
2. Multiply by 2.
3. Add 3.

a. Each student had completed one of the tricks. After the third step, Diana had written 2x+6, Sam had written 2(x+3), and Elliot had written 2x+3. Which expression(s) are valid for Magic Trick A? Which one(s) are valid for Magic Trick B? How do you know? Use tiles, sketches, numbers, and reasons to explain your thinking.

b. How are the steps and results of the two magic tricks different? How can this difference be seen in the expression used to represent each trick?

7-95 Parentheses allow us to consider the number of groups of tiles that are present. For example, when the group of tiles x+3 in problem 7-94 is doubled in Magic Trick A, the result can be written 2(x+3). However, sometimes it is more efficient to write the result as 2x+6 instead of 2(x+3). You may remember this as an application of the Distributive Property that you first learned about in Chapter 2, only now with variables instead of just numbers.

   a. Show at least two ways to write the result of these steps:
      1. Pick a number.

2. Add 5.
3. Multiply by 3.
b. Write three steps that will result in 4(x+2). How can the result be written so that there are no parentheses?
c. Build the following steps with tiles. Write the result in two ways.
1. Pick a number.
2. Triple it.
3. Add 6.
4. Multiply by 2.

7-96 On your paper, copy the chart below. Then complete two trials by reading the algebraic expressions. Write in the steps.

Steps	Trial 1	Trial 2	Algebraic Expression
1.			x
2.			6x
3.			6x+24
4.			6x+18
5.			x+3
6.			3

7-97 Translate each of these situations into a variable expression such as those found in a magic number chart.

a. Pick a number and multiply it by 7.
b. Pick a number and divide it by 8.
c. Pick a number and reduce it by 10.
d. Pick a number, add 2, then multiply by 5.

The Distributive Property shows how to express sums and products in two ways:
$a(b + c) = ab + ac$. This can also be written $(b + c)a = ab + ac$.

Factored form	Distributed form	Simplified form
$a(b + c)$	$a(b) + a(c)$	$ab + ac$

To simplify: Multiply each term on the inside of the parentheses by the term on the outside. Combine terms if possible.

For additional information, see the Math Notes boxes in Lessons 2.3.4 and 7.3.2 of the *Core Connections, Course 1* text. For additional examples and practice, see the *Core Connections, Course 1* Checkpoint 8A materials.

Example 1

$2(47) = 2(40 + 7)$
$= (2 \cdot 40) + (2 \cdot 7)$
$= 80 + 14 = 94$

Example 2

$3(x + 4) = (3 \cdot x) + (3 \cdot 4)$
$= 3x + 12$

Example 3

$4(x + 3y + 1) = (4 \cdot x) + (4 \cdot 3y) + 4(1)$
$= 4x + 12y + 4$

Problems

Simplify each expression below by applying the Distributive Property.

1. $6(9 + 4)$

2. $4(9 + 8)$

3. $7(8 + 6)$

4. $5(7 + 4)$

5. $3(27) = 3(20 + 7)$

6. $6(46) = 6(40 + 6)$

7. $8(43)$

8. $6(78)$

9. $3(x + 6)$

10. $5(x + 7)$

11. $8(x - 4)$

12. $6(x - 10)$

13. $(8 + x)4$

14. $(2 + x)5$

15. $-7(x + 1)$

16. $-4(y + 3)$

17. $-3(y - 5)$

18. $-5(b - 4)$

19. $-(x + 6)$

20. $-(x + 7)$

21. $-(x - 4)$

22. $-(-x - 3)$

23. $x(x + 3)$

24. $4x(x + 2)$

25. $-x(5x - 7)$

26. $-x(2x - 6)$

Math 6+ – Week of June 1st

Addition, Subtraction, Multiplication, and Division of Integers

Which One Doesn't Belong? Why?

