Science Topic Ideas

Region: America & Canada
Spring 2019
What are the sciences?

The sciences include subjects that study the physical world and natural phenomena. They focus on how things work and interactions between physical forces.

Scientists use the scientific method to study these areas; they create a hypothesis, design/perform an experiment, observe/record data, and publish the results.

You won’t be doing the experiments and observations yourself—you’ll be finding and using the research scientists have already done.
What do the sciences include?
(Click on a heading below to explore potential topics in that subject area)

Earth Sciences

Life Sciences

Applied Sciences

A branch of science that deals with the earth, its composition, or any of its changing aspects (for example: geology, climatology, natural disasters, etc.).
Earth Sciences

Potential Topics

Geologic features:

- Appalachian Mountains
- Rocky Mountains (US/Canada)
- Badlands
- Saint Elias Mountains (Alaska & Canada)
- Coast Mountains (Canada)
- Columbia Mountains (British Columbia)

- Yellowstone (super volcano)
- Hot Springs (Arkansas)
- Badlands
- Lechuguilla Cave (New Mexico)
- Glacier National Park (US/Canada)
- Grand Canyon
- Banff and Jasper National Parks (Canada)

Note: Online library resources will require you to log in using your UD Network username and password if you are off-campus.
Natural Disasters:
• Hurricanes ([prediction methods](#), [climate change impact](#))
• Earthquakes ([Oklahoma](#))
• Tornadoes ([Tornado Alley](#), [prediction methods](#), [climate change impact](#))
• Wildfires ([prevention](#), [climate change impact](#))
• Flooding ([Eastern US](#) climate change impact, [prediction methods](#))
• Drought ([prediction](#), [flash droughts](#), [climate change impact](#))
Life Sciences

What is it?

A branch of science that deals with living organisms and life processes (for example: ecology, environmental sciences, zoology, botany, herpetology, microbiology, etc.).
Life Sciences

Invasive species:
• Zebra mussels in the Great Lakes
• Ballast water management in Great Lakes
• Emerald ash borer
• European corn borer

Mammals:
• Gray bat (white nose syndrome, bat conservation)
• Canada lynx

Bison (conservation)
Caribou (NW Territories of Canada)
Marmots
Black Bear
Grizzly Bear
Prairie dogs

Birds:
• Bald Eagle
• Mississippi Flyway (migratory bird management and habitats)

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Life Sciences

Plants:
- Saguaro cacti (AZ, CA)
- Joshua tree
- Mesquite

Reptiles:
- Sea turtles (various species)
- Gila monster
- Rattlesnake
- American Alligator

Coastal Fisheries
Environmental Science:
- Great Lakes pollution (Lake Superior, Michigan, Huron, Erie, and Ontario)
- Upper Mississippi River Region (biodiversity, pollution)
- Ocean pollution/hypoxia on coasts
- Wetland Loss
- Wetland Restoration (Everglades)

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Groundwater & River pollution due to agricultural and industrial activity
gulf of Mexico (agricultural runoff)
Oil and Natural gas deposits/drilling/fracking
Impact of chronic wasting disease on white tailed deer population

Lock & Dam system of Mississippi River (Fish ecology)
Applied Sciences

What is it?

A discipline of science that applies existing scientific knowledge to develop more practical applications, like technology or inventions (for example: medicine, engineering, agriculture, etc.).
Applied Sciences

Space Exploration:
NASA (Mars atmosphere, Martian exploration, Lunar surface vehicles)

Health Sciences:
Heart Disease (leading cause of death in the U.S., second in Canada)
Cancer (leading cause of death in Canada, second in U.S.)
Human Pappilomavirus vaccine
Zika virus
Diabetes

HIV/AIDS Pandemic
Avian Influenza (Bird Flu)
Seoul Virus
Opioid Crisis/addiction
Nutrition in schools

Agriculture:
Use of drones in Ag
Ethanol production

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Engineering/Technology:
• Lock and dam system of Great Lakes
• Hurricane Katrina Levee engineering/flood control methods
• Bridge design and construction (I-35W bridge collapse, Minneapolis, MN in 2007)
• Gateway arch (St. Louis)
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