

A dashed rectangular box containing a horizontal line, three vertical lines, the text "To:", and a square box.

BLACK HISTORY MONTH

February is Black History Month and we're excited to learn more about the Black Americans who have explored and utilized STEAM principles.

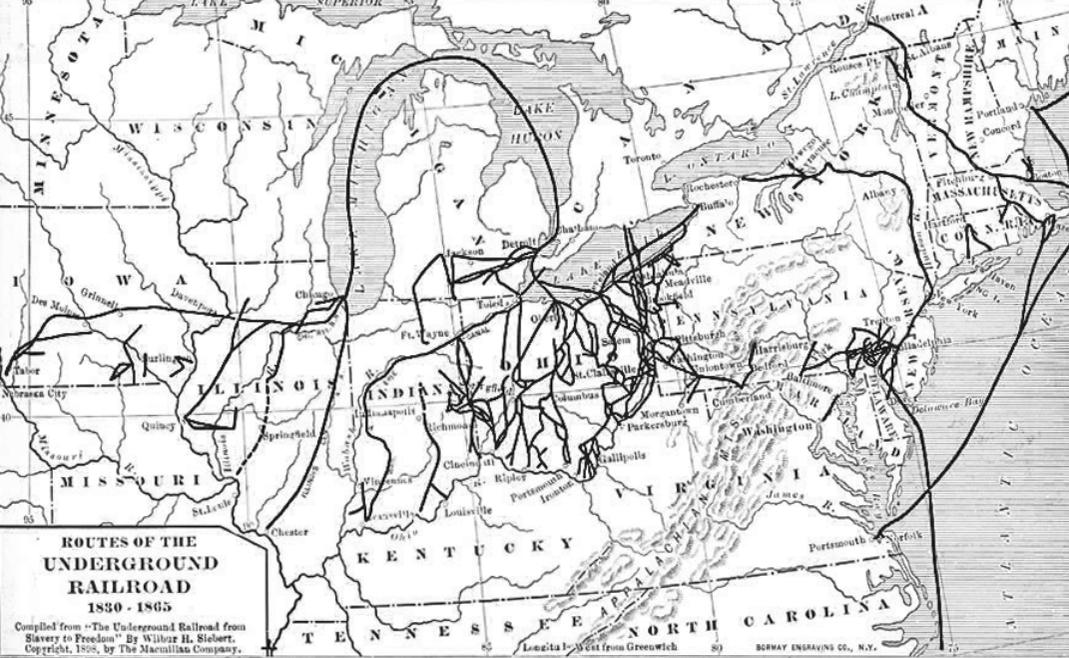
Without them, our country would be a very different place. We hope you enjoy this issue and get excited about learning about some important history, people, and meeting a tractor named Justice! Take a moment and think about how you're participating in Black History Month this year!

-The Snail Mail Team

BLACK

LIVES

MATTER!



The black lines on the map above show routes to freedom used by the Underground Railroad

THE UNDERGROUND RAILROAD

The Underground Railroad was a secret network of safe routes, safe houses and friendly people that helped enslaved African Americans in the United States escape to freedom. One of the ways the Underground Railroad was able to stay secret was by using coded language.

By encoding their communication to look like normal railroad communication they were able to avoid detection and help bring people to freedom. This coded language helped

'conductors' (a guide, escort, or leader in the underground railroad) bring hundreds of enslaved people to freedom.

There were entire songs in code, such as "Follow the Drinking Gourd", which was coded directions to aid in escape to the North. The "Drinking Gourd" is code for the Big Dipper. It equipped people with a form of celestial navigation to aid in their escape.

On the next page is a list of common coded terms used by conductors like William Still and Harriet Tubman and their meanings. Using these coded words and definitions, can you decode the message to understand what it means?

DECODE THE PHRASE BELOW WITH THE KEY:

"The **Station Master** will be **Forwarding the Load of Potatoes** to the **Shepherds**. The **Shepherds** will forward them to a **Station Master** in the **Promised Land**."

CODED PHRASE KEY

DECODED PHRASE'S MEANING

Baggage	<i>Runaways</i>
Bundles of Wood	<i>Runaways to be expected</i>
Canaan	<i>Canada</i>
Drinking Gourd	<i>Big Dipper & North Star</i>
Forwarding	<i>Taking runaways from station to station</i>
Freedom Train	<i>The Underground Railroad</i>
Heaven or Promised Land	<i>Canada</i>
Load of Potatoes	<i>Runaways hidden underneath farm produce in a wagon</i>
Parcel	<i>Runaways to be expected</i>
Preachers	<i>Leaders and Speakers in the underground railroad</i>
Shepherds	<i>Guides that escorted runaways</i>
Station	<i>Place of safety and temporary refuge ; a safe house.</i>
Station Master	<i>Keeper of safe house.</i>
Stockholder	<i>Donor of money, clothing, or food to the underground railroad.</i>

Decoded: A keeper of a safe house will transport hidden runaways in a wagon to a guide that will take them to someone with clothing, money or food in Canada.

HISTORY HIGHLIGHT: LEWIS LATIMER

Lewis Howard Latimer was born in Chelsea, Massachusetts, on September 4, 1848, to parents who had fled slavery. Latimer learned the art of mechanical drawing while working at a patent firm. In addition to designing his own inventions, Latimer worked closely with Thomas Edison and Alexander Graham Bell. He's responsible for the technical illustration on the patents for the Bell's telephone! On top of all that, he patented an early version of the air conditioner and published multiple books.



