



CENTERVILLE *virtual* STEM Festival



Facebook June-July 2020 Event:

<https://www.facebook.com/CentervilleCCSD/>

Physical Science: Chemistry * Physics
Geology * Oceanography

Meteorology * Astronomy
Climatology * Ecology

June 22-26 — Physical Science Week!

Day	K-2	2-5	Featured Video	Activity Supplies
M	Light	Electricity	Indian Hills CC: Circuits	black construction paper for video: copper wire button battery binder clip, LED bulb
T	Shadow	Energy & Machines		
W	Rainbows	Energy Transfer	FTC Circuit Breakers: Robotics	for video: 2 popsicle sticks, rubber band, straw, wooden dowel, soda bottle caps, old dvds, hot glue gun, scissors, drill
Th	Sound Effects	Simple Machines		
F	Vibrations	Rube Goldberg		Marbles; household items and recyclables

WHO is a Physical Scientist?



Dr. Mae Jamison
Chemist/Astronaut



Maria Tharp
Geologist/Oceanographer



Dr. Neil deGrasse Tyson
Physicist



Dr. Mario Molina
Chemist



Dr. Cathy Sullivan
Meteorologist



Dr. James Hansen
Climatologist

If you have questions or comments, please send us a note.

Week 3: Physical Science

Monday

Grades K-2

Think About:

What do our eyes need so that we can see objects in our world?

Read:

To find out read along! Click this link: [Light Up the Dark!](#) by Ruth Tepper Brown

Read:

To find out read along! Click this link: [The Very Lonely Firefly](#) by Eric Carle

Watch:

For an insider's look at the incredible life of a firefly, watch this [video](#) by Smokey Mountains National Park.

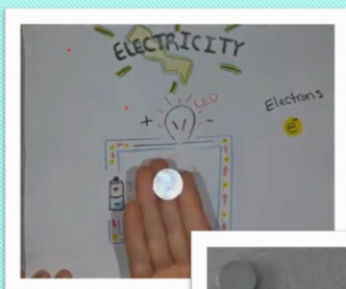
Activity:

Use a piece of black construction paper and chalk, crayons, or paint to create a scene with fireworks or fireflies lighting up the night sky.

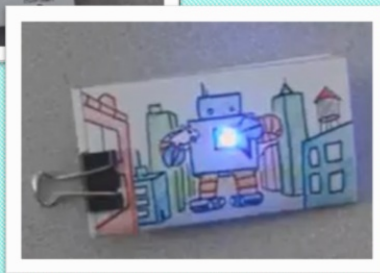
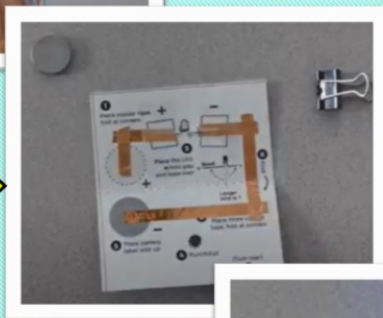
*Monday's Noon Video:
Kimberly Dreaden, Bioprocessing Technology Instructor*

Click [HERE](#) to watch at noon!

CENTERVILLE ^{Virtual}STEM Video Drop



Make this!



June 22, Noon

Kimberly Dreaden

IHCC , Bioprocessing Technology

Join Kim Dreaden, Program Director for Bioprocessing Technology at Indian Hills Community College, for an incredible look at electricity. Then she'll show you how to create your own circuit.

Visit the IHCC website for more information about their programs.
<https://www.polkcountyiowa.gov/conservation/education/>



Grades 3-5

Think About:

How does electricity travel to power our devices?

Watch:

How does electricity work? It's pretty incredible! Check out this video to help you begin thinking about the properties of electricity.

Intro: <https://www.youtube.com/watch?v=Uf76pThNXZc>

More Advanced: <https://www.youtube.com/watch?v=mc9790hitAg>

Activity:

Find things that use or create electricity in your house and town by conducting an [Electrical Walk-About](#).

Tuesday

Grades K-2

Think About:

How can we make a shadow?

Watch:

To find out watch Part 1-4! Click on this link: [Sid the Science Kid](#)

Activity:

Make shadow puppets!

Click on this link to find out how: [How to Make Shadow Puppets](#)

Click on this link to find out how: [How to Make Shadow Puppets with Your Hand](#)

Grades 3-5

Think About:

How do machines increase the energy we exert to do work?

Watch:

Click on the link: [Six Simple Machines for Kids](#)

Activity:

Simple Machine Scavenger Hunt - Find examples around your home:

- Wedge
- Inclined plane
- Pulley
- Wheel and axle
- Lever
- Screw

How are the machines related? Do you see any similarities in the machines?

Watch Bill Nye for more simple machines:

<https://edpuzzle.com/media/5e8ab08d7fd2ea3f301f7c73>

Wednesday

Grades: K-2

Think About:

How are rainbows formed?

