Spring 2018 POWER Library User Conference

Mad Science!-
POWER Library Science eResources

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Learning Goals

At the end of this session you will be able to

- Choose science products from the available POWER Library eResources
- Find lesson plans, activities, and downloadable materials available from
  - Science Reference Center
  - TrueFLIX
Science Reference Center

• A comprehensive research database that provides access to a multitude of full-text science-oriented content:
  • Full text reference books
  • Full text encyclopedias
  • Experiments, activities, and science fair projects
  • Biographies
  • And more!
Features

• Search Options:
  • Keyword searching
  • Browsing by category
  • Browse popular sources
  • Advanced searching
• Featured Science Topic
• Dictionary

• Reference Shelf
  • Lesson plans
  • Science experiments
  • Citation help
  • Research guide
  • Curriculum standards
  • Worksheets
Advanced Search Options
Dictionary
Subjects

Search for a term, then view

• Broader terms
• Narrower terms
• Related terms
Search Images and Video
Browse by Category

Applied Sciences
- Agricultural Science
- Computer Applications & Programming
- Computer Hardware & Peripherals
- Forensics
- Mathematics
- Measurement of Time
- Measurement of Units
- Metric System
- Military Sciences
- Pharmacology & Toxicology
- Probability & Prediction
- Problem Solving & Strategies
- Science & Society
- Scientific Knowledge
- Technology
Browse by Category

Search Results: 1 - 10 of 1,016

1. CSI: CHINA: The 19th and 20th centuries saw a revolution in Chinese forensic science, when traditional techniques were replaced by new methods from the West. Today, the world confronts another moment of transformation in forensic science.
   HTML Full Text  PDF Full Text (11.7MB)

2. Catching a Criminal.
   HTML Full Text  PDF Full Text (1.9MB)

3. Ear witness: The wax in your lugholes hides your filthy secrets, finds Christie Wilcox.
   HTML Full Text

4. Eyewitness Memory Is a Lot More Reliable Than You Think.
   HTML Full Text

5. A ROGUES' GALLERY OF BAD FORENSICS LABS.
   HTML Full Text  PDF Full Text (1.1MB)

6. BODY OF EVIDENCE.
   HTML Full Text

   HTML Full Text  PDF Full Text (167KB)
Browse Popular Sources

Lesson Plans
Reference books
List of articles, etc.
PDFs
Featured Science Topic

Mae Jemison

Mae Carol Jemison is an American engineer, physician and NASA astronaut. She became the first African-American woman to travel in space when she went into orbit aboard the Space Shuttle Endeavour on September 12, 1992.

Search Results: 1 - 10 of 18

1. MAE JEMISON.
   HTML, Full Text

2. MAE JEMISON.
   HTML, Full Text

3. ALPHA CENTAURI or BUST.
   By: Lee, M. "ALPHA CENTAURI or BUST." (11996109-3), 41, 42, 43. (Reading Level: 1200) (AV: 11996109)
   HTML, Full Text

4. Dr. Mae Jemison: First in Space.
   HTML, Full Text

5. MAE JEMISON.
   By: Lee, M. "MAE JEMISON." (11996111-3), 37, 38, 39. (Reading Level: 1200) (AV: 11996111)
   HTML, Full Text

6. The Woman of NASA.
   By: Lee, M. "The Woman of NASA." (11996112-3), 40, 41, 42. (Reading Level: 1200) (AV: 11996112)
   HTML, Full Text
Reference Shelf Continued

Citation Help

There are several styles and forms used to cite sources which support research papers. Most academic institutions have established standardized requirements for a preferred style. Three of the most widely used styles of citation are:

- Modern Language Association (MLA)
- Chicago Manual of Style
- American Psychological Association (APA)

Whatever style you are using, accuracy, clarity, and consistency are the most important factors to consider when citing various types of sources. Guidelines for citing electronic and online sources are not yet standardized in most citation styles, as the constantly changing nature of electronic databases and sources on the internet requires citation guidelines to be flexible in order to maintain their usefulness.

In general, most styles require that you not only identify reference sources within the text of your essay, but also provide a separate list of works used in your research.

