

How to Help with STEAM at Home

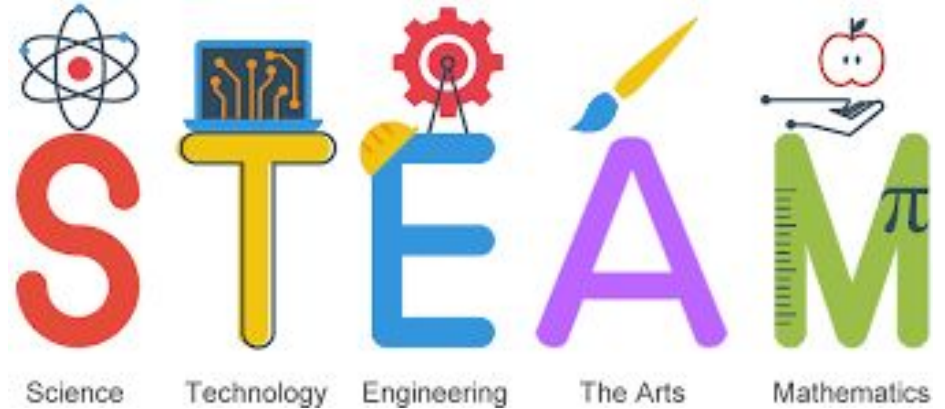
Science

Technology

Engineering

Art

Math



The whole point of STEAM is to inspire inquiry and curiosity; to empower students to ask questions that promote creativity and exploration, and to connect their problem-solving to real-world solutions.

Science Teachers at Barcroft

Krista Bouton- Teaches K-5

Thea Aldrich- Teaches 3rd grade

Max Adamo- Teaches all 5th grade

APS Science

Quarterly Science Units by Grade Level

Kinder	Sentidos del Agua	Patrones y cambio Descripción de objetos	Empujones y tirones Luces y sombras	Seres Vivos/No vivos & Las plantas y los animales cambian con el tiempo Reutilizar y reciclar
Primer	Los científicos exploran el tiempo y las estaciones	Propiedades físicas: El movimiento y el sonido	El Sol Los recursos naturales de la Tierra	Plantas Animales
Segundo	Piensa como un ingeniero: Imanes y fuerzas	Cambios en la materia Datos y patrones meteorológicos	Interdependencia del ciclo vital de plantas y animales	Cambios medioambientales Las plantas como recursos naturales
Tercer	Ecosistemas Adaptaciones	Adaptaciones El ciclo del agua	Materia: Interacciones del agua Fuerza y movimiento: Máquinas simples	Suelo Conservar los recursos de la Tierra
Cuarto	Interacciones entre ecosistemas Patrones y efectos meteorológicos	El Sistema Solar Relación entre la Tierra, la Luna y el Sol	Océanos Estructuras y procesos vegetales	Los recursos de Virginia
Quinto	Energía Materia	Fuerza y movimiento y sonido	Luz Electricidad	Rocas y Tierra cambiante Conservación de la energía

Grade	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Kinder	Water Senses	Patterns and Change Describing Objects	Pushes and Pulls Light and Shadow	Living/Nonliving & Plants and Animals Change Over Time Reuse and Recycle
First	Scientists Explore Weather and Seasons	Physical Properties Motion and Sound	The Sun Earth's Natural Resources	Plants Animals
Second	Think Like an Engineer: Magnets and Forces	Changes in Matter Weather Data and Patterns	Plant and Animal Life Cycle Interdependence	Environmental Changes Plants as Natural Resources
Third	Ecosystems Adaptations	Adaptations Water Cycle	Matter: Water Interactions Force & Motion: Simple Machines	Soil Conserving Earth's Resources
Fourth	Ecosystem Interactions Weather Patterns and Effects	The Solar System Earth Moon and Sun Relationship	Oceans Plant Structures and Processes	Virginia's Resources
Fifth	Energy Matter	Force and Motion & Sound	Light Electricity	Rocks and Changing Earth Conservation of Energy

Science

Grade Level Topics

Science SOL in 5th
Covers content in
4th and 5th

Test Prep:

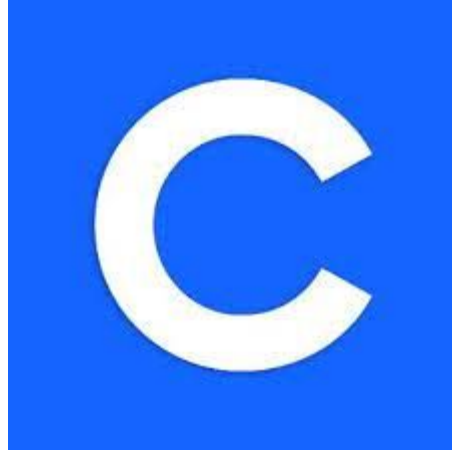
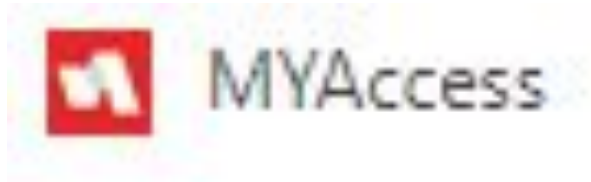
[SOLpass](#)- password solpass
[Jefferson Lab](#)

