

inteGIRLS Puzzle Hunt

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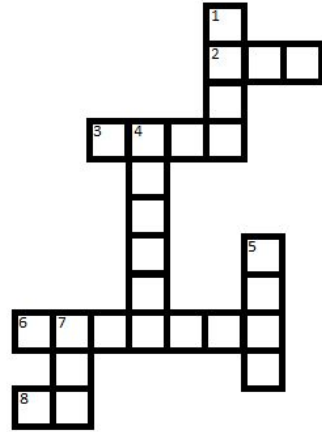
EASY – 100 points	1
Compound Interest	2
Frogmented	3
Galaxy Positioning System	4
Jumping Gene	5
Locations United	6
Lost and Found	7
Monopoly: inteGIRLS Edition	8
Prima	9
Variables	10
MEDIUM – 200 points	11
Don't Think Outside the Box	12
Four-rest	13
He Loves Me, He Loves Me Not	14
Hidden Figures	16
Interview with an Electron	19
Similar Similes	21
The User's Handbook To Mathematics	22
Think Fast	23
Rainbow	24
HARD – 500 points	25
Contagion	26
Grocery Shopping	28
Star Sailor	29

EASY — 100 points

Compound Interest

7. They may be ripped + ___ + 5. Bell sound
2. Fruit or seed with hooks + ___ + 3. "_ Nights," song by Fun.
___+8. "_ it just me, or...?" + 6. Small organized group
4. Item + ___ + 1. Not crippled

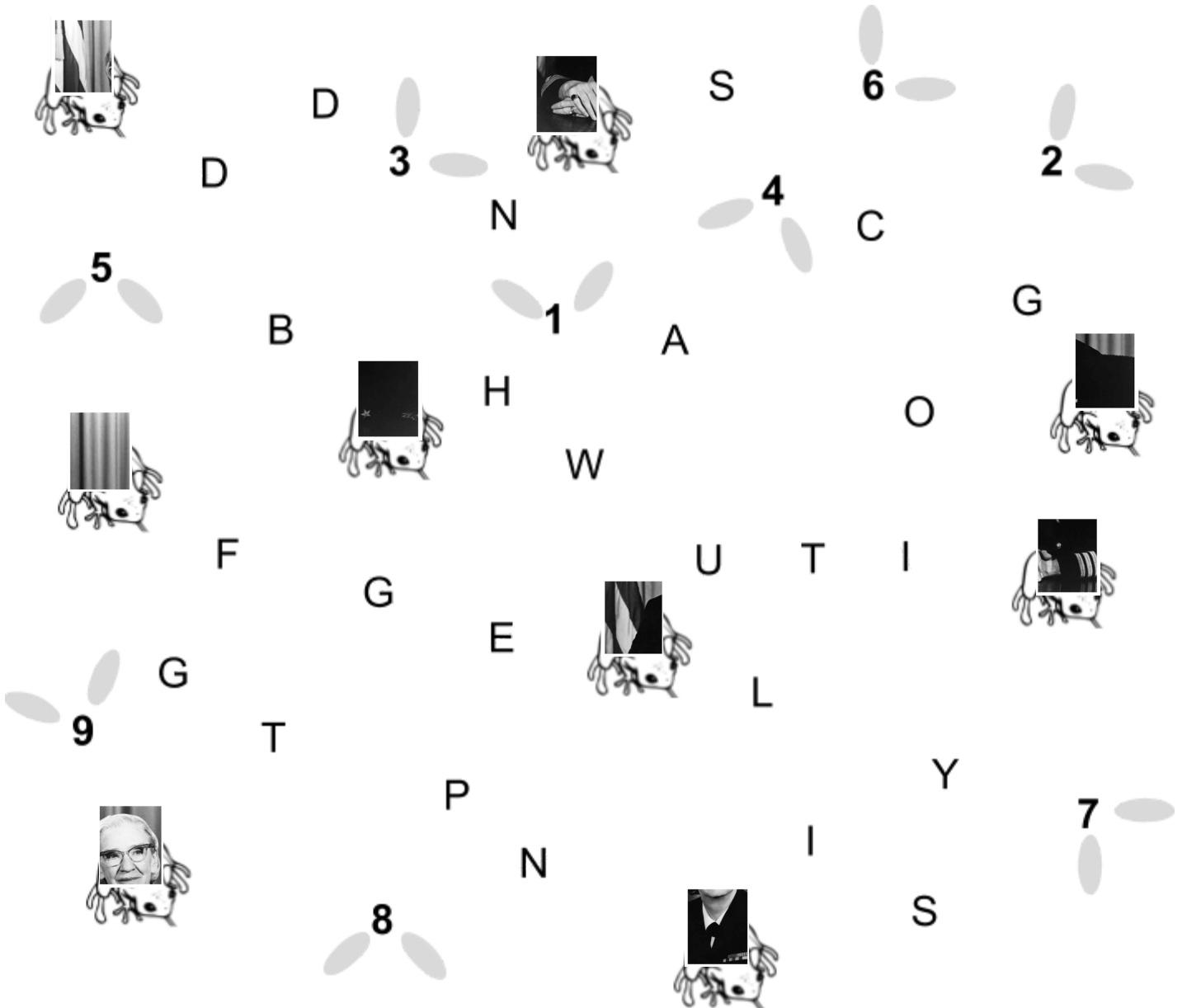
How does Lene Hau slow down a beam of light?