3 + (-5)

(-1) + 3   4 - (-1)
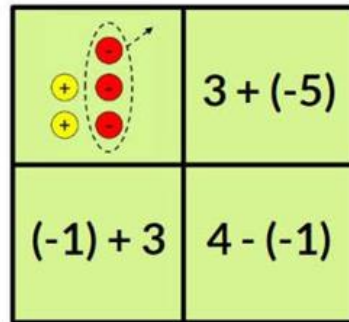
3-82 Simplify each expression without using a calculator. For each expression, draw a diagram or use words to explain how you know your answer makes sense.

  a. $-8 \div -4$

  b. $18 \div -3$

  c. $-24 \div 2$

  d. $17 \div -1$

3-83 Follow the Order of Operations (use circling the terms if it is helpful) to simplify the following expressions:

  a. $-7 + 4 \div (-2)$

  b. $17.5 \div (-7) + -8.1(2)$

  c. $(8 + (-3)) (-5 \, 3/5)$

  d. $(4 - (-3)) + (5 \div (-5))$

MULTIPLICATION AND DIVISION OF INTEGERS

> Multiply and divide integers two at a time. If the signs are the same, their product will be positive. If the signs are different, their product will be negative.
>
> Follow the same rules for fractions and decimals.
>
> Remember to apply the correct order of operations when you are working with more than one operation.
>
> For additional information, see the Math Notes box in Lesson 3.2.4 of the *Core Connections, Course 2* text.

Examples

a. $2 \cdot 3 = 6$ or $3 \cdot 2 = 6$

b. $-2 \cdot (-3) = 6$ or $(+2) \cdot (+3) = 6$

c. $2 \div 3 = \frac{2}{3}$ or $3 \div 2 = \frac{3}{2}$

d. $(-2) \div (-3) = \frac{2}{3}$ or $(-3) \div (-2) = \frac{3}{2}$

e. $(-2) \cdot 3 = -6$ or $3 \cdot (-2) = -6$

f. $(-2) \div 3 = -\frac{2}{3}$ or $3 \div (-2) = -\frac{3}{2}$

g. $9 \cdot (-7) = -63$ or $-7 \cdot 9 = -63$

h. $-63 \div 9 = -7$ or $9 \div (-63) = -\frac{1}{7}$

|			
21. $10 \div (-5)$	22. $18 \div (-3)$	23. $96 \div (-3)$	24. $282 \div (-6)$
25. $-18 \div 6$	26. $-48 \div 4$	27. $-121 \div 11$	28. $-85 \div 85$
29. $-76 \div (-4)$	30. $-175 \div (-25)$	31. $-108 \div (-12)$	32. $-161 \div 23$
33. $-223 \div (-223)$	34. $354 \div (-6)$	35. $-1992 \div (-24)$	36. $-1819 \div (-17)$
37. $-1624 \div 29$	38. $1007 \div (-53)$	39. $994 \div (-14)$	40. $-2241 \div 27$

                   Core Connections, Course 2

In every Diamond Problem, the product of the two side numbers (left and right) is the top number and their sum is the bottom number.

Diamond Problems are an excellent way of practicing addition, subtraction, multiplication, and division of positive and negative integers, decimals and fractions. They have the added benefit of preparing students for factoring binomials in algebra.
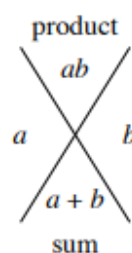
product
ab
a b
$a + b$
sum
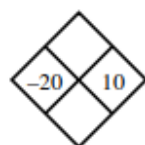
Example 1

The top number is the product of –20 and 10, or –200. The bottom number is the sum of –20 and 10, or –20 + 10 = –10.
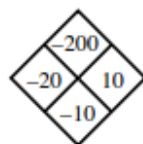
Example 2
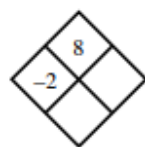
The product of the right number and –2 is 8. Thus, if you divide 8 by – 2 you get – 4, the right number. The sum of –2 and – 4 is – 6, the bottom number.
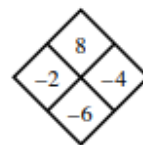
Example 3
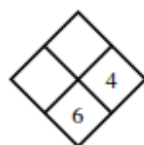
To get the left number, subtract 4 from 6, 6 – 4 = 2. The product of 2 and 4 is 8, the top number.
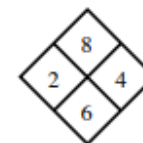
Example 4
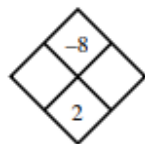
The easiest way to find the side numbers in a situation like this one is to look at all the pairs of factors of –8. They are:

–1 and 8, –2 and 4, –4 and 2, and –8 and 1.

Only one of these pairs has a sum of 2: –2 and 4. Thus, the side numbers are –2 and 4.
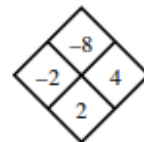
Problems

Complete each of the following Diamond Problems.