Quarterly Science Units by Grade Level

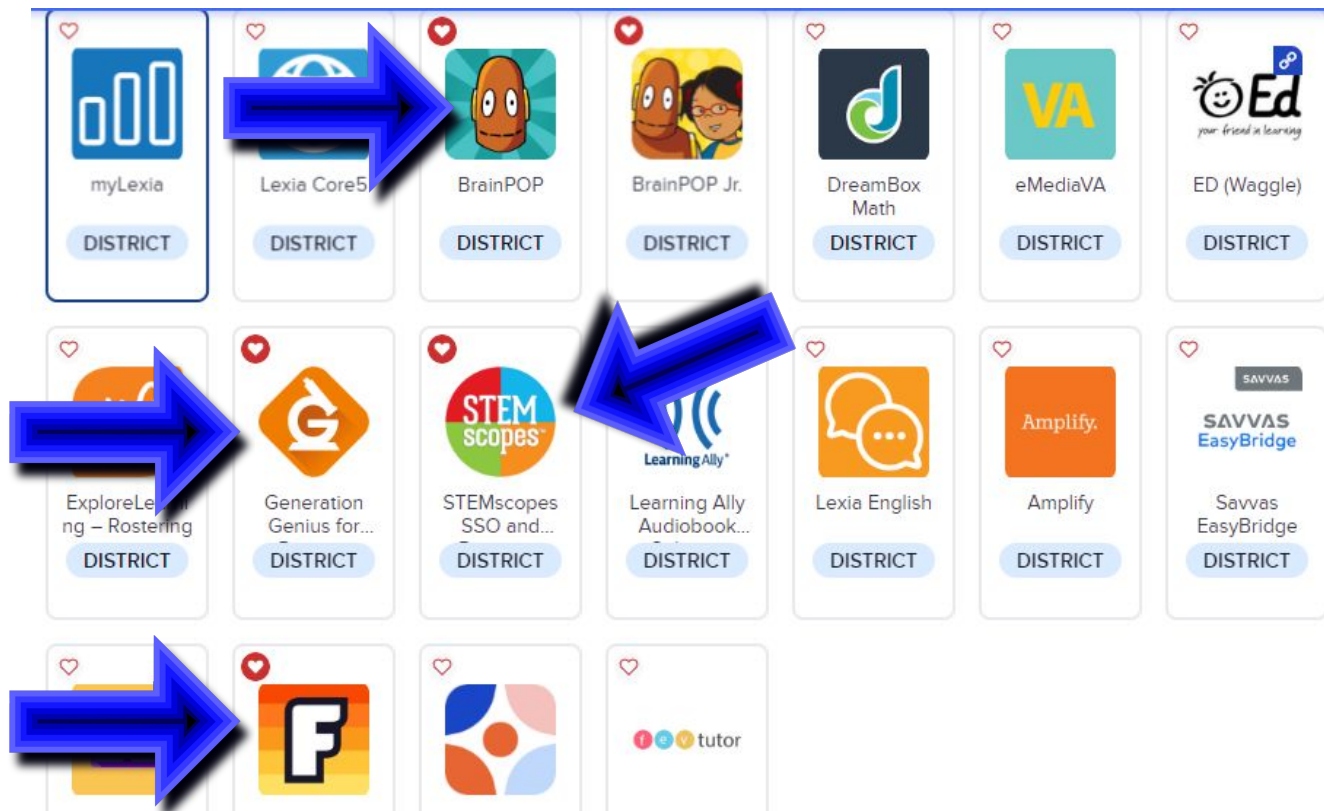
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Technology

How Can Your Child Access APS Science Resources?



