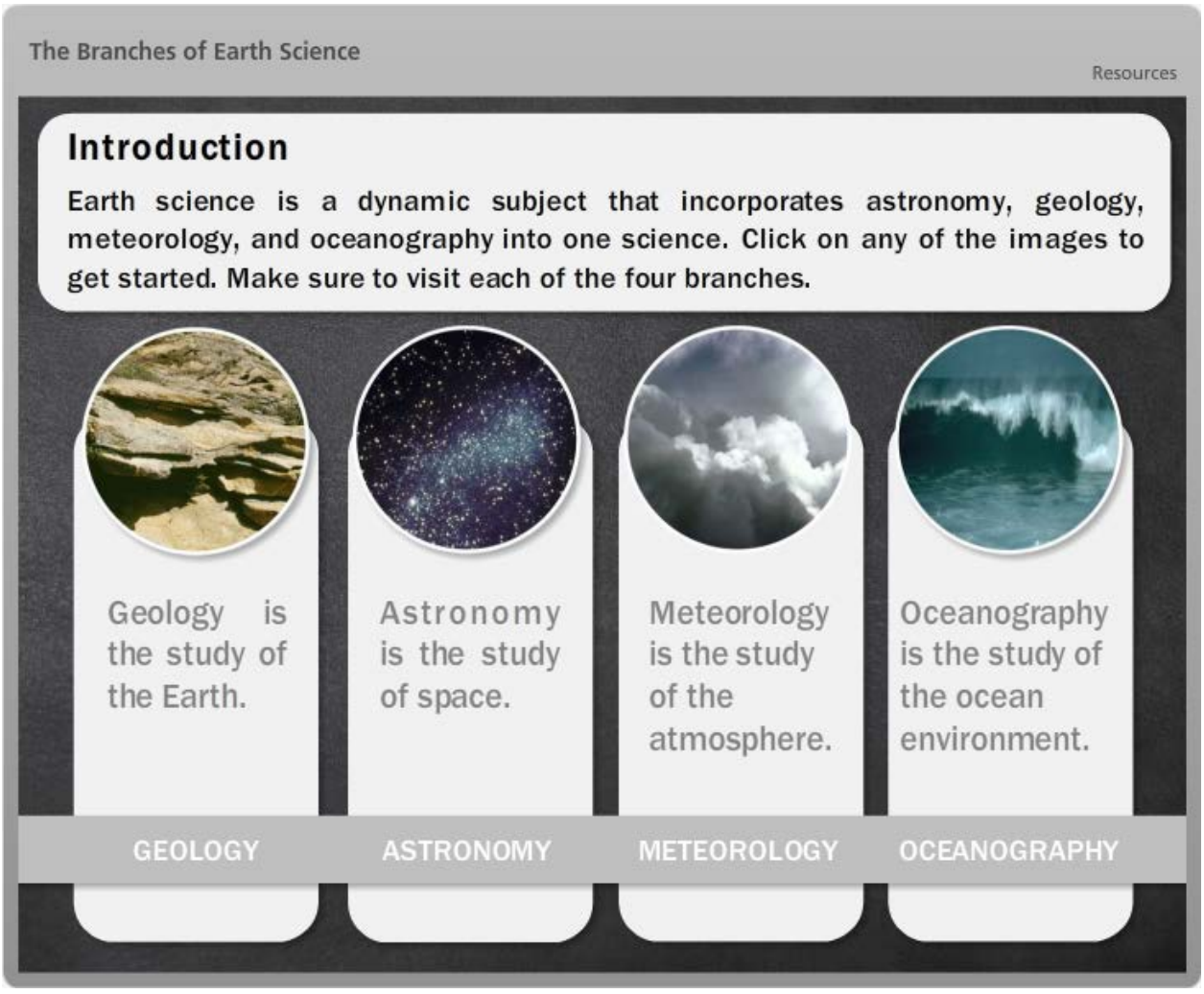
Module 1: What is Earth Science?
Topic 1 Content: The Branches of Earth Science Notes



Earth science is a dynamic subject that incorporates astronomy, geology, meteorology, and oceanography into one science. Which one would you like to explore? It is your choice! Click on any of the images to get started.