1.
4 | −8

2.
8 ; −2

3.
−1 ; −7

4.
−6 ; 5

5.
3.8 | 1.2

6.
8.1 ; 3.1

7.
3.4 ; 6.8

8.
9.6 ; 3.2

9.
$\frac{1}{7}$ | $-\frac{1}{2}$

10.
$\frac{1}{5}$; $\frac{3}{2}$

11.
$\frac{9}{5}$; $\frac{9}{10}$

12.
$\frac{4}{3}$; 1

13.
x | y

14.
a^2 ; a

15.
$8b$; $2b$

16.
$3a$; $7a$
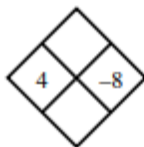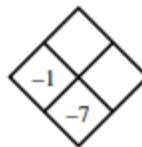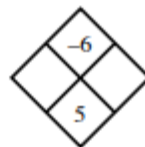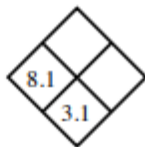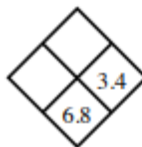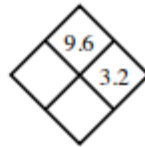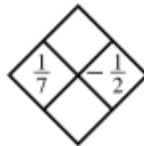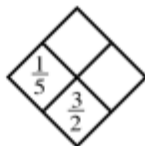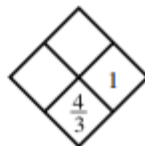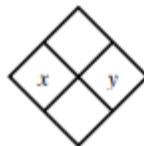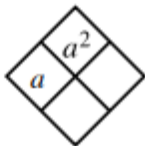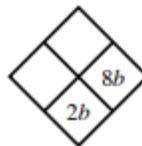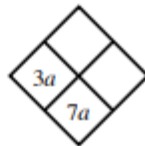
MATH 7+ - PUZZLE INVESTIGATOR PROBLEM (PIP) 9 – TILING THE LAUNDRY ROOM

Travis is planning to tile his laundry room with large L-shaped tiles made with 3 squares. (See an example at right.) According to his floor plan, the room is a 4 ft. × 4 ft. square. There is a drain in the floor that cannot be covered and is shaded in the diagram.
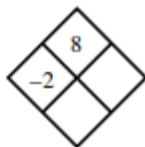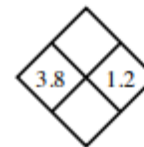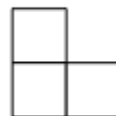
Tile
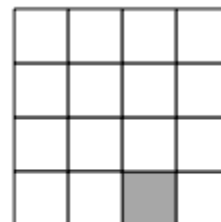
Laundry Room Floor

a. Show one way that Travis could tile his floor using his L-shaped tiles without breaking tiles and so that no tiles overlap or cover the drain. Use colors to help distinguish the tiles in your diagram. Is there more than one way to tile his floor?

b. While at the store, Travis suddenly worried that his diagram is wrong and he cannot remember where the drain is located. Does it matter? Can the floor be tiled no matter where the drain is located? Test the different possible locations of the drain (listed below) and write a short note to Travis about what you discovered.

i. **Drain is located in the middle**   *ii.* **Drain is located in the corner**
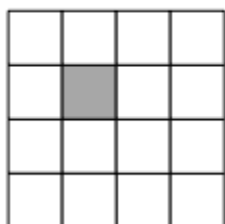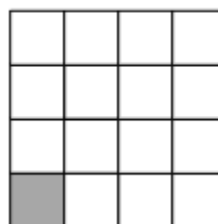
c. Uh oh! Travis came home with his tiles and found out that his floor is actually a 5 ft. × 5 ft. square and the drain is in the corner. (This is why measurements should always be checked twice!) Luckily, he bought extra tiles. However, can this floor be tiled? Using graph paper, draw a diagram of Travis' laundry room floor and find a way he can tile his floor with the same L-shaped tiles.