How to Access Each Program for Science



STEMscopes



STEMscopes™
THE LEADER IN STEM EDUCATION



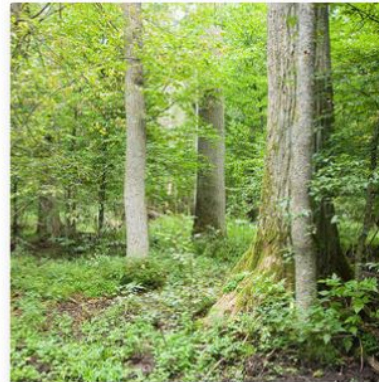
3.4AB Adaptations

Life Science



3.4C Fossils

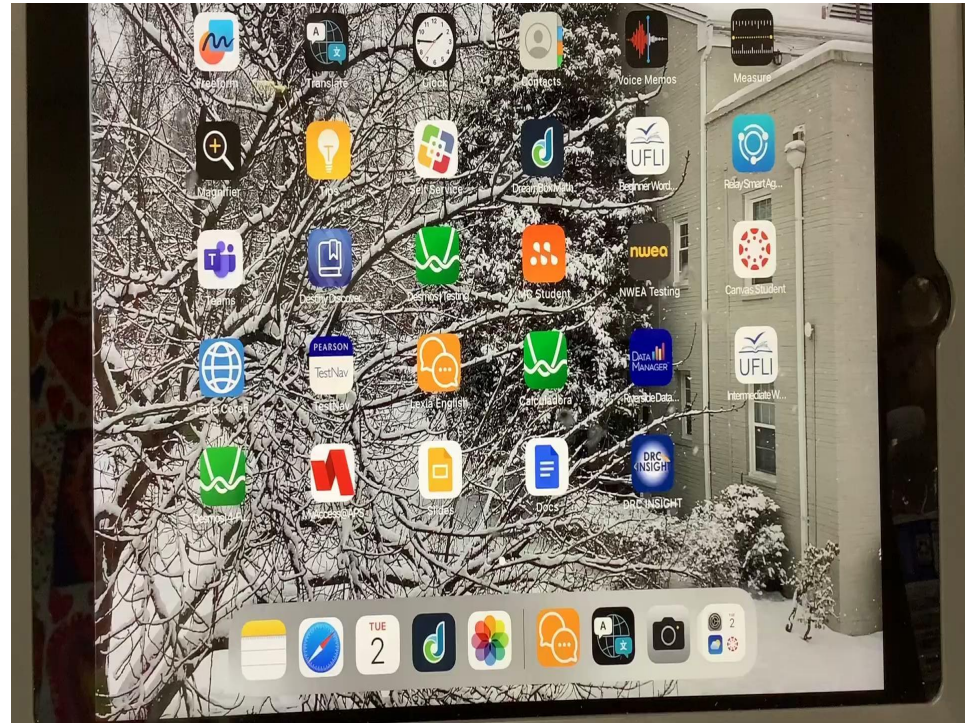
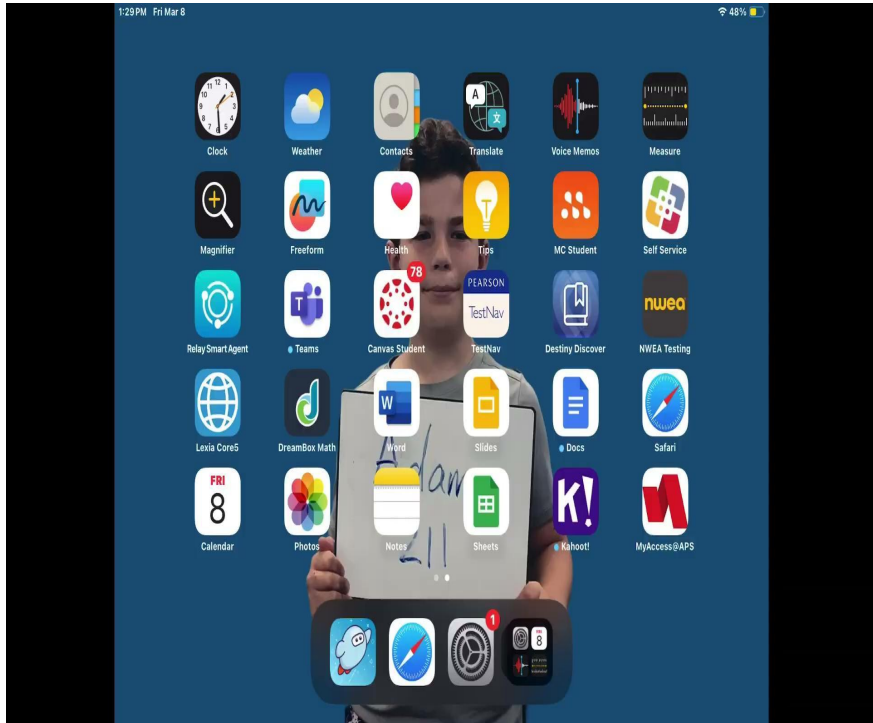
Life Science



3.5AB Ecosystems

Life Science

How to Use STEMScopes



Generation Genius



Science Lessons



Math Lessons

All Grades

K-2

3-5

6-8

Search topic here...



