# SYNC \* BLASTS

## A CROSS-CURRICULAR, INQUIRY-BASED SOLUTION READING AND WRITING FOR 6-12 SCIENCE

SyncBlasts<sup>™</sup> provides reading and writing assignments that present science and current event topics relevant to students' lives and their world. Providing a variety of rich multimedia—including Preview Videos, connections to case studies, Explainer Videos, and The Point News Show—SyncBlasts is a smart way to engage students. New reading and writing assignments are published weekly. Each SyncBlast challenges students to:

- Build vital research, writing, and critical thinking skills while providing an easy entry point for peer review.
- Develop informed opinions on high-interest topics of cultural significance.
- Express their opinions succinctly, in a familiar format.
- Participate in thoughtful discussions with an authentic audience of peers.

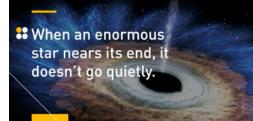
Supporting student inquiry and deep discussions, SyncBlasts includes videos with peers modeling academic conversations about case studies, research, and current events.



# **HOW IT WORKS**

Teachers visit content channels to select and assign SyncBlasts short reading and writing assignments that inspire students to think critically about high-interest topics. Students explore a robust platform of multimedia content to learn about the topic and then complete assignments within our engaging social media-like platform.





#### **PREVIEW VIDEOS**

Designed like movie trailers, Preview videos set the stage and provide background information for what is to come. Use these videos as an introduction to the subject and revisit for a big-picture view.

#### **EXPLAINER VIDEOS**

Short, fact-based videos focus on explaining an idea in a simple and compelling manner. Clear, concise language is paired with visuals, quickly teaching a concept prior to a deeper dive or discussion.



#### THE POINT NEWS SHOW

These videos get to the point with news and global issues. Students watch and become engaged with newscasts produced with peer-aged students.



### **CASE STUDIES**

Many SyncBlasts are centered on a particular event, discovery, or issue and include research links to news, articles, and scientific studies that help students make connections between science and everyday life.





# **ANATOMY OF A BLAST**

SyncBlast topics include supporting background articles written at three Lexile<sup>®</sup>-levels that make content accessible to all learners. The content is standards-aligned with content channels growing regularly with new articles and media.

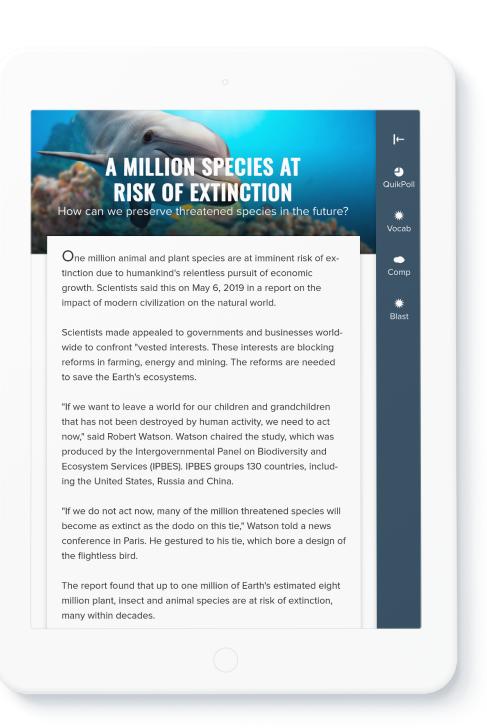






# CURRENT EVENTS CHANNEL FOR MIDDLE AND HIGH SCHOOL

SyncBlasts that connect students to current events and the latest news.





24/7 CURRENT EVENTS



# **SCIENCE CHANNELS**

Teachers can visit the Science Channels to view SyncBlast topics relevant to their classroom study. New content is added regularly throughout the lifetime of your subscription.





**SCIENCE** 



## **MIDDLE SCHOOL SCIENCE** SYNCBLAST ARTICLES



n the early 1900s, thick smoke rose from the stacks of the Am her window was a young girl named Rachel Carson. She was in preeminent nature writer who would shape a global movement understand our impact on the world around us. Her revolutiona presented her research on the effects of the insecticide DDT, tr States environmental policy.

DDT was used widely in the United States in the 1930s and 194 diseases like malaria and typhus. However, its use came with a eaten, DDT builds up and remains in the body. If birds eat insec toxic compound as well.