Frogmented

Those are some funny looking flies! I wonder which frogs are going to go for them.

1	2	3
4	5	6
7	8	9

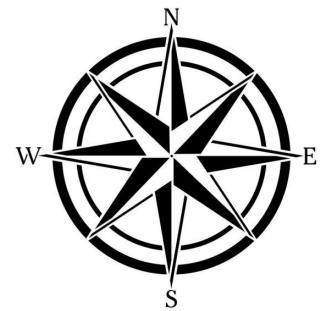


Galaxy Positioning System

Dr. Gladys West was responsible for the mathematics and programming that brought about the invention of the Global Positioning System (GPS). Her important work at the U.S. Naval Weapons Laboratory helped with outer space discoveries related to planets in the solar system as well as Earth.

You must follow a very specific set of directions coming from the GPS even if they may seem odd. Unbeknownst to you, your friend is following a similar map but in space-- locating five planets. First consider where you meet, then take a look at the places that neither of you have touched.

R	U	N	L	G	F	K	O	H	S	
D	N	M	E	T	J	U	P	I	A	
Q	L	F	E	P	O	Y	L	A	T	
S	P	A	C	R	T	E	U	B	U	
U	O	H	N	D	C	U	T	M	R	
N	I	O	Y	O	I	U	N	Z	N	
E	R	S	M	S	T	S	R	E	I	
V	H	T	R	A	E	N	O	I	R	
L	S	D	O	O	G	N	C	K	T	
Start →	A	R	E	T	I	P	M	A	R	S

