IGNITE MY FUTURE

Build a Movement

Guiding Question: How can technology improve our lives?

Ignite Curiosity

- Can you make a social media post go "viral"?
- Is there a social issue that matters to you that you want others to know about?
- How do movements like the Ice Bucket Challenge spread so rapidly?

In this lesson, students will analyze what makes memes and movements go "viral" on social media and use that knowledge to bring awareness to important social causes. In **THINK**, students act as advertisers working for an organization campaigning against opioid abuse, examining how and why some memes and social media campaigns go viral while others do not. In **SOLVE**, students analyze data concerning popular memes and social media campaigns. They then identify common themes that helped make the content "viral." In **CREATE**, students make a mind map using the Bubbl.us web application to synthesize common themes they see in this viral content and write 10 principles that help predict whether content will go viral. In **CONNECT**, students identify how analytics help us test and understand aspects of human behavior, including predicting trends, promoting awareness, and measuring the success of a product or service.

Students will be able to:

- **Analyze** open-source datasets,
- **Create** a visual representation of data through a mind map artifact, and
- Better **understand** human behavior on social media.

SUBJECTS

English
Social Studies
Math

COMPUTATIONAL THINKING PRACTICE

Developing and Using Abstractions

COMPUTATIONAL THINKING STRATEGY

Analyze Data

MATERIALS

Viral Posts student handout

Mind Map student handout

Viral Principles student handout

Computers with internet access

Students will act as advertisers exploring the phenomenon of the "viral" Internet sensation by examining the Ice Bucket Challenge, the social fundraising effort for ALS *(also known as Lou Gehrig's disease)* **that took the world by storm.**

1 **Read** the following scenario to students:
Imagine you are an employee at an advertising agency, working for an organization that helps spread awareness about opioid addiction. Your goal is to get the organization's message out to as many people as possible. To do this, you want to help the organization's Internet posts go viral. You'll need to analyze data about viral posts to see what they have in common and identify 10 principles that make content go viral.

2 **Ask** students if they know anybody who took part in the ALS Ice Bucket Challenge, which was popular in 2014–2015. Even if they aren't sure, they most likely did; according to Facebook, 28 million people performed or interacted with posts about the challenge. And it paid off: donations to ALS research linked with the campaign topped $115 million.

3 **Lead** students to consider the importance of analytics using the following guided questions:
- What are the benefits of having a video go viral compared with placing traditional advertising in print, for example? (It's quicker; you can measure the results more easily.)
- We've seen viral videos used to promote ALS research. What other causes might benefit from viral media?
- Can we learn what makes something go viral by watching one viral video? Why or why not?
- What resources are available that could help us measure and analyze data about viral media?

4 **Distribute** the Viral Posts student handout and have students complete just the first column, in which they identify the number of views each piece of content has received.

5 **Next**, direct students to the following two *New York Times* articles on the opioid epidemic: 1, 2. Challenge students to identify and summarize the problem that needs to be solved. Then, work as a class to come up with a brief description of an imaginary organization working to address the opioid epidemic. As a group, identify the benefits of having a video or movement associated with treating addiction for such an organization (increased awareness, more funding). Encourage students to think about the role of empathy in spreading awareness about social causes. What makes them really care about a social issue?

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Students will analyze data around popular memes and social media campaigns. They will use this information to discern common themes and threads that helped this content to go "viral."

1 **Ask** students to consider how marketers, advertisers, and engineers can measure the impact of a post or other online content. You may wish to show them examples of Google Analytics in use on regular websites. Students may identify other tools, such as shares on sites like Facebook or likes on social media sites. Invite students to discuss the following guiding questions with a partner:

- How do analytics help us understand how people think? (They help us test and understand human behavior, what people like and dislike, and how people respond in social networks online and possibly offline.)

- What are some ways that analyzing data can help us in the real world? (We can make things easier for people to use, more efficient, quicker, and cheaper.)

- Why might analytics be important for groups and people other than economists, marketing experts, and software engineers? (They help us predict trends, promote awareness, and measure success of campaigns, products, and services, which not only increases our understanding of how people think, but also helps people in various industries connect their work to users in the most effective ways possible.)

2 **Direct** students to the remainder of the Viral Posts student handout, filling it out with a think-pair-share activity. Individually, students should view the media and complete the remainder of the graphic organizer. Then, they should discuss their thoughts and observations with a partner. Finally, have pairs share their organizers with the entire group. If resources allow, create an "ultimate" organizer that you post or project that combines all student answers.

3 **As a group**, connect the earlier discussion on the importance of analytics to the graphic organizers students have just completed. Ask students the following: What connections can we make between less quantifiable observations, such as the emotions we feel when looking at media, and data? (Data quantify the impact of those subjective observations and help us understand the impact of emotions in the real world in terms of the value, such as their money and time, consumers place on the content.)

- Explain that we often categorize data in two main ways: quantitative (specific and measurable) and qualitative (subjective and open to interpretation).

4 **Tell** students that they will now use the observations they have made about these posts and their impact to identify the common themes they've seen in viral media content. Then, they'll use their analysis to create a guide to "virality" that organizations could apply to other situations, such as opioid abuse.

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Students will create a mind map using the Bubbl.us web application to synthesize the common themes they notice across social media content. They will use this mind map to create an instructional guide that an organization could use to make its campaign go viral.