AFROFUTURISM

African Americans have been seeking freedom among the stars ever since singing *The Drinking Gourd*. It doesn't just end there, though! There's a whole movement of Black creators imagining a star-studded sci-fi future.

Do you like the Marvel movie **The Black Panther**? This film is part of the movement known as **Afrofuturism**, a combination of the words "African" and "Future". Black Panther director Ryan Coogler defines Afrofuturism as "**a way to bridge the cultural aspects of the ancient African traditions with the potential of the future.**". Afrofuturism isn't just in Hollywood, it's any work of art that dreams of a future centering Black stories.

Afrofuturism imagines technology that uplifts and aids Black people and Black communities. In Afrofuturist stories, Black characters are astronauts, time travelers, pioneers, inventors, and scientists with limitless potential.

DESIGNING THE FUTURE

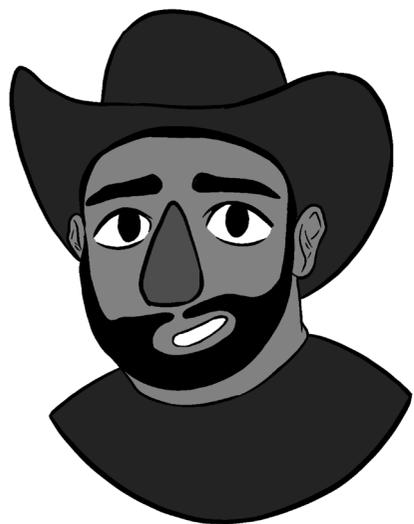
You are part of a team of artists, designers, engineers, and scientists tasked with creating the perfect **All-In-One Pizza Dough Robot**. Your creativity will make pizzas cheaper and more accessible for everyone! Your team has been hard at work and they just dropped off these notes at your desk. How will you help them complete step 2 and 3 of the design for the Pizza Bot?

NOTES

- 1.** *Wheat is picked from a field and dried.*
- 2.** **Design a machine to grind the wheat into flour and mix it with salt to make dough.**
- 3.** **Design a machine to flatten the dough into the perfect pizza crust.**
- 4.** *The perfect pizza crust will be shared with the community!*

STEP 2 BLUEPRINT (WHEAT GRINDER & DOUGH MAKER)

STEP 3 BLUEPRINT (PIZZA CRUSTIFIER)



JOHN BOYD JR.

Food justice is a type of activism that highlights where people have limited access to healthy food and advocates for the right for everyone to grow, eat, and sell healthy food. John Boyd Jr. is actively fighting for food justice and has been for nearly 40 years, wearing cool cowboy hats the whole time.

John is a fourth generation Black farmer based in Virginia. He's the founder of the National Black Farmers Association (NBFA), so he's a big advocate for Black farmers. An advocate is someone

that uses their voice to stand up for other people that are struggling or unable to ask for help. Black farmers used to be unable to own land or ask the bank for loans, so it was really difficult to get access to food.

In the 1980's John was denied a loan to help his farm. He fought back and inspired many more Black farmers that faced similar discrimination. In 2008 he helped get a Farm Bill passed and in 2010 he rode his tractor up to Washington DC. "I decided to drive my trusty tractor here - Justice - all over Washington, so people can see what a real farmer looks like."

His work as an activist in Washington helped get over 1 billion dollars paid to Black Farmers that had loans wrongfully denied, just like him. John Boyd Jr has helped countless people and he continues to be a driving force and voice for Black farmers nationwide.





FARMING TAKES A LOT OF TECH! (AND A LOT OF TEAMWORK)

Modern day farming uses an incredible amount of technology and teamwork to make it all possible! Here are some ways computer science has helped farming keep up with the demand for nutritious food.

Biologists keep crops healthy

Engineers invent giant sprinkler systems to water large crops

Meteorologists accurately predict the weather

Automotive Designers design driveable farm equipment

Mathematicians calculate how many seeds you need

Can you think of any other ways you can apply Science, Technology, Engineering, Arts, or Mathematics to agriculture? There are a lot of problems to be solved that only teamwork can achieve!



Thank you for participating in this month's Snail Mail! Did you know you can sign up a friend for free? Tell us your favourite part and get involved with other Eureka programs! You can share your projects and drawings with us directly at: codeva.info/SubmitYourSnailMail

Sincerely Yours
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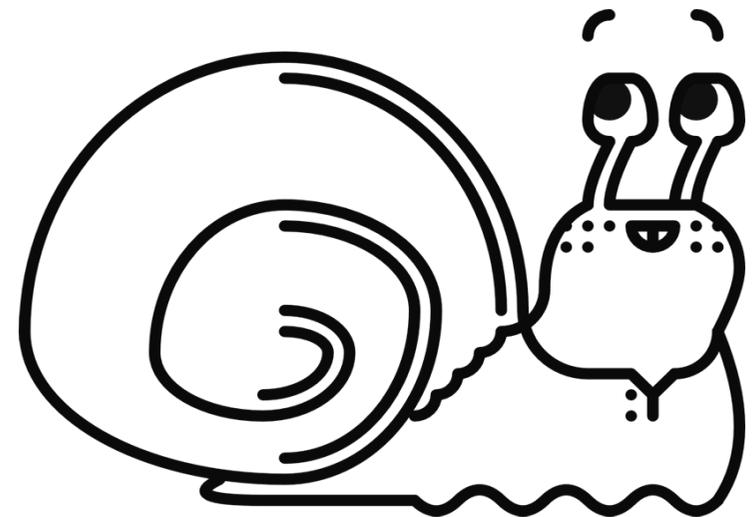
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