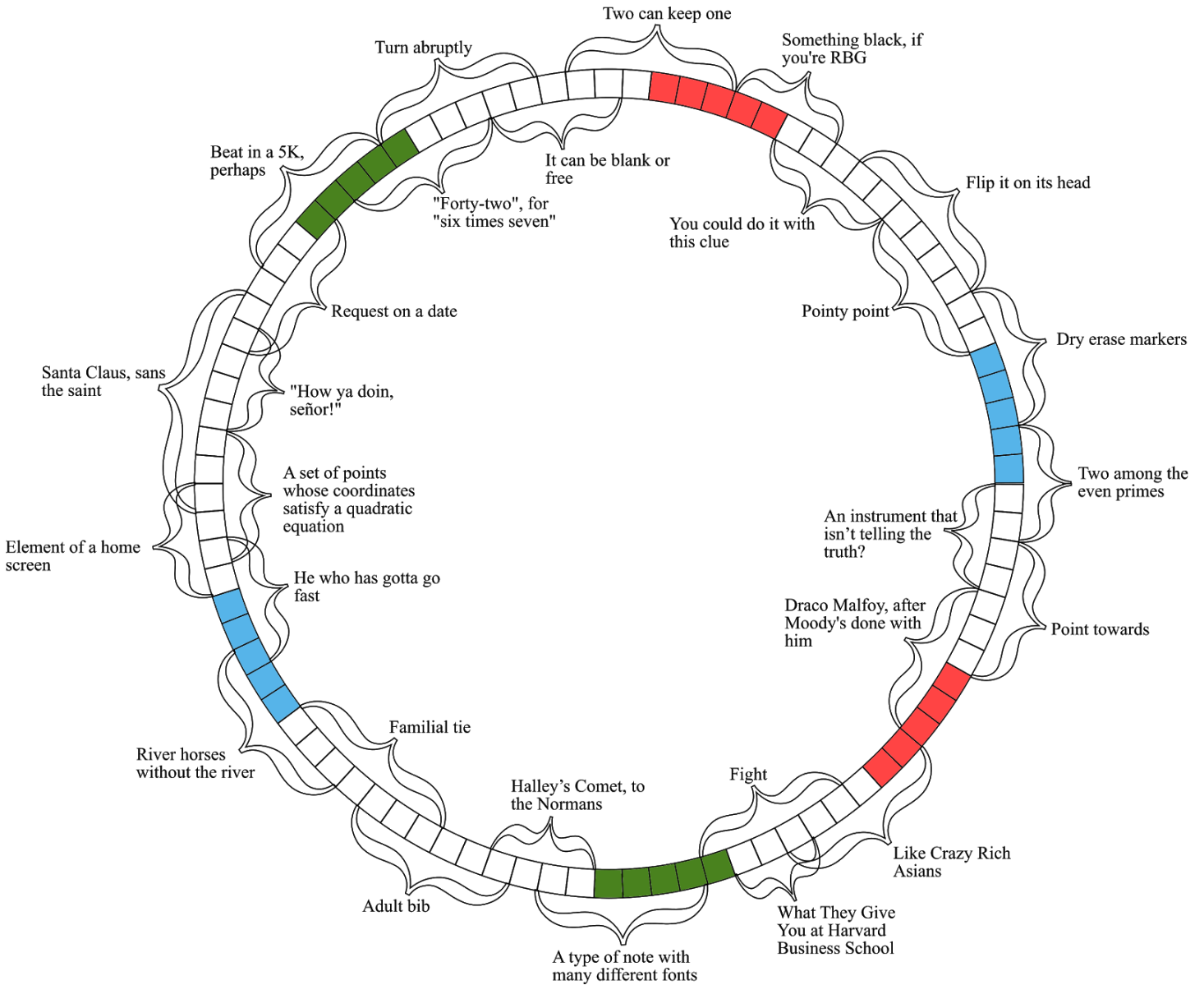


- | | | |
|--|--|---|
| <ol style="list-style-type: none"> 1. North for 1 mile 2. East for 2 miles 3. Southwest for 1 mile 4. East for 4 miles 5. North for 1 mile 6. West for 1 mile 7. North for 5 miles 8. West for 3 miles 9. Southeast for 2 miles 10. West for 2 miles 11. South for 1 mile 12. Northeast for 1 mile 13. Southeast for 1 mile 14. East for 2 miles | <ol style="list-style-type: none"> 15. Southeast for 2 miles 16. East for 2 miles 17. North for 2 miles 18. Northwest for 3 miles 19. East for 2 miles 20. North for 3 miles 21. East for 1 mile 22. South for 1 mile 23. Southwest for 2 miles 24. North for 3 miles 25. West for 6 miles 26. South for 2 miles 27. East for 2 miles 28. Northeast for 1 mile | <ol style="list-style-type: none"> 29. East for 2 miles 30. South for 2 miles 31. Southwest for 1 mile 32. Southeast for 2 mile 33. South for 1 mile 34. West for 1 mile 35. Northwest for 1 mile 36. West for 1 mile 37. Northwest for 4 mile 38. North for 2 mile |
|--|--|---|

Arrival Time: **11 PM**

Jumping Gene

Your biologist colleagues have found a plasmid (ring of DNA) with three elements that have copied themselves in two places on the DNA. Your job in the lab is to find out the sequences of these 'jumping genes'.



Do some recombination of your own to figure out their true nature.

Locations United

Zonia Baber is known as both a geographer and an activist, reforming how geography was taught and as a field overall. She changed it from being simply focused upon colonization to something that is more about connection and understanding between different cultures.

You are currently in a geography class that is being taught in Baber's style. Your teacher has a very interesting circular carpet and asks you all to stand in a certain formation to represent the joining of nations around the world. However, they do not match up exactly and may require you to move around for them to connect.



Lost and Found

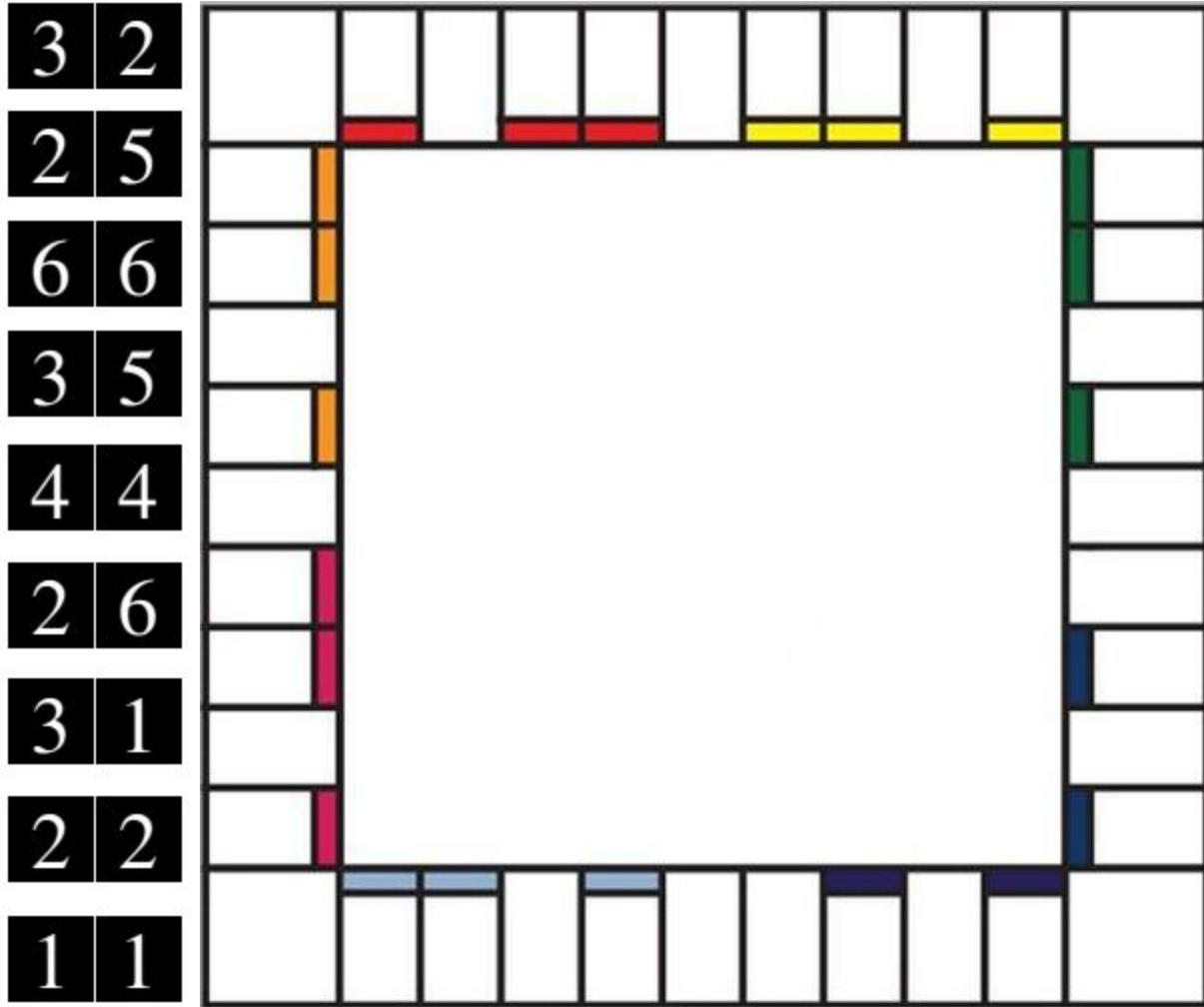
Scientists are picking up items that were discovered a while ago, which mixed up the index for the Lost & Found logs. Some of these items have been here for ages! One scientist tried to pick up something missing from the list, but we think it might be hidden in the Lost & Found. Can you help this scientist find what's rightfully hers and get her name?