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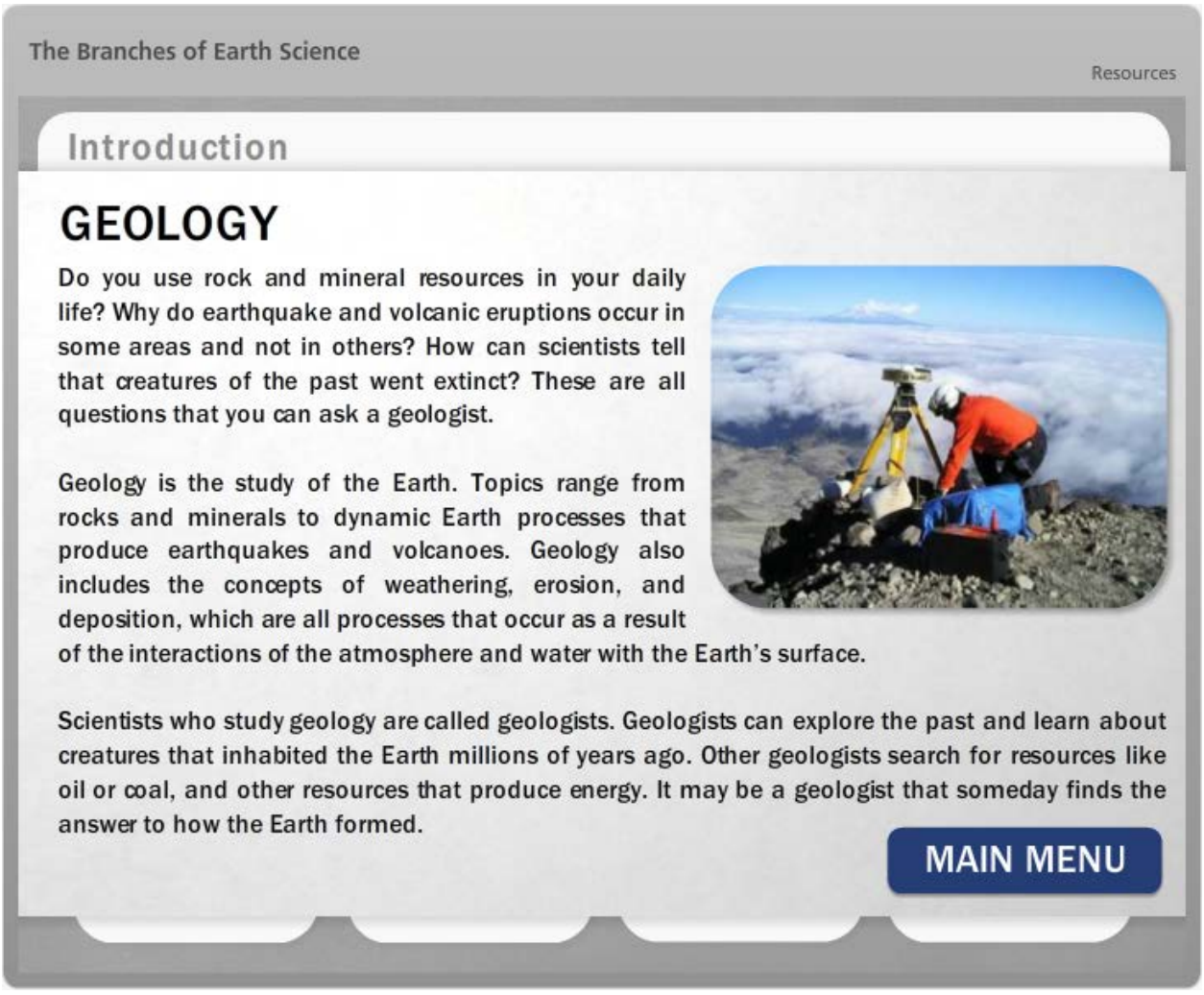

Do you use rock and mineral resources in your daily life? Why do earthquake and volcanic eruptions occur in some areas and not in others? How can scientists tell that creatures of the past went extinct? These are all questions that you can ask a geologist.

Geology is the study of the Earth. Topics range from rocks and minerals to dynamic Earth processes that produce earthquakes and volcanoes. Geology also includes the concepts of weathering, erosion, and deposition, which are all processes that occur as a result of the interactions of the atmosphere and water with the Earth's surface.

Scientists who study geology are called geologists. Geologists can explore the past and learn about creatures that inhabited the Earth millions of years ago. Other geologists search for resources like oil or coal, and other resources that produce energy. It may be a geologist that someday finds the answer to how the Earth formed.