Teacher note: Statistically, this project is necessarily limited by sample size. If time allows, draw students' attention to this limitation and, after they have completed their projects, share the work of researchers who have studied thousands of pieces of online content and compare the conclusions they have drawn. (1) (2)

1 **Provide** students with the Mind Map student handout. Explain that they will be using a web application to categorize and synthesize the common themes they've noticed in their examination of various viral posts. Their mind maps will then help them write guidelines for organizations that want to spread the word efficiently about particular causes or movements. Encourage students to use tools such as the Visual Thesaurus that will help them find new terms and descriptions that link and relate concepts.

2 **Using** the mind maps as reference, have students complete the Viral Principles student handout.

3 **Summarize** by discussing how data analysis can provide insights into human behavior and how the organization working to prevent opioid abuse that you created as a class could apply these insights.

- How did people perform data analysis before computers were available?
- How could a computer help you with next steps?
- How did analyzing data help you think like a computer?
- Could you use your instructional guide to stop posts with inappropriate or cyberbullying content from going viral? Why or why not?

Select one of the strategies listed below to help students answer these questions:

- **How do this problem and solution connect to me?**
- **How do this problem and solution connect to real-world careers?**
- **How do this problem and solution connect to our world?**

1 **Write** the three questions on PowerPoint or flip chart slides and invite students to share out responses.

2 **Display** pieces of chart paper around the room, each with one question written on it. Ask students to write down their ideas related to the questions on each sheet.

3 **Assign** one of the questions to three different student groups to brainstorm or research, and then share out responses.

4 **Invite** students to write down responses to each question on a sticky note, and collect them to create an affinity diagram of ideas.

How does this connect to students?

Social media and viral posts are an increasing part of students' lives. Websites like Facebook use analytics to determine what shows up in your feed, while Google uses its own system of analytics to determine what searchers see first. The ability to reach millions of people across the world with ease is a relatively new phenomenon that experts are studying to find out, as your students are, what psychological factors make content go viral.

How does this connect to careers?

Economists
use data analysis to solve problems related to the flow of resources.

Marketing experts
use analytics to determine the best way to sell their companies' products to clients.

Software engineers
use data to find trends and patterns in how people use computers and the Internet, particularly on a large scale.

How does this connect to our world?

The more information we put out about ourselves and even interact with online, particularly on social media sites, the more data are available. Sometimes, this has a beneficial effect on society, as with the Ice Bucket Challenge. In other cases, this has led to concerns about privacy and the use of targeted ads or even search browser history.

This is particularly relevant to students' lives in their own social media posts. Determining what they want to make public or keep private is a vital evaluation they will have to make continually throughout their lives. Additionally, students can focus their understanding of "virality" in social media to identify and put a stop to cyberbullying among their peers.

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National Standards

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data • Analyze and interpret data to provide evidence for phenomena. • Extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis. • Analyze and interpret data to determine similarities and differences in findings. (MS-ETS1-3)	**ETS2.A: Interdependence of Science, Engineering, and Technology.** • Advances in technology provide scientists with new capabilities to probe the natural world at larger or smaller scales; to record, manage, and analyze data; and to model ever more complex systems with greater precision.	**Cause and Effect** • Students use cause-and-effect relationships to predict phenomena in designed systems. They also understand that phenomena may have more than one cause.

COMMON CORE STATE STANDARDS CONNECTIONS

ELA/Literacy

- **RST.6-8.1** Cite specific textual evidence to support analysis of science and technical texts.
- **RST.6-8.7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- **RST.6-8.9** Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

Mathematics

- **MP.2** Reason abstractly and quantitatively.
- **7.EE.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

K-12 COMPUTER SCIENCE FRAMEWORK

Practice 4. Developing and Using Abstractions
Abstractions are formed by identifying patterns and extracting common features from specific examples to create generalizations. Using generalized solutions and parts of solutions designed for broad reuse simplifies the development process by managing complexity.

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Viral Posts

For each of the following videos, photos, memes, or other content, gather data about the post's popularity by determining the number of views the post has had. Then, analyze the content of each post using the remaining columns.

Post, Meme, or Video	# of Views	Purpose	Format Video, Meme, Image, etc.	Descrip.	Emotions Evoked	Appealing Qualities
Grumpy Cat						
Paramedics Help						
Doge						
Evil Kermit						
Keep Calm and Carry On						
Mannequin Challenge						
The Dress						
Throwback Thursday						

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Mind Map Instructions

1 **Visit** the Bubbl website. You may wish to create an account to save your work before you begin; it's free and directions are available on the website's homepage.

2 **You may wish to look** at the Tutorials before beginning work.

3 **Using your Viral Graphic Organizer**, identify the most important terms that appear. Find one word to summarize what they have in common. Create a "Parent" button for this term and "Child" buttons for the other concepts. For concepts of equal importance, you may choose to use "Sibling" buttons.

4 **Once you have visually mapped the concepts** you noted in the Viral Graphic Organizer, visit the Visual Thesaurus to find related terms that you might use as additional "Child" or "Sibling" boxes.

5 **Finally,** use colors and fonts of your choice to distinguish the different levels of your mind map.

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Viral Principles

Now that you have studied the principles that create popular social media posts and even social movements, complete the following question stems to guide your organization as it creates content.

1 **The most important factors** that make a post go viral are:

-
-
-
-
-
-
-
-
-

2 **Factors** that reduce a post's "virality" are:

3 **For your organization** in particular, posts targeting the following emotions would have the greatest chance of success:

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