Airplane Muffler	•		4	•		Bishop	
		5					
BBC BASIC	•	1				Jones	
			4		1		
Coq	•		6	2	1	Kwolek	
		5		11			
Gap Genes	•		3	2		Lehmann	
				10			
Inner Core	•				15	1	Mayer
		6		7			
Kevlar	•	4	3	2		12	Nusslein-Volhard
				2		1	
Nuclear Shell	•	5		7		3	Paulin-Mohring
		6		9	4		
Star Composition	•		2	5			Payne-Gaposchkin
					6		
Vitamin E	•		3		8		Wilson
		1					

Monopoly: inteGIRLS Edition

Lizzie Magie is often credited with creating the FIRST version of the popular Monopoly board game. The version we know and love -- complete with its famous streets, utilities and railroads -- is now PROPERTY of Hasbro.

Are you good with money? GO and play!



Prima

As we celebrate female *firsts* in STEM, let's talk about the fundamentals of ballet. These are the things all *beginners* learn before they participate in famous ballets. Let's follow a ballerina through her positions during her ballet class. Ballet has always been particularly physical.

- Into novice dance exercises! Xoxo -



- Chin in now! Don't ever relax elbow locks, Lilliane Anna -



- Spine lengthened. Extend ever poised importance. Neck gracefully bowed. Eleanor, avoid uttering tremulous yawns. -



- Neatly under the center rotational axis Clarice. Kathleen, eliminate rigidity. -



- Sway wistfully, Annabelle. New leads always keel excessively. -

Variables

Think about how you get to La Luna.
<https://tinyurl.com/variablespuzzle>

A young lady (one might be doing this puzzle!)	----
Aquatic respiratory organ	----
Window ledge	----
Moth derived fiber	----
Mammal derived fluid	----
Spicy specification	----
Feral, savage, untamed	----
To droop, as a plant	----
Shift askew	----
Bathroom flooring	----
Gallbladder substance, or vomit	----
Hay storage unit	----
50% off on select items	----
Lightly hued	----
Pour down concrete	----
Trim around the edges (not a fruit!)	----
Cheese paired with chicken	----
Textural treatment	----
Semester, trimester, or quarter	----
To be full of	----
Appear as if	----
Sci, Tech, Eng, Math	----

MEDIUM – 200 points

Don't Think Outside the Box

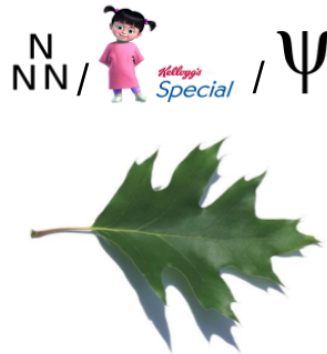
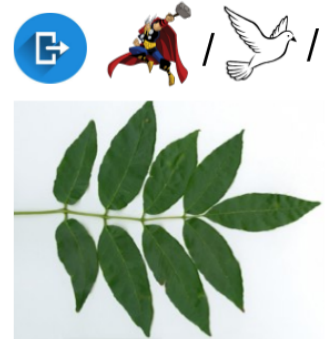
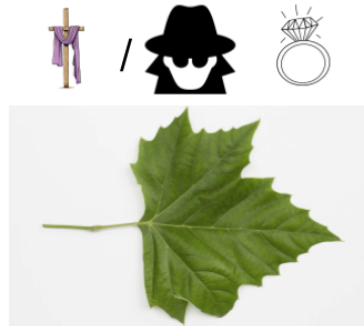
Why don't you give this puzzle a spin? Good luck!