d. Given that his laundry room is a 5 ft. × 5 ft. square, does it matter where the drain is located? Find at least one more location (not in the corner) for the drain that would allow Travis to tile the floor. Also find at least one location for the drain that would not allow the floor to be tiled without breaking a tile.
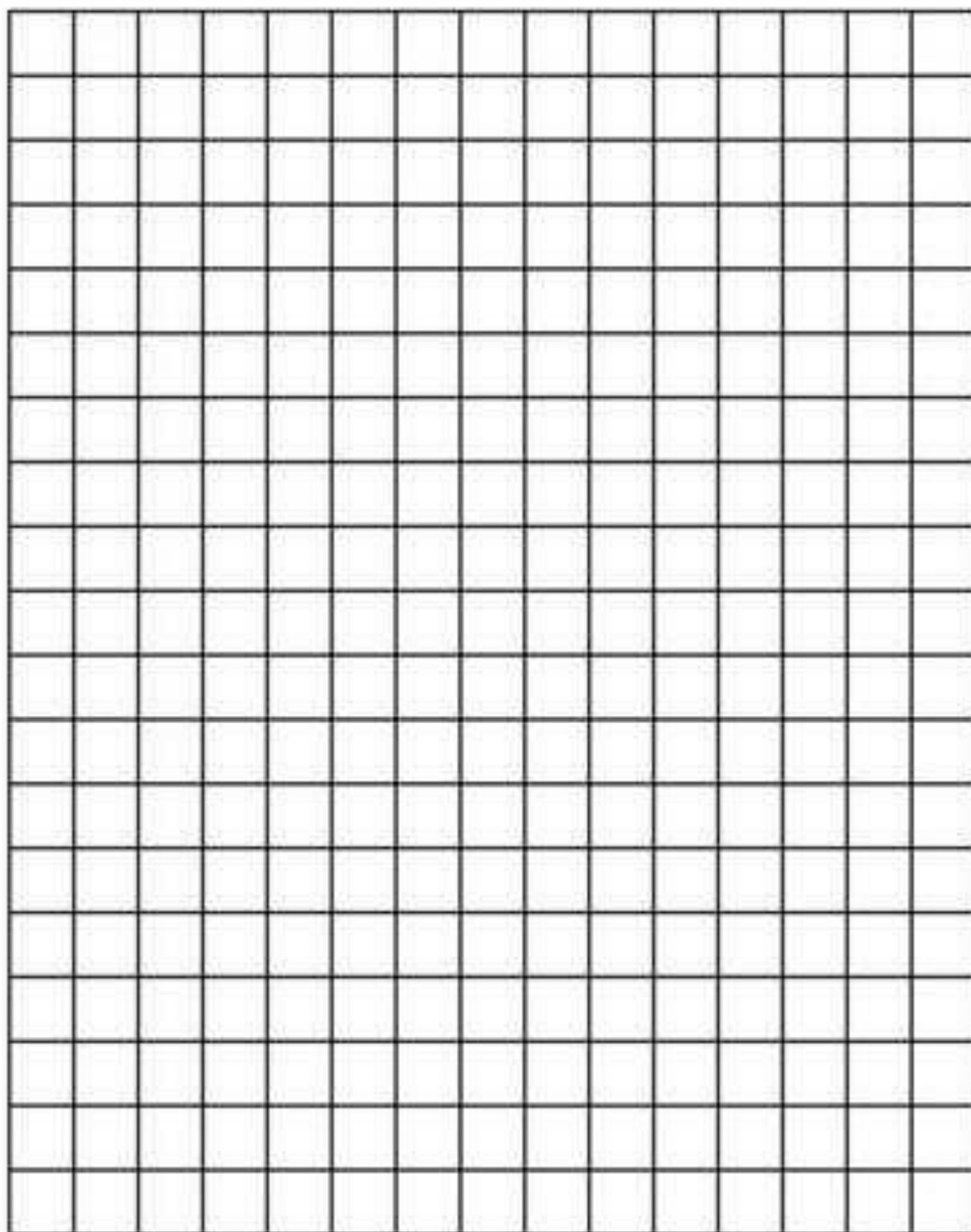
Experiment: Exploring the erosive energy of waves

By Scientific American on 03.14.20

Word Count **523**

Level **MAX**

Use these items to learn about erosion, which is the gradual wearing away or loss of land.

A day at the beach is a wonderful way to spend time with your family and friends. You can swim, play games and build sand castles. But have you ever wondered how the beach you are standing on came to be? How, for example, did all of that sand get there? Beaches are formed and continually changed by the ocean's waves moving rock particles onshore, offshore and along the shore. In this activity, you can investigate how beach formations are made by some parts of a beach that can resist erosion from the waves more than other parts.

Materials

Paint-roller pan

Measuring cup

Sand

Water

Timer

Digital camera

Plastic 500-milliliter water bottle (empty)

Adult volunteer to help take pictures

Small gravel, such as aquarium gravel

Preparation

1. Cover the bottom of the paint-roller pan with five cups of sand. Build up a beach with most, but not all, of the sand at the shallow end of the pan.