Grades K-2

Four Seasons and Day Length



Grades K-2

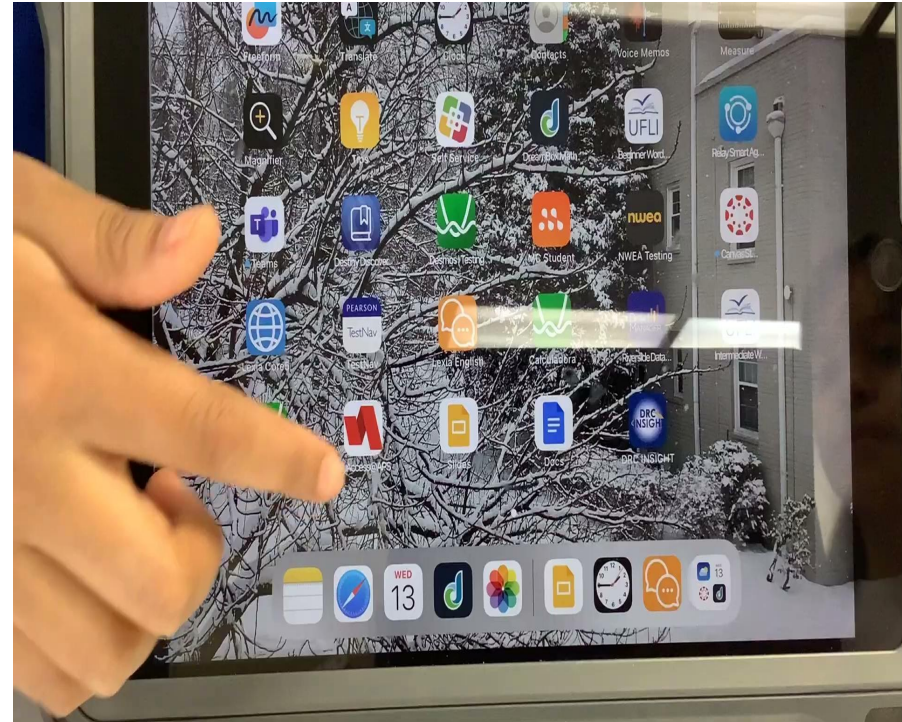
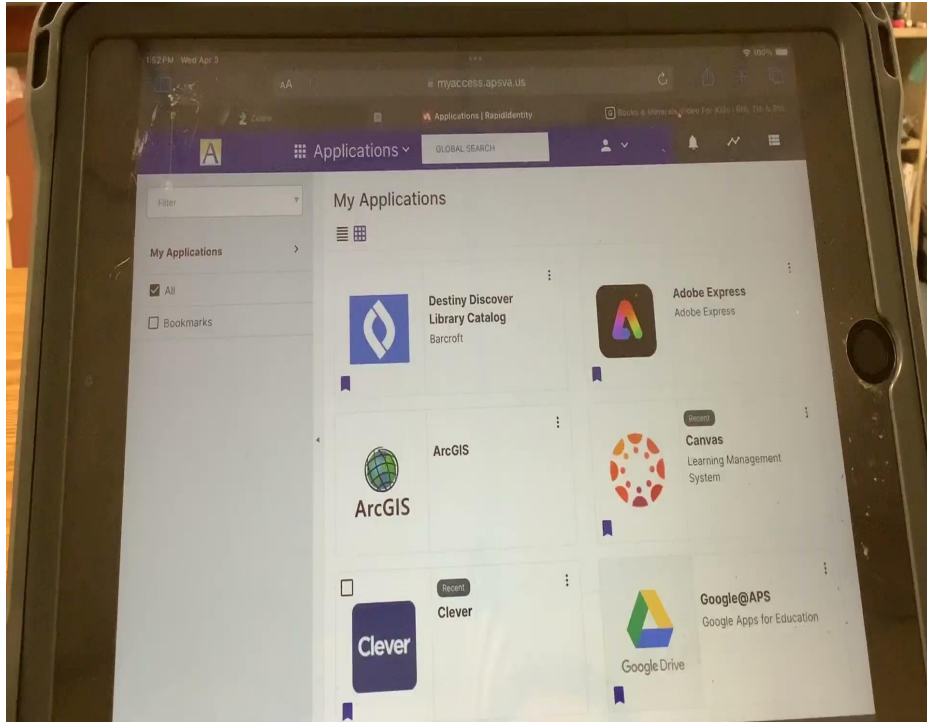
Patterns in the Sky



Grades K-2

Introduction to Sound

How to Use Generation Genius



Flocabulary



What do you want to teach?