WCFWUJHITHFTABGW
GLUSZVYPEAANPRLC
BRJPYYCRRMOXLJUF
APLMSWCKNHCACPSW
TNXASVGTOHWSSYZU
FAOCWFIJECFVWYVJ
HAMHHCYWTYIGCCYH
TERNOETOOWJTKRPI
IPRKTJWOYTEONRET
HYCCGIRTWYCHHMAH
JVYWVFCTJIFWCOAF
UZYSSEHOTGVSAXNT
SSPCACHNKCWSCLPA
FUJLXOMRMCYYPJRB
CLRPNAAEPYVZSUYG
WGBATFHTIHJUWFCW

Four-rest

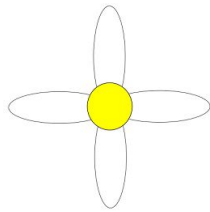
You were happily walking through a forest when you happened upon a strange cluster of leaves with unique symbols on them. You look around to see where the disorderly leaves came from and see five **alpha** trees scattered around the grove. The wind swishes through the trees behind you

and you listen carefully to the 4 🗨️.

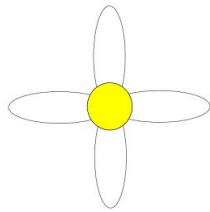


He Loves Me, He Loves Me Not

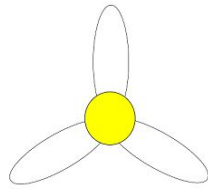
Someone combined the flower samples from two of Agnes Arber's experiments. They'll need to be separated again.