2. Slowly pour six cups of water into the deep end of the pan. Let the water and sand settle for five minutes. How has the beach changed during this time?

Procedure

1. Take a picture of your beach so that you have a record of how it looked in its original state. Where is the shoreline (the area where beach and water meet)?

2. Lay a plastic bottle horizontally so it is floating in the water in the deep end of the pan.

3. For two minutes bob the water bottle up and down with your fingertips to create waves. If the waves get so big that water splashes out of the pan, make them smaller. How does the water swirl? How does the shoreline change after one minute? What about after two minutes?

4. After two minutes of bobbing the bottle, take a picture of the beach. How does it look compared with the first picture?

5. Empty, clean and dry the paint-roller pan. Prepare a "beach" again, as you did for the preparation. When the beach is complete, make a "headland" by creating a mound out of two cups of small gravel in the middle of the shoreline. The headland should be partly in the water and partly on the beach. Take a picture of the beach with the headland.

5. Again, lay the plastic bottle horizontally so it is floating in the water. For two minutes, bob the water bottle up and down with your fingertips. Again, if the waves are so big that water splashes out, make them smaller. How does the water swirl? How does the shoreline change after one minute? What about after two minutes?

6. After two minutes, take a picture of the beach. How does it look compared with the previous picture?

How does the headland affect where the water goes? How does it affect how much the shoreline erodes?

Observations And Results

Did the shoreline erode, or recede from the water, after you bobbed the water bottle up and down for two minutes? Did most of the shoreline erode less when there was a headland, especially the shoreline closest to it?
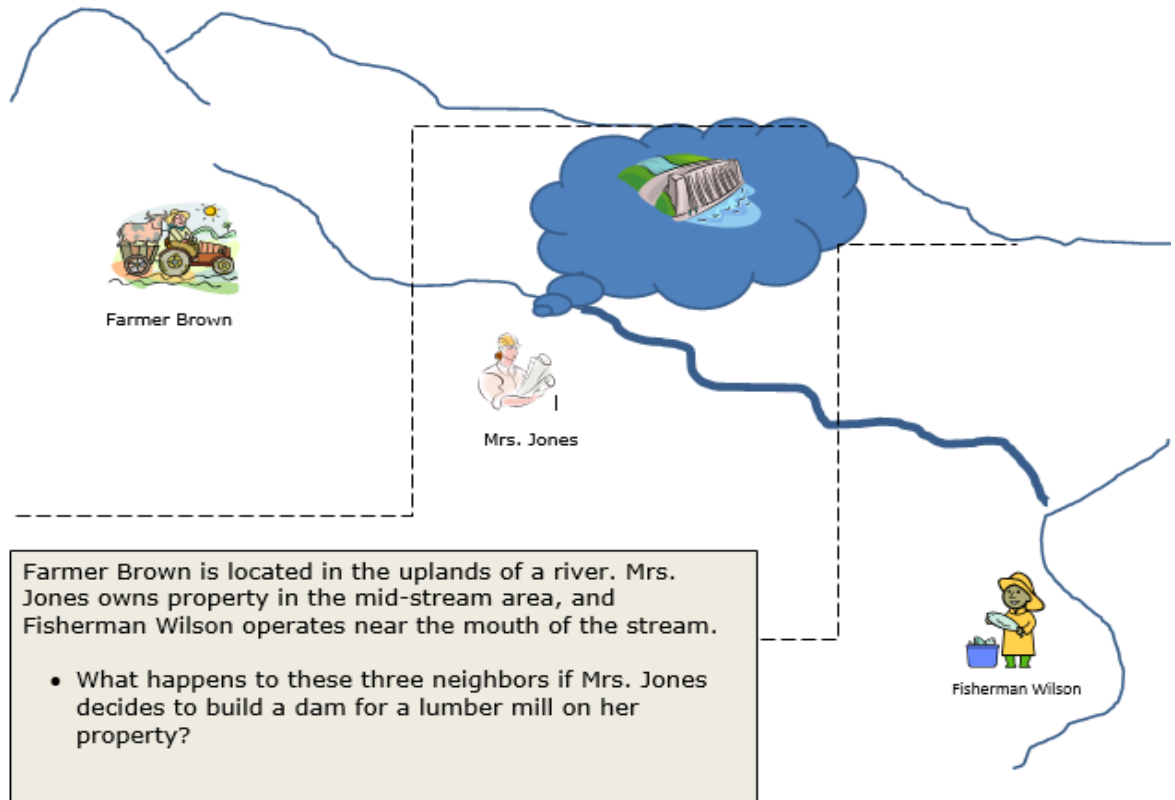
Benchmark Standard	Geography Standard 4b: Students will explain how conflict and cooperation among people contribute to the division of the Earth's surface into distinctive cultural and political territories.
Grade Band	6-8
Vocabulary / Key Concepts	**Conflict:** Incompatibility of one idea, desire, event, or activity with another **Dams:** Structures built across a river to control the flow of water **Environment:** The sum of the conditions that surround and influence an organism **Flood**: The rising and overflowing of a body of water onto land that is not normally covered with water