VA Standards



Language Arts



Math



Science



Social Studies



Vocabulary



Life Skills

Life Science

72 lessons

Earth & Space Science

69 lessons

Physical Science

43 lessons

Technology & Engineering

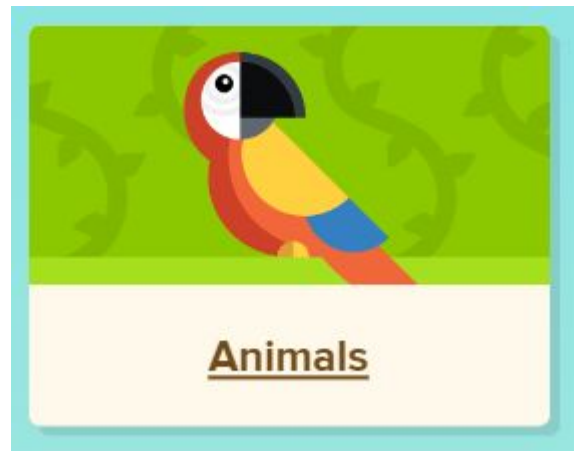
17 lessons

Scientific Practices

6 lessons

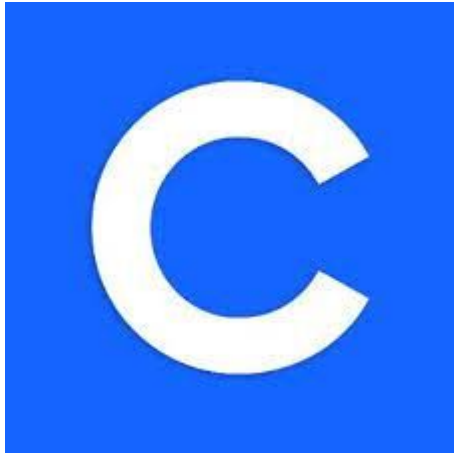


BrainPOP Jr.



 Easy Quiz	 Hard Quiz	 Make-a-Map	 Word Play
 Draw About It	 Write About It	 Activity	 Belly Up
 Creative Coding	 Talk About It	 Pop a Joke	

Brainpop Jr.

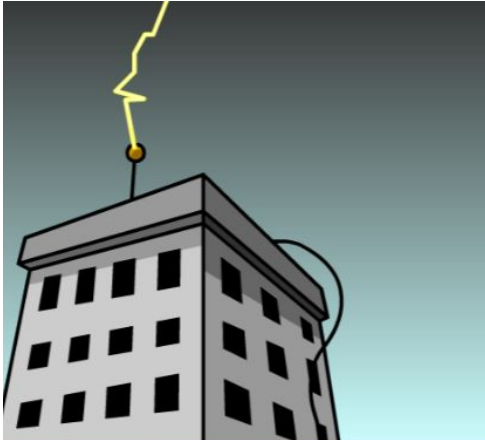


BrainPOP

Brainpop














Forces of Nature

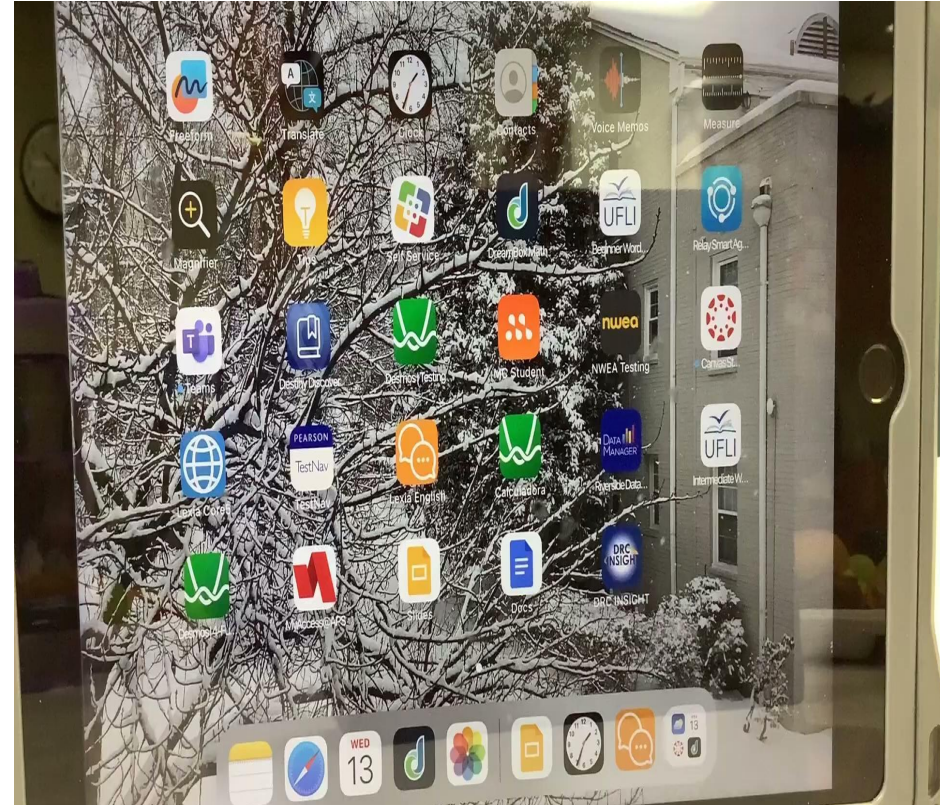
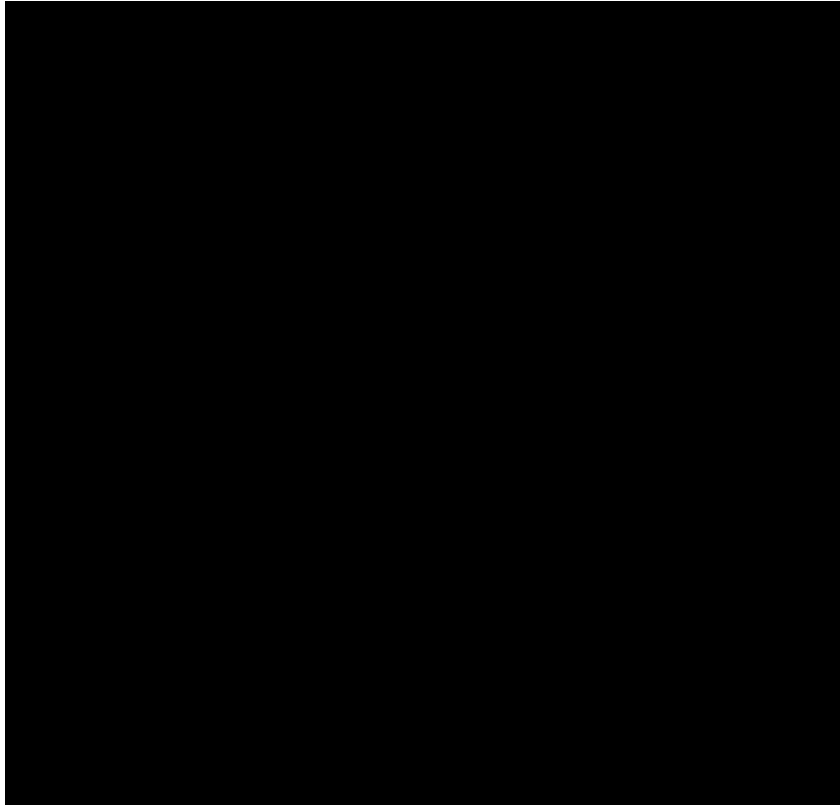