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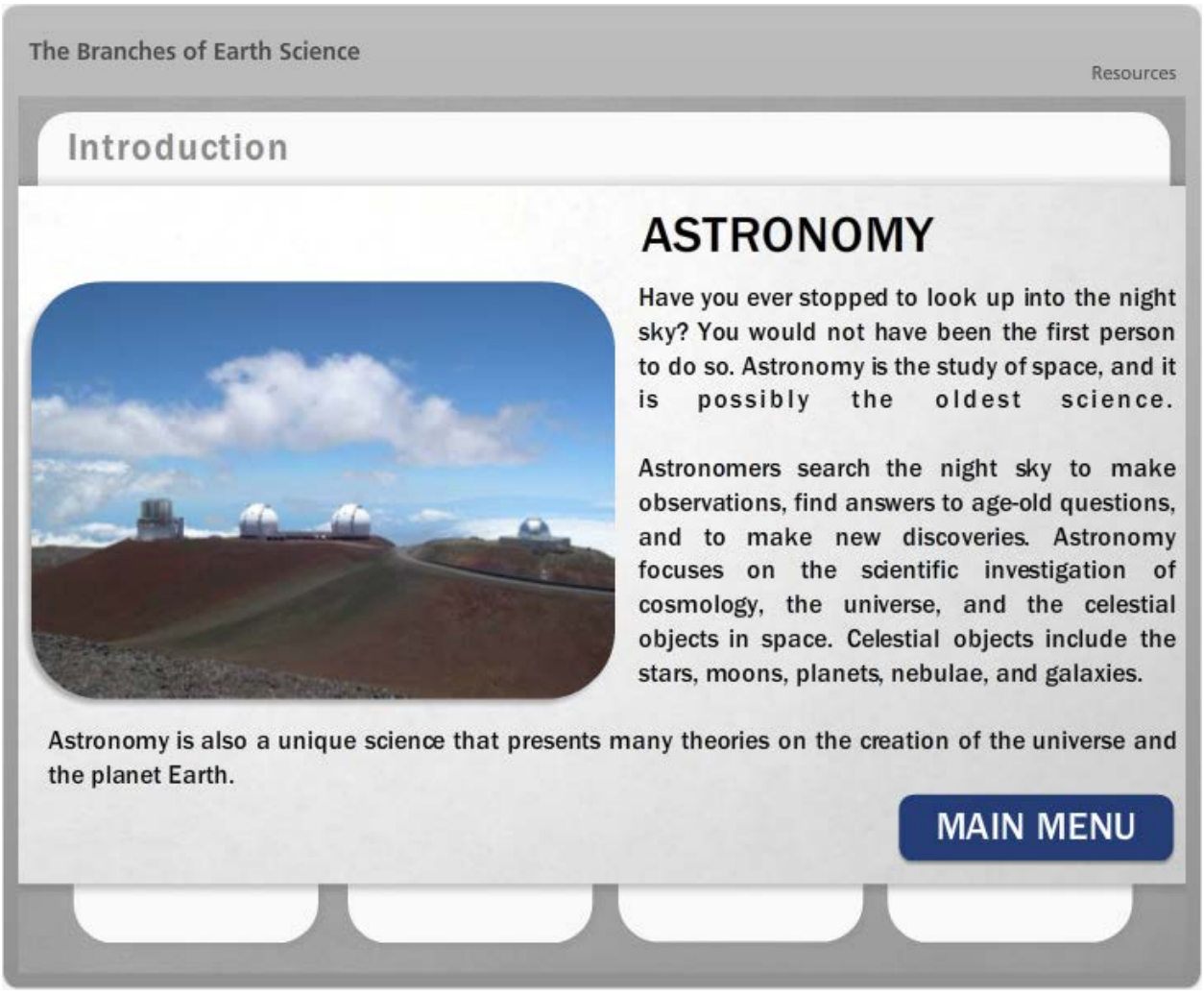

Have you ever stopped to look up into the night sky? You would not have been the first person to do so. Astronomy is the study of space, and it is possibly the oldest science. Astronomers search the night sky to make observations, find answers to age-old questions, and to make new discoveries. Astronomy focuses on the scientific investigation of cosmology, the universe, and the celestial objects in space. Celestial objects include the stars, moons, planets, nebulae, and galaxies.

Astronomy is also a unique science that presents many theories on the creation of the universe and the planet Earth.