Research Guide

Science Reference Center provides virtually all the information you will need to effectively conduct research on science topics and write research papers. Because there is a wealth of information contained in this database, this guide is provided to support your research and writing process, helping you to write the best possible paper. The following guides and tools are provided:

1. Plagiarism: How to Avoid Common Pitfalls
2. A Step-By-Step Approach to Writing Your Research Paper
   - Step One: Understanding the Scope of Your Assignment
   - Step Two: Choosing Your Topic
   - Step Three: Beginning Your Research
   - Step Four: Taking Notes
   - Step Five: Sorting Cards and Making a Working Outline
   - Step Six: Drafting - How to Integrate and Balance Your Paper
   - Step Seven: Revising
   - Step Eight: Editing and Proofreading

Top of Page
Curriculum Standards

EBSCOhost Curriculum Standards

Browse:
- State: Pennsylvania
- Standard: Academic Standards
- Subject: Science and Technology and Engineering
- Year: 2009
- Grade: 12

Standards:
- Biological Sciences
  - Organisms and Cells
    - Common Characteristics of Life
      - Relate changes in the environment to various organisms' ability to compensate using homeostatic mechanisms.
        - Search Strings: [homeostasis or "water-electrolyte balance"]
        - Search Strings: ["environmental change"]
        - Search Strings: ["protective adaptation" or "adaptive characteristic"]
        - Search Strings: ["adaptation"]
        - Search Strings: ["environment change"]
        - Search Strings: ["whole organism"]
        - Search Strings: ["SURVIVAL behavior"]
        - Search Strings: ["(adaptation or adaptive) and survival"]
        - Search Strings: ["climate or habitat and adapt"]
        - Search Strings: ["environment and change and adapt"]
        - Search Strings: ["(hormone or enzyme or chemical or energy) and biology and balance"]
        - Search Strings: ["Individual organism"]
        - Search Strings: ["ORGANISM"]
Questions?
• Digital Social Studies and Science units
• Contains 140 titles (MARC records available for download)
• For children grades 3 through 6
• Unlimited, simultaneous access
• Promotes the instruction and development of 21st Century information literacy skills
• Built-in lesson plans and project ideas
• Desktop icon and webpage buttons are available for easy access
TrueFLIX Units

Social Studies Units

Science Units
Easy navigation to a different unit

Titles within a unit
Choosing a Book

What role do humans play in ecosystems?

To get the Truth: Watch the video, then read the book.
Watch It
Read It

Flipbooks contain title page information just as a print book.
Table of Contents

Interactive Table of Contents
Read Along

- Optional Read Along
- Word-by-word highlighting
Built-in Dictionary

Hover over a highlighted word to show definition.
Glossary and Index

• Highlighted words in text are included in glossary

• Bold page numbers in Index indicate an illustration
Other Features

• True Statistics
• Places to Visit
• About the Author
• Explore More
• Project Idea
• Show What You Know
• Word Match
• Lesson Plans
• Curriculum Correlations
• Web Links
Explore More Feature

Curate list of age-appropriate online resources:
- Scholastic GO articles
- Profiles
- Primary sources
- Interviews
- Current Events
- Charts and tables
- And more!
Project Ideas

• Reports
• Experiments
• Letters and blogs
• Interviews
• Posters

Project Idea

Photo Realism?

Category: Ecosystems
TrueFlix Title: Climate Change
Project Type: Report

Project Goal:
Create a report explaining the relationship between climate change and one of the two photographic images used on the "Find the Truth!" screen for this topic.

Get Started:
Study the photographs on the "Find the Truth!" screen for climate change. One shows a polar bear, the other a parched landscape. After reading the flipbook, choose one of the two photographs and explain why that image was chosen as representative of climate change.

Follow These Steps:
• Describe the photograph you have chosen and what it represents.
• Explain some of the effects that climate change has or might have on the
Resources and Tools

Click on Resources and Tools link to access additional features:

- Browse All
- Web Links
- Resources
Lesson Plans

Extreme Science Careers

Content Area(s): Science
Grades: 3-5

Time
- Introduce the Topic: one 1-hour class period (two, if students need reading time)
- Classroom Activity: small groups; one 45-minute class period
- Project: 2-3 weeks
- Wrap-Up: one 45-minute class period

Materials
- TrueFlix flipbook Extreme Science Careers
- Computers with Internet access
- Projector or whiteboard

Learning Objectives

Students will:
- Watch a video about extreme science careers.
- Learn key vocabulary
- Build knowledge by completing a small-group activity based on the flipbook.
- Complete a project by creating and role-playing a hypothetical interview with a scientist whose career is in an extreme science.
- Discuss and answer extension questions.