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Watch Movie

 Movie	 Quiz	 Challenge
 Make-a-Map	 Make-a-Movie	 Creative Coding
 Related Reading	 Worksheet	 Graphic Organizer
 Vocabulary	 Games	

How to Use BrainPOP



Science Through Canvas



Grades 3-5 Assignments in STEMscopes/Nearpod
Quick Checks

[Legends of Learning](#) Over 2,000, curriculum-aligned, math and science games, that are actually fun, created to engage students and assist teachers in class or at home.



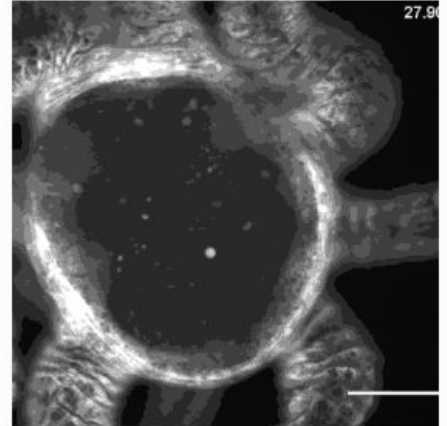
Other Sites for General Investigation

Phenomena:

<https://www.ngssphenomena.com/searchable-phenomena>

SEARCH BY TOPIC OR DISCIPLINARY CORE IDEA

🔍 Search



Other Sites for General Investigation

Wonderopolis: <https://wonderopolis.org/wonders?category=science>

The image shows the homepage of Wonderopolis. At the top, there is a navigation bar with five colored buttons: a yellow 'HOME' button with a house icon, an orange 'EXPLORE WONDERS' button with a globe icon, a blue 'WHAT ARE YOU WONDERING?' button with a head icon, a purple 'COLLECTIONS' button with a book icon, and a red 'Wonders with Charlie' button with a cartoon character icon. Below the navigation bar, the Wonderopolis logo is displayed in a stylized orange font, with the tagline 'Where the Wonders of Learning Never Cease®' above it. To the right of the logo are social media icons for 'follow' (Twitter, Instagram, Facebook) and links for 'about' and 'contact'. The main content area features a dark teal background with a search bar that says 'Search for Wonders...' and a magnifying glass icon. The text 'Explore the World of Wonders' is prominently displayed in white.

Other Sites for General Investigation

Mystery science (free trial until June 30th): <https://mysteryscience.com/>



Mini-Lesson

K-5 • What's the smallest animal on Earth?

🕒 5 min lesson 📁 Plus Top 5 bonus



Mini-Lesson

K-5 • How does mail get delivered?