~This is from the DRC Unit *Partnerships and Partitions* – modified by CSD for use at home~

ACTIVITY 1: Observe the picture, read the scenario and answer the question in the box.

Farmer Brown

Mrs. Jones

Fisherman Wilson

Farmer Brown is located in the uplands of a river. Mrs. Jones owns property in the mid-stream area, and Fisherman Wilson operates near the mouth of the stream.

- What happens to these three neighbors if Mrs. Jones decides to build a dam for a lumber mill on her property?

CONFLICT AND COOPERATION IN CZECHOSLOVAKIA

ACTIVITY 2: Read the following article. As you read, identify evidence of conflict and cooperation. Use two different colored highlighters or Circle the evidence of cooperation and underline the evidence of conflict.

The Danube River

Rivers provide for many human needs: fresh water for drinking, hydroelectricity to power factories and homes, irrigation for crops, transportation for freight and people, and habitats for plants and animals. Rivers also often mark borders between countries. This can lead to power struggles between neighbors. Each may want to control the river for economic, environmental, or political reasons.

A good place to examine the conflicts that can occur when countries share a river is along the Danube River in Europe. There it forms part of the border between Slovakia and Hungary. Starting in the mountains of Germany, the Danube flows 1,770 miles (2,736 km.) and empties out into the Black Sea on the coasts of Romania and Ukraine. The Danube River Basin is the second largest in Europe, after the Volga. Including all its tributaries, the river system covers more than 300,000 square miles (776,966 square km.) and links parts of 19 countries. Its size alone makes the Danube vital to the ecology and economy of central Europe. Historically, it was an important boundary marking the edge of the Roman Empire. Cities that were founded as Roman fortresses along the river have become modern capitals, including Vienna, Budapest, and Belgrade.

The area along the border between Slovakia and Hungary is a large floodplain. Floodplains are ecosystems full of biological diversity. Frequent flooding washes nutrient-rich silt over the land, feeding forests and cropland. Fish and migratory birds are usually abundant in these wetlands, which serve as natural filters, cleaning pollution from upstream out of the water.

Part of the floodplain between Hungary and Slovakia is called Szigetkoz. This area is home to small farms, forests, and about 5,000 species of plants and animals. Underground this area is a large freshwater reservoir. The wetlands above it act as a filter to keep it clean. In 1977, Hungary and what was then the country of Czechoslovakia[1] agreed to build a system of dams and canals in the Szigetkoz area. The Gabčíkovo-Nagymaros Project was named for the towns at each end of the dam system. The decision to build this project led to a major international conflict that is still not resolved.

The Gabčíkovo-Nagymaros Project

In the twentieth century, many countries were searching for ways to modernize and bring electricity, industry, and a higher standard of living to their people. One of the ways they tried to improve people's lives was by building large dams. Dams could produce hydroelectric power, provide jobs, and help stop damaging floods. These kinds of projects are still built today, but much more cautiously. People discovered that benefits like electricity, jobs, and flood control also had environmental and political costs.

The Gabčíkovo-Nagymaros Project was agreed to in 1977. It was abandoned by the Hungarian government in the early 1980s because of worries about its environmental impact and financial problems. The Czechoslovakians finished their side of the project, completing the Gabčíkovo dam in 1992. That was right before the country split in two, and the Slovakians took control of the area. The dam pushed more than 80 percent of the flow of the Danube out of its main riverbed and into a canal on the Slovak side of the river. This led to a huge drop in the Danube's water flow below the dam. The dam and canal system created several problems that upset the Hungarians:

- Fish populations declined as much as 80 percent because of the lower water levels. This causes problem for people who make a living fishing, and threatens entire populations of endangered sturgeon, which can no longer migrate upstream to spawn.
- Other animals and plants, including rare birds, have lost their natural habitat.
- Pesticides, fertilizers, and industrial pollution are concentrated and trapped behind the dam. This creates hazardous situations for the people who live upstream.
- The level of the freshwater reservoir underneath the Szigetkoz area dropped. It became contaminated with the trapped pollution.
- Farmers on the Hungarian side lost access to water for irrigating their crops because the river sank to such low levels.