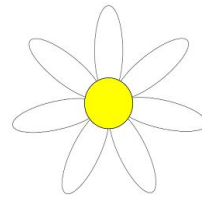
stem



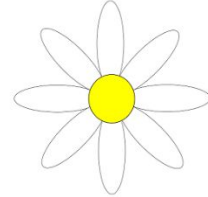
pedicel



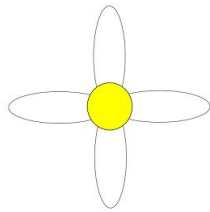
rachis



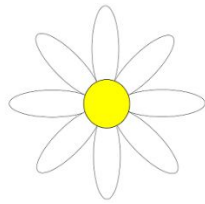
deciduous



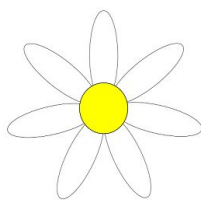
evergreen



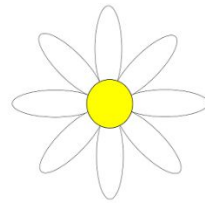
tree



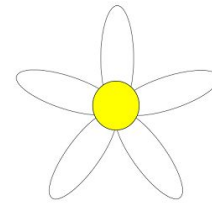
haustorium



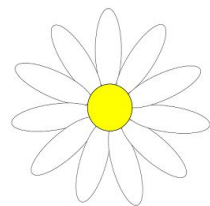
cotyledon



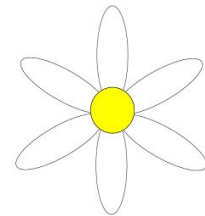
glabrous



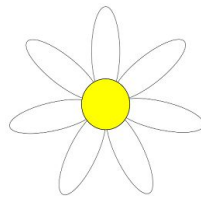
pollen



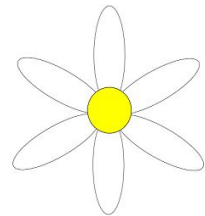
germination



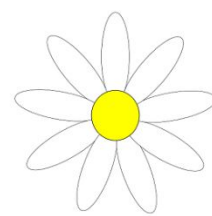
thyse



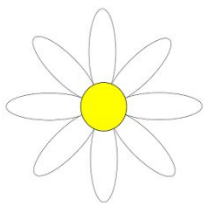
cultivar



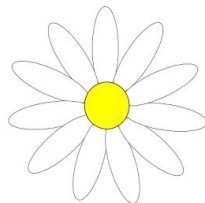
stamen



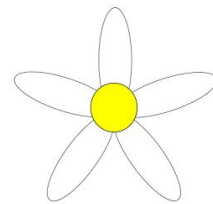
herbarium



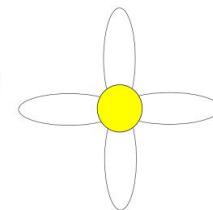
chlorophyll



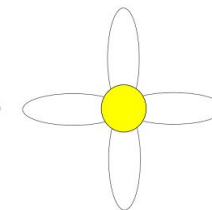
photosynthesis



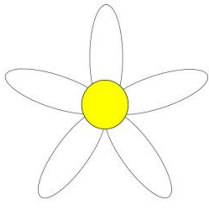
taproot



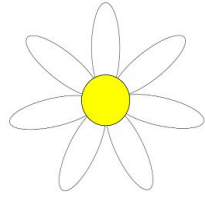
dicot



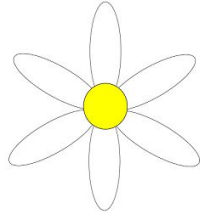
flower



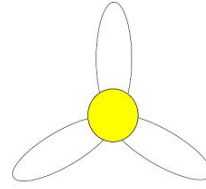
rainforest



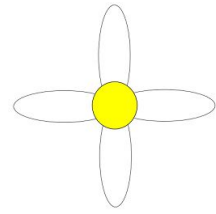
isidium



raceme



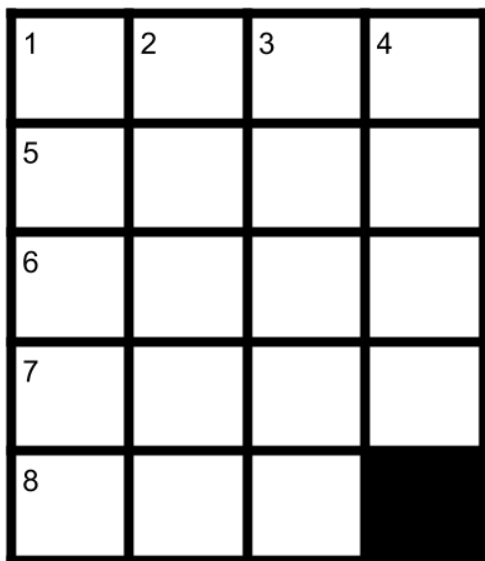
leaf



spore

Hidden Figures

At NASA, as in puzzling, *correspondence* is important.

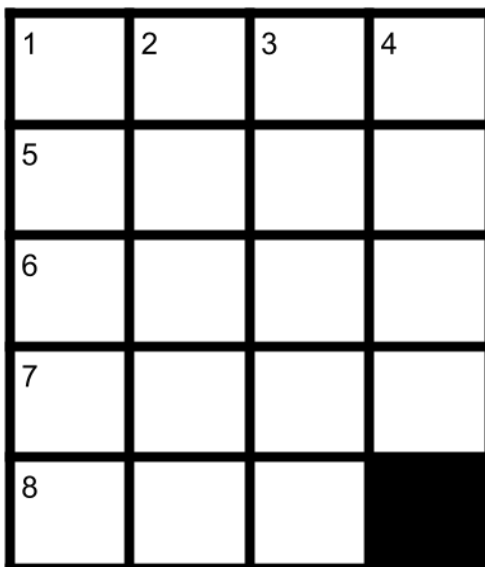


Across:

- 1) Mouth delivered or **t**aken
- 5) Cher's first hus**band**
- 6) **A**s well
- 7) **M**odest
- 8) Gallaudet University **lang.**

Down:

- 1) 44th President
- 2) Thespian parts
- 3) Actor Elgort
- 4) *Take a gander*



Across:

- 1) Bohemian **R**hapsody actor **M**alek
- 5) **T**ied or two divisible
- 6) **N**ot messy
- 7) "Good Dinosaur" title figure
- 8) **F**leur-de-___ **s**ymbol (var.)

Down:

- 1) Kidney related
- 2) Bugs bunny creator Tex
- 3) Lunch and dinner
- 4) "___ *the Woods*"

1	2	3	4
5			
6			
7			
8			

Across:

- 1) Paper of DC
- 5) Outcry in pain
- 6) French "to be"
- 7) Knot together
- 8) Use needle and thread

Down:

- 1) Rhyme writers
- 2) Innie complement
- 3) Helical simple machine
- 4) None of ___ above

1	2	3	4
5			
6			
7			
8			

Across:

- 1) MIT's center, for short
- 5) Denial words
- 6) Tune for a pair
- 7) Adj. for LAX, and DEN
- 8) Arthur ____, tennis champ

Down:

- 1) Capital at New Delhi
- 2) Sentence subjects
- 3) Doctor listening device, for short
- 4) This one's is "Hidden Figures"

1	2	3	4
5			
6			
	7		
	8		

Across:

- 1) Thirty Rock's Fey as Liz Lemon
- 5) Long, tedious task
- 6) Middle eastern flatbread
- 7) Singer Grande for short
- 8) Bear bedroom

Down:

- 1) Small recipe qty.
- 2) Trojan war epic
- 3) _____ Dame Cathedral
- 4) *Once more!*

Interview with an Electron

Chien-Shiung Wu knew electrons better than anybody else. She used a source of cobalt atoms to observe beta decay and found that the electrons emitted by decaying cobalt atoms always preferred the direction opposite to their intrinsic spin.

In order for you to make a discovery like Wu's, the inteGIRLS team conducted an exclusive interview with an electron! Unfortunately, the electron always gave us two answers and we couldn't figure out which one it meant to say! Your job is to carry out Wu's legacy and decipher the interview.

One more thing: once you get the answers, be careful! Because of quantum mechanics, the only bit of information you can trust from an electron is the last bit you hear.

Question 1: Mx. Electron, what is your favorite story from *Memoirs of Sherlock Holmes*?

The Adventure of Silver Blaze OR The Adventure of the Resident Patient

Question 2: Mx. Electron, what is your favorite line from the Emily Dickinson poem "Are Friends Delight or Pain?"