🕒 5 min lesson 📁 Plus Top 5 bonus



Mini-Lesson

K-5 • Do astronauts ever feel motion sick in space?

🕒 5 min lesson 📁 Plus Top 5 bonus

Engineering

Engineering is solving problems, designing and creating, and building things. It is about finding out how things work, how they are constructed, and why.

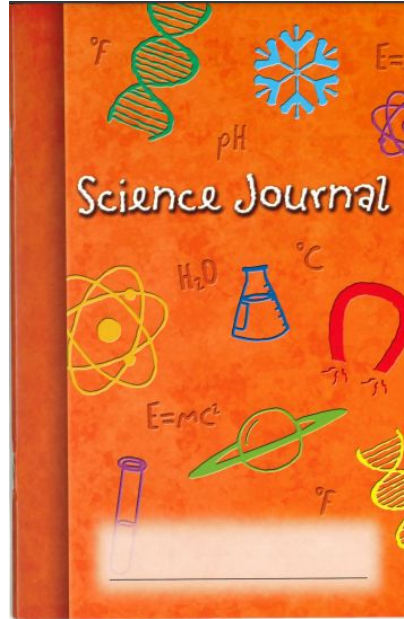
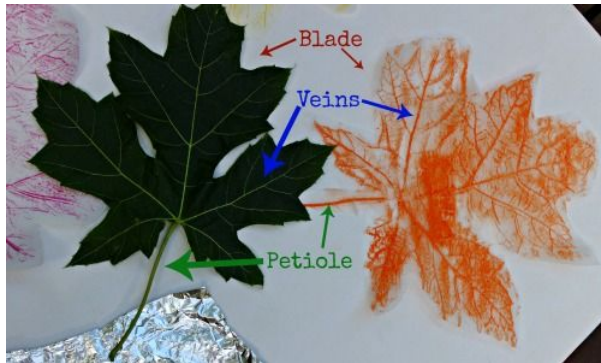
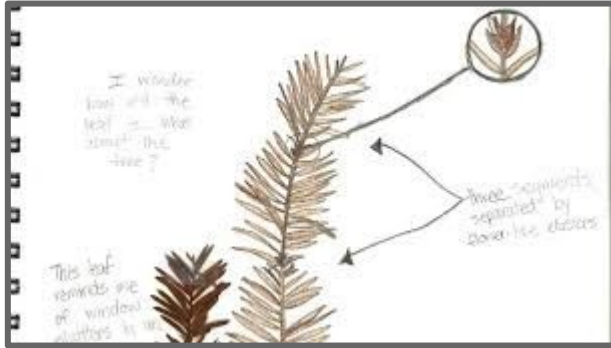
Build and Design!

Use household materials.



Art

Use a science notebook to draw models and diagrams,



Math

Science and math are everywhere in your home. Use math in the kitchen, backyard, grocery store, or anywhere!

Use measurement, time, money, counting, make up story problems!



10 Tips to Support Children's Science Learning

Adapted from NAEYC © National Association for the Education of Young Children

10. Value your child's questions-

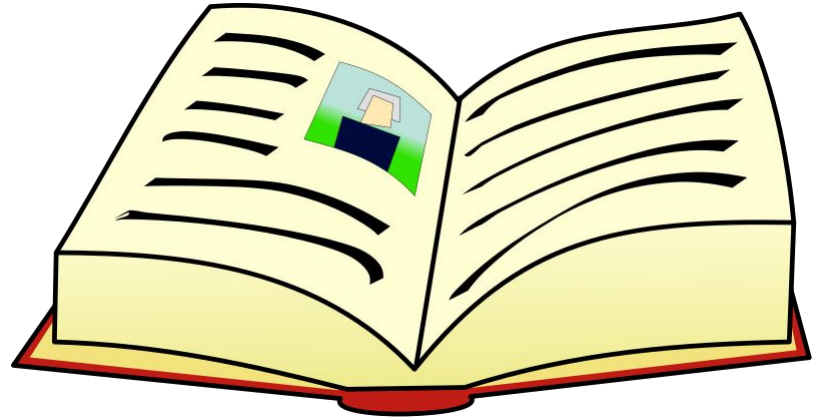
When a child asks a question, the child lets us know he/she is thinking about how the world works.

Staying curious is one of the most important parts of science.



9. Explore and find the answers together.

You don't have to be your child's encyclopedia and quickly try to answer all your child's questions. Responding with "What do you think?" or "I don't know but we can find out together" can stimulate more thought and additional questions. **Explore and find the answers together.**



8. Give children time and space to explore.

Children need time to experiment, try things out, and think on their own.

Children learn science through trial and error. They need time to experiment, try things out, and think on their own. Wait before jumping in with "correct" answers. Give your child the time and space to explore and discover on her own.