Hungarians were also upset about the economic impact. Slovaks had built and controlled the dam and canal, so they received all the money from ships that used the canal and all the electricity the hydroelectric plant produced. Hungarians who were living in Slovakia complained they were being squeezed into a small bit of land between the canal and the old riverbed. And the Hungarian government said that, in effect, a new border was being created between the two countries that gave Slovakia more control over the river and its resources.

Slovakia's government believed it had acted according to the original agreement between the two countries. It believed that the Hungarians' problems stemmed from the fact that they had not followed through in building the rest of the project. Slovakia's government pointed out that during massive flooding along the Danube in 2002, the Szigetkoz region escaped disaster because of the flood control provided by the dam and canal.

The two countries agreed to ask international organizations — including the International Court of Justice — to step in to help resolve their problems. But, the countries are still in conflict after years of meetings.

After reading the above article, answer the following questions:

1. Identify one benefit, or positive outcome, that might result from the project, and one drawback, or negative outcome.
2. Find evidence of cooperation along the Danube and evidence of conflict.
3. Tell how people in the region have tried to settle this dispute.
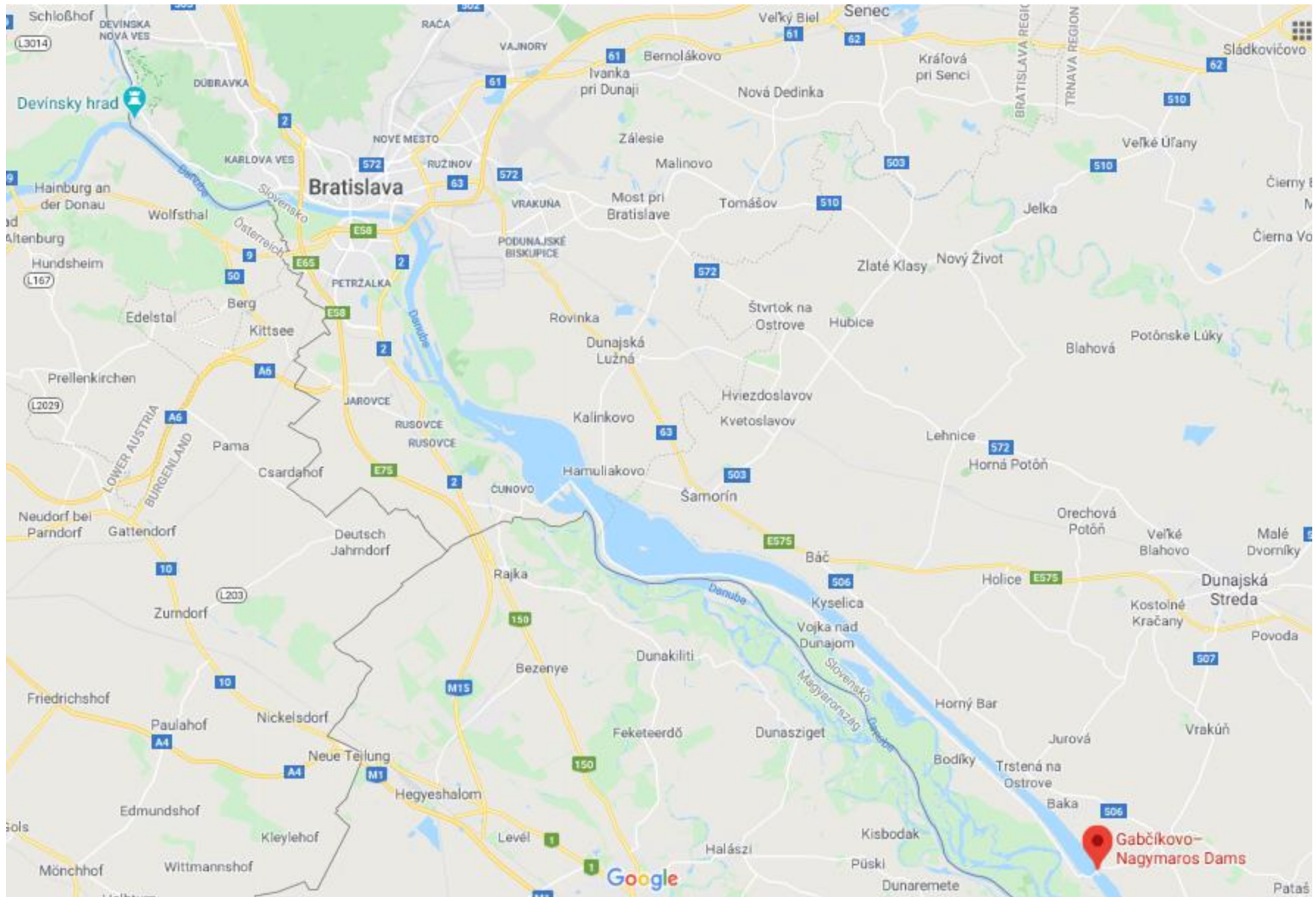
ACTIVITY 3: Observe the following two maps and complete the following questios:

1. Locate the area of the Gabčíkovo-Nagymaros Project on the map of the Danube River.
    A. Which countries are upstream of the project? Which countries are downstream?
    B. Wher is the Danube River in relation to the country borders in the area?
    C. Based on the borders, who should control the river? Why?
2. Why would countries downstream from the dam care about the project? Countries upstream?
3. Should these countries be allowed to help make decisions about the dams?
4. In building the Cunovo dam and diversion canal, more than 80 percent of the water from the Danube River was moved out of its original course. How would this affect the people living along the original course of the river? How might it cause conflict?

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[1] In 1993, Czechoslovakia split into the Czech Republic and Slovakia.

THE DANUBE RIVER INCLUDING THE GABČÍKOVO DAM

NATIONAL GEOGRAPHIC MAPS
REVISED IN NOVEMBER 2011

0 mi   100
0 km   100

NATIONAL GEOGRAPHIC
education
www.education.nationalgeographic.com

From Google Maps:
https://www.google.com/maps/place/Gab%C4%8D%C3%ADkovo%E2%80%93Nagymaros+Dams/@48.1683037,17.0475014,9z/data=!4m5!3m4!1s0x476b8336f5c5b975:0xcf8197c85ee634e5!8m2!3d47.8810188!4d17.5406648

ACTIVITY 4: Check for Understanding:
1. Why might this project help improve life in your countries?
2. Why it is an example of international cooperation that other countries should follow?
3. Explain the physical geography and the economic and political situation of the area in relationship to these questions.

ACTIVITY 5:
Present the Case of the Hungarians:
Create a "laser talk" – Many geographers and planners make presentations to audiences about a particular topic. A laser talk is a format that a presentation could take which attempts to influence audience members to take a stand.
Tips on writing your laser talk:
- **Get your listener's attention** with a dramatic fact or short statement. Keep this opening statement to one sentence if possible. For instance, you could say: "I know you share my concern about improving the environment."
- **Present causes** of the problem you introduced in the first section. How serious is the problem?
- **Suggest a solution** to the problem you just presented.
- **Be specific about what you want to do.**   To support your information / opinion, use evidence from the article and maps.

Addressing Opposing Viewpoints is an important skill to master for life.
Opposing views, or counter-arguments, challenge your own stance. The counter-argument helps ensure thorough logic. Lest your argument appear one-sided, you must explore multiple angles of issues and consider their possible refutations. When the opposing views are handled well, they do the following:
- Show understanding and respect
- Make your writing credible
- Help readers to empathize with your reasoning

Addressing Opposing Viewpoints From:
https://courses.byui.edu/AcademicSupport/writing-center/pdf/new/addressing-opposing-viewpoints.pdf

ACTIVITY 6: The Opposing View:
Present the Case of the Czechs:
Create a "laser talk" – Many geographers and planners make presentations to audiences about a particular topic. A laser talk is a format that a presentation could take which attempts to influence audience members to take a stand.
Tips on writing your laser talk:
- **Get your listener's attention** with a dramatic fact or short statement. Keep this opening statement to one sentence if possible. For instance, you could say: "I know you share my concern about improving the environment."
- **Present causes** of the problem you introduced in the first section. How serious is the problem?
- **Suggest a solution** to the problem you just presented.
- **Be specific about what you want to do.**   To support your information / opinion, use evidence from the article and maps.