National STEM Day is November 8

Most science and math teachers incorporate STEM in their everyday routines; however, we want to emphasize STEM on **Friday, November 8**.

National STEM Day is on November 8th and celebrates science, technology, engineering, and math throughout the United States. It's a great day to celebrate because we know that an interest in STEM early on can lead to success later on in life. Science, technology, engineering, and mathematics (STEM) occupations are projected to grow over two times faster than the total for all occupations in the next decade according to the U.S. Labor Department.

What does STEM stand for? STEM stands for a grouping of four overlapping disciplines: science, technology, engineering, and math. The acronym is commonly used to summarize the education approach that unites the disciplines into one structured program. Check out the best online STEM classes for kids.

Below are a few fun activities to make the most of your STEM day celebration! For example, did you know you can visit the largest cave in the world and even hear the river running as you tour it? Or that you can build awesome games with a free live Minecraft coding class? It's true!

Design a solution to a problem that is aligned to your curriculum for each grade level.

- Kindergarten
  - a) Using your knowledge of weather, design a newspaper article warning people about severe thunderstorms.
  - b) Using your knowledge of pushing and pulling, what would you design to help a boat that is jammed in the mud in the Mississippi River?
- 1st Grade
  - a) Using your knowledge of survival, explain how deer survive in the (forest) woods and what can we learn from the deer?
  - b) Using your knowledge of light, design something to help with too much sunlight on the east side of the building in the morning.
- 2nd Grade
  - a) Using your knowledge of matter, how would the design of a dog house for your pet be different for outside and inside? What would you use to build the dog houses?
  - b) Using your knowledge of land changing, design something to keep your playground from changing when it floods.
- 3rd Grade
  - a) Using your knowledge of weather, what could you design to help with extreme temperatures in Louisiana?
  - b) Using your knowledge of survival, how can people help with the deer population in our parish?
- 4th Grade
  - a) Using your knowledge of earth features, design a beach house.

    - b) Using your knowledge of energy, design a device to create energy to power your television for your house.
- 5th Grade
    - a) Using your knowledge of matter, why do oil rigs in the Gulf of Mexico need to be checked for rust? What materials are needed to build a new bridge across Lake Pontchartrain?
    - b) Using your knowledge of ecosystems, how would a summer drought affect our ecosystem?
- 6th Grade
    - a) Using your knowledge of sound and light, design a room that would be virtually soundproof and dark so you can play music loudly without other rooms hearing your music and not have light distract you.
    - b) Using your knowledge of contact forces, design a box to protect your valuable items using materials that could withstand a drop and a collision with your friend hitting it with a hammer.
- 7th Grade
    - a) Using your knowledge of thermal energy, design a lunch box to keep your food warm when needed and cold when needed.
    - b) Using your knowledge of weather, what could you design to help inform people in Louisiana about hurricanes threatening our area?
- 8th Grade
    - a) Using your knowledge of natural hazards, design a poster warning people to evacuate flood zones before hurricanes.
    - b) Using your knowledge of natural hazards, design a flood proof house.
- 6th, 7th, and 8th Grades
    - Gizmos (Found in Classlink) - Featured STEM Case - River Detective: The Case of the Missing Shad - An important fish species, the American Shad, has disappeared from the James River in Virginia. Students take on the role of a junior River Watch member to investigate the shad population's decline. They collect and analyze data about biotic and abiotic factors related to water quality and fish survival. Then students use this data to construct a model of cause-and-effect relationships in the James River watershed and design a solution to bring back this iconic fish.
- High School
    - Design a tiny house
    - Solution for Sea Level Rise
    - Thinking Green - using solar energy
    - Gizmos (Found in Classlink) - Featured STEM Case - River Detective: The Case of the Missing Shad - An important fish species, the American Shad, has disappeared from the James River in Virginia. Students take on the role of a junior River Watch member to investigate the shad population's decline. They collect and analyze data about biotic and abiotic factors related to water quality and fish survival. Then students use this data to construct a model of cause-and-effect relationships in the James River watershed and design a solution to bring back this iconic fish.

1. Visit a virtual labs

- Visit a space center: Join Boeing and Discovery Education on a mission to inspire the world through aerospace innovation with an exclusive virtual field trip to historic Johnson Space Center in Houston, Texas. This behind-the-scenes tour will introduce students to just a few of the amazing Boeing employees who are preparing to write the

next chapter of space history with the launch of the Starliner/CST-100 spacecraft and the deployment of the Space Launch System.
- Visit a recycling center: Take a virtual field trip of a modern recycling center. A network of highly trained specialists and sophisticated, automated equipment doing the jobs of sorting, packing, and shipping recyclable materials. Or go on a virtual field trip of everything from landfill construction and planning to gas-to-energy and environmental compliance.

2. Take a trip to explore nature

- Visit outer space with NASA: See the real surface of Mars, as recorded by NASA's Curiosity rover. NASA also offers virtual tours of the Moon.
- Visit Hang Son Doong with National Geographic: This is a super realistic 360-degree tour - it even has sound! - of the world's largest cave, situated in Quảng Bình Province, Vietnam.

3. Tour a virtual science museum

- Museum of Science: A collection of STEM resources designed to bring the Museum — to *you*!
- National Museum of Computing: 3D and virtual curated tours let you explore the world's largest collection of working historic computers. Speak to experts on the code breaking machines of WWII, those maintaining the world's oldest working digital computer – and more!
- Smithsonian National Museum of Natural History: Go room by room through a virtual version of every exhibition in the museum.
- Visit a zoo or aquarium in person or virtually: Check out these live cams to see animals: Atlanta Zoo, San Diego Zoo, National Aquarium.

4. Fly the X-59 on your laptop

- Courtesy of NASA, use a laptop flight simulator of the X-59 Quiet SuperSonic Technology or "QueSST" aircraft. The X-59 is an experimental supersonic aircraft that is being developed and could fly for the first time in 2021. Laptop simulations are available to the public for free and allow people to fly the X-59 from home. Get the instructions and simulations for free here.

5. STEM Engineering Movies and activities

- https://steminthemiddle.net/middle-school-engineering-movies/

6. Activities for multiple grades revolving around corn

- https://texascorn.org/education/educational-resources/