7. Accept that explorations are often messy. Let students get their hands dirty!

Whether it's outdoor exploration with mud and sticks or indoors with water, children are likely to get dirty when they explore materials. Dress children in old clothing and tell them it's ok to get dirty.



6. Learn from mistakes together.

A mistake in an experiment or activity can lead to all kinds of possibilities and it provides opportunities for you and your child to refine your ideas, understanding, and hypotheses.



5. Invite curiosity.

Science learning begins with **curiosity**.

Observations and questions can create a climate of discovery – key to scientific learning.

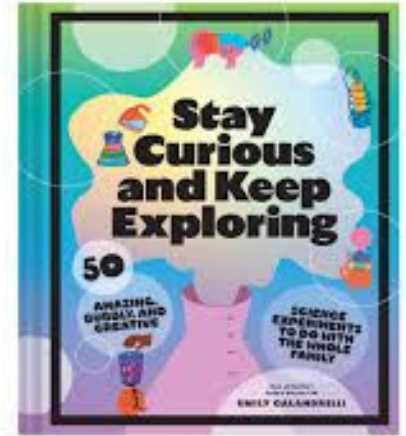


4. Support further exploration.

Intentional adult interactions with children can extend their learning.

When the moment is right – maybe when they are done exploring on their own, offer a suggestion to **extend the exploration**.

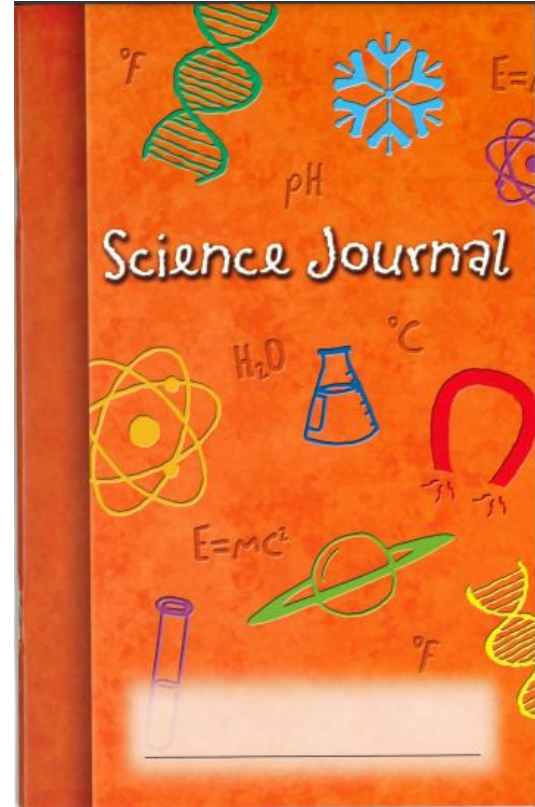
Guide your child by asking questions like, “What might happen if we try this?”



3. Encourage children to record their observations.

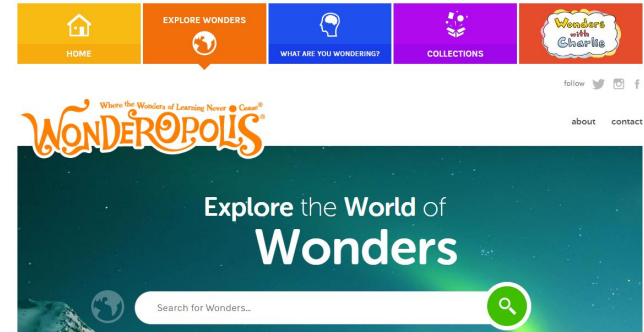
Keep a **science notebook**.

Writing, drawing, or taking photographs are all ways to record observations - an important scientific skill.

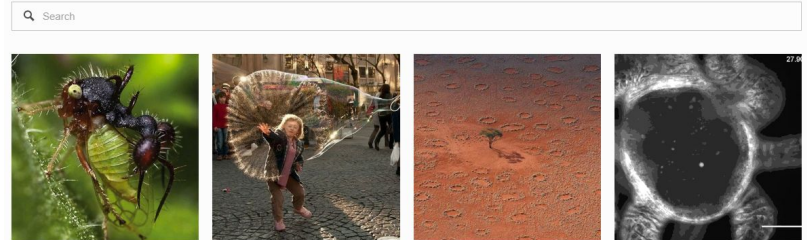


2. Make good use of your electronic devices.

Take pictures of a stunning butterfly, record frog sounds, use a website or app to learn more about a specific phenomenon or creature.



SEARCH BY TOPIC OR DISCIPLINARY CORE IDEA



1. Use items you have at home to experiment and explore!



Field Trips! All Free and Close By!

- National History Museum
- Air and Space Museum
- National Zoo
- National Geographic Museum
- United States Botanic Garden
- United States National Arboretum
- Long Branch or Gulf Branch Nature Center



Any Questions?