I. Introduce the Topic

Tell students that they will be learning about extreme science careers. Explain that they will first watch a video about extreme science careers. They will also preview vocabulary before they read the TrueFlix flipbook Extreme Science Careers.

Watch the Video

Show the video Extreme Science Careers. When finished, ask students to describe in their own words what the video was about. Discuss with students what they already know about the extreme careers in science. Then have students tell what they would like to learn more about.

Preview Vocabulary

Show students the list of vocabulary words and their definitions in the flipbook. Pronounce each word; then help students read them. Remind students to pronounce unknown words using what they already know about phonics and syllables.

Have students work with partners to read and discuss each definition and use each word in a sentence. Then hide the definitions and have students write sentences using the new words.
Browse All

Browse by:
- Title
- Subject
- Category
- Lexile
- ATOS (text complexity)

Can also see if a title is included in Accelerated Reader and Reading Counts
Questions?
EBSCO eBooks
## Science-related eBooks

<table>
<thead>
<tr>
<th>Title</th>
<th>By</th>
<th>Location</th>
<th>Year</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Idiot's Guides: Quantum Physics</td>
<td></td>
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| 2. Is Our Climate Changing? | | | | | }
| 3. Who Split the Atom? | | | | | }
| 4. Who Invented the Periodic Table? | | | | | }

**Source Types:**
- All Results
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Reading eBook in Adobe Digital Editions

When Rutherford and his colleagues firing alpha particles at all kinds of atoms, they clearly showed that the negative electrons occupied most of the volume of an atom, probably to some extent of constant mass. All of the positive charge was located in an incredibly dense "nucleus" that was very tiny relative to the whole atom. Although the nucleus was physically small, it contained almost all of the mass of the atom (99.99 percent or so).

ATOM SIZE

We sometimes hear about splitting the atom, or taking containing 'atomic' or 'atomic' as atoms, when scientists talk about splitting or separating atoms they are really referring to taking apart the nucleus of an atom. Taking out electrons is not easier than doing anything to change the nucleus; the latter requires (and potentially releases) a lot more energy. This is also why nuclear reactions for power plants, rather than atomic.

While your average atom is electrically neutral, it is also possible to have atoms with a little extra positive or negative charge (called ions). Although the negatively charged electrons are attracted to the positive nuclei, the structure can be overcome and an electron can be extracted. However, one or more electrons, and wind up with a positive ion. It is also possible to place a few extra electrons to get a negatively charged ion.

This is all to say there were two reasons to focus on electrons at this stage of the game in the early 1900s. Electrons were common and relatively easy to remove from atoms, so that could be ionized and studied directly. There was something fundamental about them, since they possessed the basic unit of electrical charge, because of their charge and low mass, they could be mixed around with electromagnetic fields. Electrons clearly played a major role in chemistry, too, due to their manner of packing into an atom's constituent shell. Perhaps more important, classical physics was unable to explain exactly what they were doing when bound to atoms.

QUANTUM LEAP

All atomic nuclei are made up of protons and neutrons, with one exception. The nucleus of the ordinary hydrogen atom contains only one proton, and no neutrons. The nucleus of the ordinary hydrogen atom contains only one proton, and no neutrons. The proton is repelled by a single electron. Not only that, but if the electron is stripped off to make a positive hydrogen ion, that ion is an excited proton ready to be manipulated and studied.
Refine Results by Subject
Questions?
Hands-on time!

eCard for using the eResources:

2475 2000 1894 70

(no spaces)

• Browse Science Reference Center for content for an upcoming lesson
• Browse the lesson plans in the Science units in TrueFLIX
• View some of the projects included in TrueFLIX science flipbooks
• Browse the Sciences books available, and refine further by subject