Read:

To find out read along! Click on this link: [How the Crayons Saved the Rainbow](#) by Monica Sweeney

Watch:

To find out watch this mini-lesson. Click on this link: [Mystery Science mini-lesson](#)

Activity:

Make a Rainbow - Use a glass of water, spray from the hose, or a clear crystal to make a rainbow. Hold the item up and let the sun shine through the item. Look on the ground for your rainbow.

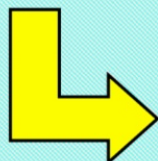
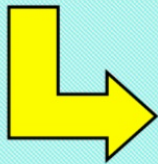
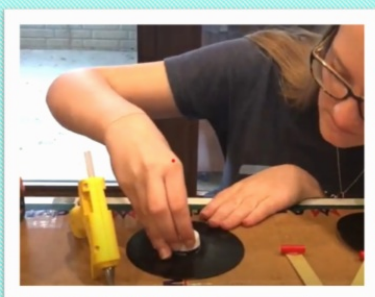
Activity:

Rainbow Scavenger Hunt - Have the children look around the house until they have found one item for each color of the rainbow: red, orange, yellow, green, blue, indigo, violet.

*Wednesday's Noon Video:
Circuit Breakers, FIRST FTC Team*

Click [HERE](#) to watch at noon!

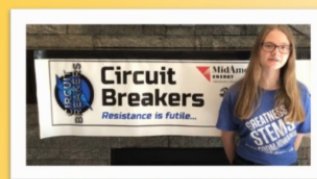
CENTERVILLE ^{virtual}STEM Video Drop



You'll need:



- 2 popsicle sticks
- straw
- wooden dowel
- soda bottle caps
- old DVDs
- hot glue gun
- scissors
- drill



**June 24, Noon
Circuit Breakers**

Award-Winning First Tech Team

Join this award-winning FTC team, Circuit Breakers, for an overview of motion and force. They'll take you step-by-step through the activity of making a rubber-band car. Learn how weight, wheels and size all impact how fast and accurately the car moves.

And, if you'd like to learn more about Circuit Breakers or FIRST Lego Robotics for kids of all age, reach out to the team via their website: <https://circuitbreakersrobotics.com/>.

Grades: 3-5

Think About:

How can energy transfer from one object to another?

Activity:

Mystery Science - Click on the link:

[Could you knock down a building using only dominoes?](#)

Putting It Tall Together:

Using recyclables or LEGOs, build a prototype that combines two or more simple machines. Visit this website for ideas:

<http://www.homegrownlearners.com/home/2013/6/5/lego-education-simple-machines-and-a-lego-balloon-car.html>

Thursday

Grades: K-2

Topic: Sound Effects

Think About:

How are the sound effects made in movies and cartoons?

Activity:

You will need a ruler for the activity. Click on this link: [How Do They Make Silly Sounds in Cartoons?](#)

Continue on to more activities by going to the slide called "Extensions" for Body Percussion. Click one more slide to "Activities: More Fun with Sound Effects".

Grades 3-5

Think About:

Who was Rube Goldberg?

Read:

Click on the link:

[Just like Rube Goldberg](#)

Activity:

Check out the Rube Goldberg website to study some of his legendary machines.

Click on the link:

[Gallery / Image Licencing](#)

Activity:

Click on the link:

[Build your own Rube Goldberg Machine](#)

Friday

Grades: K-2

Topic: Vibrations/Sound

Think About:

Where do sounds come from?

Read:

To find out read along! Click this link: [The Secret of the Sounds](#)

Activity:

Make your own instruments.

Click on the link to find out how: [5 Easy Musical Instruments to Make with Your Children](#)

Click on the link to find out how: [42 Splendidly Creative Homemade Musical Instruments](#)

Click on the link to find out how: [Wind Pipe Instrument](#)

Grades 3-5

Think About:

Who was Rube Goldberg?

Activity:

Finish and Record your Rube Goldberg Machine
<https://flipgrid.com/warren4934>

Watch & Read:

Click on the link: [Domino Designer](#)

Physical Science Book List

[Click: Drake Public Library \(Centerville, Iowa\)](#)

[Click: Des Moines Public Library](#)

[Click: to find a public library near you.](#)

Extend your learning
with great books!

Picture Books

- Oscar and the Bird
- Light Up the Dark
- Moonbear's

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Physical Science Week



- Shadow
- Billions of Bricks
- How the Crayons Saved the Rainbow
- Just Like Rube Goldberg
- The Very Lonely Firefly
- On a Beam of Light

Chapter Books & Middle Grade

- How Things Work
- The Boy Who Harnessed the Wind
- Electric War

Ask your librarian for more ideas!

Help us plan for NEXT WEEK. We're seeking great picture books, chapter books, and middle grades (fiction and nonfiction) on the topic of the HUMAN BODY. Please email the [Hub](#) by Tuesday, June 23, with your suggestions.

Click [HERE](#) to register for this event. (if you haven't already signed up)

GREATNESS STEMS FROM IOWANS

Drake UNIVERSITY

SOUTH CENTRAL IOWA REGION GOVERNOR'S STEM ADVISORY COUNCIL



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