Riches were good — OR Are Friends Delight or Pain?

Question 3: Mx. Electron, if you could only watch one Star Trek show for the rest of your life, which show would it be?

Star Trek: Deep Space Nine OR Star Trek: The Original Series

Question 4: Mx. Electron, if you had to take a vacation on a houseboat in the middle of a lake, where would you go?

Lake Ontario OR Caspian Sea

Question 5: Mx. Electron, what was your favorite rom-com from the 1990s?

Ten Things I Hate About You OR Sleepless in Seattle

Question 6: Mx. Electron, if you had to take an extremely attractive proton on a first date, where would you take them?

Shopping Mall OR Movie Theater

Question 7: Mx. Electron, what would your dream job be?

Pyromaniac OR High School Principal

Question 8: Mx. Electron, which band wrote the better song called We Only Come Out At Night?

Smashing Pumpkins OR Motionless in White

Similar Similes

Ada Lovelace is most famous for her development of the first algorithm intended to be run by a machine, making her the world's first programmer. However, she was also the daughter of the famous poet Lord Byron, and she self-described her approach as "poetical science". She combined these elements throughout her life, both writing programs for the Engine and considering how its development could impact society and humanity.

I'm trying to write my own poems, but I'm not... great with poetic language. What did I get wrong?

Your heart is as flock'd as nails.
with the moon as white as unhurried
And the stars as plain as withered,
Your mouth remains as stubborn as a completely silent person;
Yet, your mind is as broken as a bee,
with wit is as sharp as a burlap bag.
The time passes as slow as a toothy growl
with the night as black as a young horse
And the clouds as long-stick'd as death,
The world as achievement'd as a pancake.

Your heart is as slippery as a jelly
But with determination as hard as postage
our love is as snug as a bug in a ditch
Though they say it is as uninteresting as a bat,
It is as checkered as day
That you are as desire'd as an owl.

The User's Handbook To Mathematics

You find a sheet of paper tucked away in your math textbook, next to the page with all the formulas.

- "With the help of some tree roots, Alice, Bob, and Carl were able to catch the four rats fair and **square.**" $\frac{1}{2} \sqrt{2}$
- "Alice, Bob, and Carl are on vacation in Greece. The amount of square pasta that Alice and Bob have altogether ends up being equal to the amount that Carl has." $\frac{1}{2} \sqrt{2}$
- "George is buying new shoes, but needs Jordans that fit the exact curve of his feet. Before leaving, he checks the temperature." $\frac{1}{2} \sqrt{2}$
- "Before my death, I would like to say that my children Alice, Bob, and Carl will not get any of my money, no matter how many times they try. - Pierre" $\frac{1}{2} \sqrt{2}$
- "Gordon is trying to organize his pantry by color, but he wants to see how many ways he can order red and blue items." $\frac{1}{2} \sqrt{2}$
- "At a certain magical clinic, a hallway appears that seems to go forever. Investigations on the origin of this hallway come up indeterminate." $\frac{1}{2} \sqrt{2}$

Think Fast

Think fast! Your cranial nerves are probably slowing down after all of these puzzles, so you need to give them something to keep up. Keep some things in *moderation* though, some puzzles are relatively harder than others.

12

14

14

11

18

4

12

0

13

13

14

6

Rainbow

Though we all are very different, there is something that we all share...

[Hypatia 🧠 + Naomi Wolf - Ann Baynard][Eleanor of Arborea 🧠][Maria Angela Ardinghelli 🧠 - Alessandra Giliani]

[Katherine Jones, Viscountess Ranelagh][Bettisia Gozzadini][Margo Wilson 🧠][Mary Calkins - Isabella Cortese 📖 + May-Britt Moser 🏆 - Margaret K. Butler]12

[Vanaja Iyengar 🧠 + Paula of Rome 🧠][Herrad of Landsberg 📖 - Dame Péronelle + Margaret Ursula Jones]19

[Deng Sui 🧠][Carol Greider 🏆][Helen Huff 🧠]

[Aphra Behn 🧠 + Hroswitha of Gandersheim]

HARD — 500 points

Contagion

You are a world-renowned epidemiologist, and the United States government has just sent you an urgent transmission. Figure out the hidden message, and report your findings to the Surgeon General's office as soon as possible.

A global pandemic has broken out.

By a quirk of nature, the virus only spreads between the hubs isolated in this map. Also, the virus will not travel between differently colored regions.

So far, we have only learned of the transmission within the red zone of the world.

Day One: The virus began in Seoul, Osaka, and Ho Chi Minh City.

Day Two: Shanghai, Taipei, Tokyo, Manila, Jakarta, and Hong Kong were infected.

Day Three: Manila, Taipei, Tokyo, and Shanghai were reinfected. Sydney was infected for the first time.

Day Four: Taipei, Sydney, and Tokyo were infected again.

Day Five: The virus ceased spreading.