Carson's book helped the public realize the dangers of DDT an banned in the United States. She also helped shed light on the

## HERE COMES THE SUN

n stand under the blazing sun, tending to food cooking on wood fires and is increasing scarcity. But what if they could rely on a different energy source? se energy that would never deplete? People have harnessed solar energy for generate heat. Solar cookers are used around the world as sustainable repare food.

lective surfaces ese concentrate the ingle point. This can f food, including getables. It can also o kill dangerous sunlight itself is not ced when the light

NUMBER CRUNCH 4 million

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 $A_{\rm n}$  athlete arrives on the scene wearing a sleek, dark suit that looks like something you'd see in "Star Trek." Sensing a change in body two performs as he springs into motion, dozens of tiny triangular bristles rise on his back like spikes. It sounds like a superhero movie. In a way, it is – except the real superheroes are bacteria. They are called Bacillus subtilis natto

These moisture-responsive bacteria are typically used to ferment soybeans. Trillions of them are sew in to the athlete's "Second Skin" garment, made by MIT Media Lab researchers. The bacters quickly expand when they detect sweat, opening dozens of tiny flaps in the fabric to release heat within milliseconds. After the exposed skin dries, the bacteria contract to close the flaps and retain body heat.

"It's a fabric with its own miniature [heating and cooling] system," Britt Peterson wrote for Smithsonian Magazine. And it's far from the only ingenious technology making its way down the runway.

Juan Hinestroza is a Cornell University professor who wants scientists and designers to collaborate to make better clothing for consumers. In his lab, students



create fascinating and innovative new textiles. There's a pink, pleated dress of cotton fibers that can collect electrical currents and charge an iPhone. There's a mask that captures airborne toxic gases with metal-organic framework molecules (MOFs) in the fabric. The military is interested in it because it might be used to protect against toxins like mustard gas.

NUMBER CRUNCH -----



ew textiles will be the future of design," says the mask's designer, Jen Keane. "The







## **HIGH SCHOOL SCIENCE** SYNCBLAST ARTICLES



Bustling cities like New York City, Paris and London are hotspots. They and other large cities are noticeably warmer than surroundir and buildings form urban heat islands. According to the Environmair temperature of a city of 1 million inhabitants can be 1.8-5.4 degr surroundings.

This "urban heat island effect" occurs when concrete jungles with 1 This under read assochs and energy by day. That energy gets trapped b structures absochs and energy by day. That energy gets trapped b and parking lots. In NYC, this can make the daily minimum tempera hotter than in neighboring areas. The jump is especially apparent is Brooklyn, eastern Queens and the South Bronx.

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average temperature by 3 degrees Fahrenheit over the next 20 ye

he heat island problem is exacerbated in crowded multifamily dw veryone has the resources to use air conditioning, so there's con-

#### SPITALS ARE LAST HOPE FOR HATCHERIES tries around the world? ng climates impact indu Due in 3 days O \* Bio

d the following article from Global bal news website. It was originally headline "Where Warming Waters Kill

Are Hatcheries' Last Hope."



MINISTERED KASHMIR — In 2013, Abdul Rashid Ganai gave up his job as a tailor a concrete tank in front of his home in the village of Dara. He filled it with 600 vatch over them until they were big enough to sell.

ed the new job after seeing others make a profit off raising trout. It's one of the



In the mid-20th century, Americans across the country closely followed the race between the United States and the Soviet Union to send humans to the moon. However, few people knew about one woman who helped make NASA's accomplishments possible: mathematician Katherine Johnson.



Johnson's work and calculations are now much more public thanks to the 2016 Oscar-nominated film "Hidden Figures," based on Margot Lee Shetterly's book by the same name. Using Johnson's calculations of spaceflight trajectories at NASA, the United States sent the first American on an orbital mission around the planet and safely landed the first humans on the moon.

Johnson's brilliance with numbers developed at an early age — she skipped several grades in school, graduating from West Virginia State College at the age of 18 with degrees in mathematics and Earch in 1920. Labera became the first form In school, graduating from West Wrignia State College at the age of 18 with degrees in mathematics and French. In 193, Johnson became the first African-American woman to attend graduate school in West Virginia. West Virginia University chose her as one of three black students to desegregate the university, according to NASA. Johnson left the school after her first semester to start a family with her husband. She taught in public schools until 1952, when she learned that the National Advisory Committee for Aeronautics (NACA) was hiring in its all-black West Area Computers section at the Langley Memorial Aeronautical Laboratory.

Johnson spent her first four years at NACA analyzing data from flight tests in the Flight Research Division, until the launch of the Soviet satellite Sputnik in 1957. A year later, NACA turned its attention to space travel tame the match of the Soviet Union, and the agency changed its name to NASA. Johnson joined the effort to send humans into space.



## **SCIENCE**