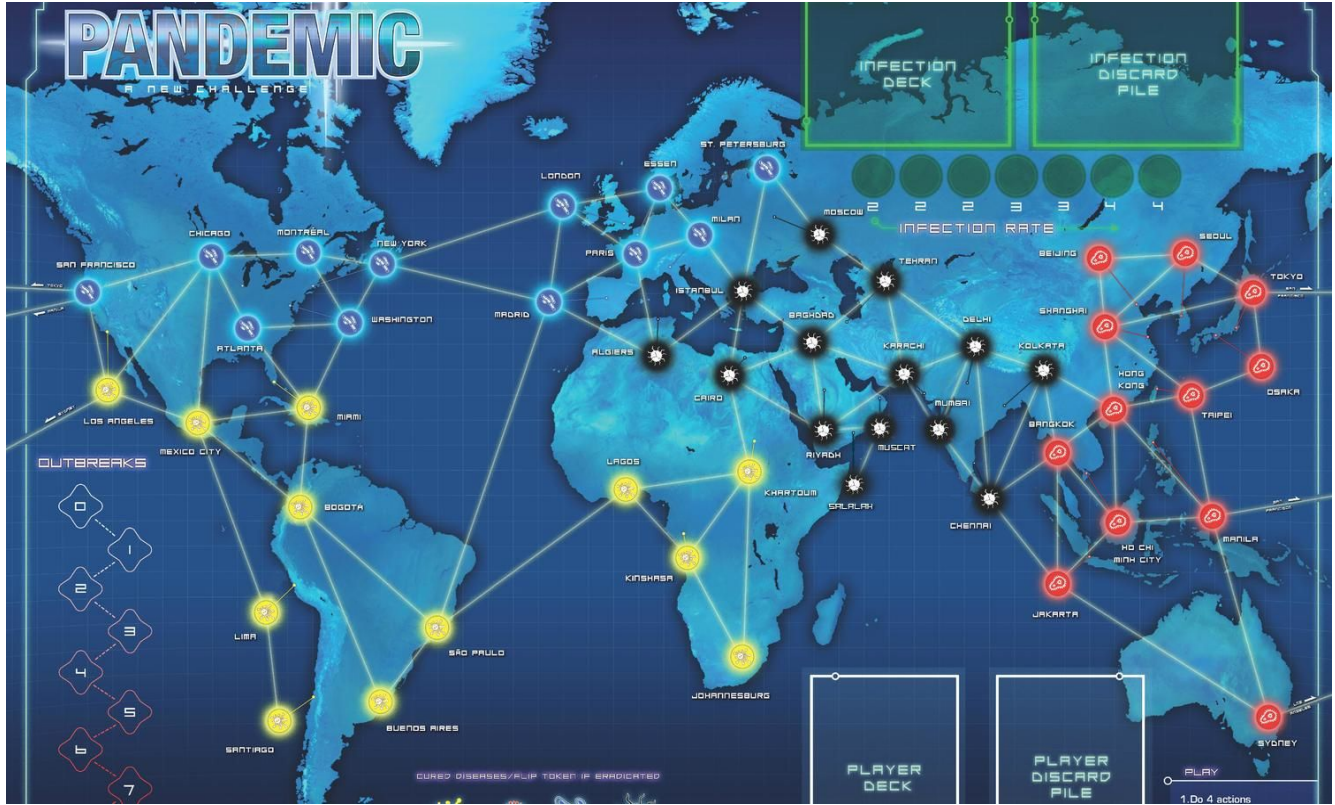
Can you determine the pattern of the outbreak? Outbreaks have spontaneously started in the three other world zones.

Black: Algiers and Chennai

Yellow: Santiago, Bogota, Johannesburg, and Los Angeles

Blue: Chicago and Essen

Report the countries of the hubs that will be spared. Since the **beginning** of this pandemic, the world has become completely **mixed up!**



Grocery Shopping

Mme Curie is having a student over for dinner tonight and she was wondering if you could finish her grocery shopping. It might look strange, but remember that Mme Curie is a scientist and follows recipes to scientific standards! She plans to use only prime seasonal ingredients for the meal. Think about what Mme Curie could be making for 2 this evening.

Grocery List

- 1) 6.62 lb Tomatoes
- 2) 8.82 lb Anchovies
- 3) 22.05 lb Romaine lettuce
- 4) 21.14 cups Soy sauce
- 5) 2.21 lb Croutons
- 6) 4.41 lb Arugula
- 7) 2.21 lb Parmesan cheese
- 8) 8.82 lb Cumin
- 9) 2.21 lb Eel
- 10) 8.82 lb Avocado
- 11) 8.46 cups Lemon juice
- 12) 4.41 lb Duck
- 13) 11.03 lb Black Pepper
- 14) 13.23 lb Ginger
- 15) 4.41 lb Pickle
- 16) 13.23 lb Chicken
- 17) 4.23 cups Worcestershire sauce
- 18) 4.41 lb Rice
- 19) 25.37 cups Olive oil
- 20) 8.82 lb Potatoes

Star Sailor

Though we cannot sail across the stars, as the light from the heavens comes to Earth, we can explore the cosmos from our pale blue dot's atmosphere.

This starlight bounces throughout this reflective telescope, illuminating the answers. Who is the Mother of this astral reflector?