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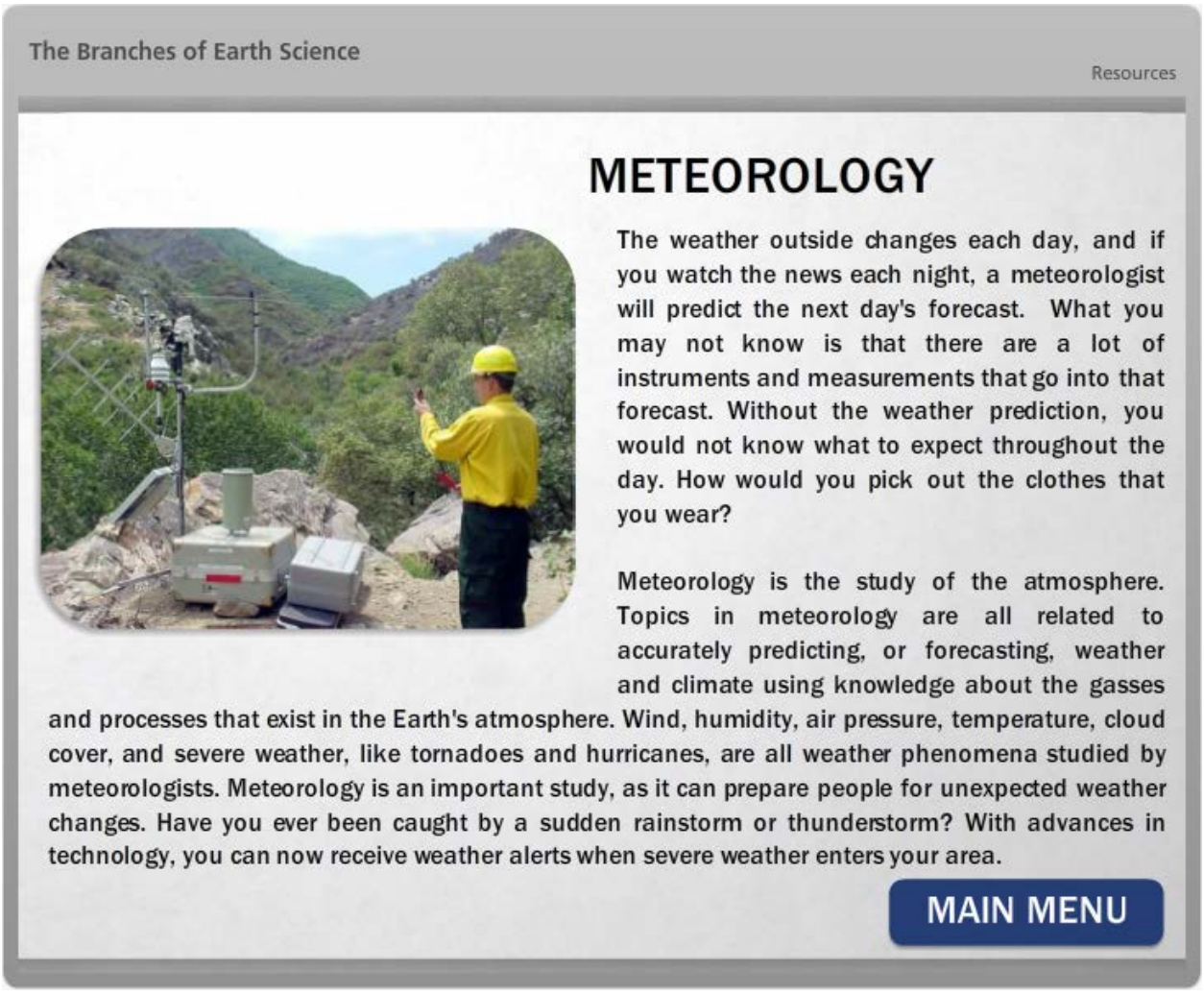

The weather outside changes each day, and if you watch the news each night, a meteorologist will predict the next day's forecast. What you may not know is that there are a lot of instruments and measurements that go into that forecast. Without the weather prediction, you would not know what to expect throughout the day. How would you pick out the clothes that you wear?

Meteorology is the study of the atmosphere. Topics in meteorology are all related to accurately predicting, or forecasting, weather and climate using knowledge about the gasses and processes that exist in the Earth's atmosphere. Wind, humidity, air pressure, temperature, cloud cover, and severe weather, like tornadoes and hurricanes, are all weather phenomena studied by meteorologists. Meteorology is an important study, as it can prepare people for unexpected weather changes. Have you ever been caught by a sudden rainstorm or thunderstorm? With advances in technology, you can now receive weather alerts when severe weather enters your area.

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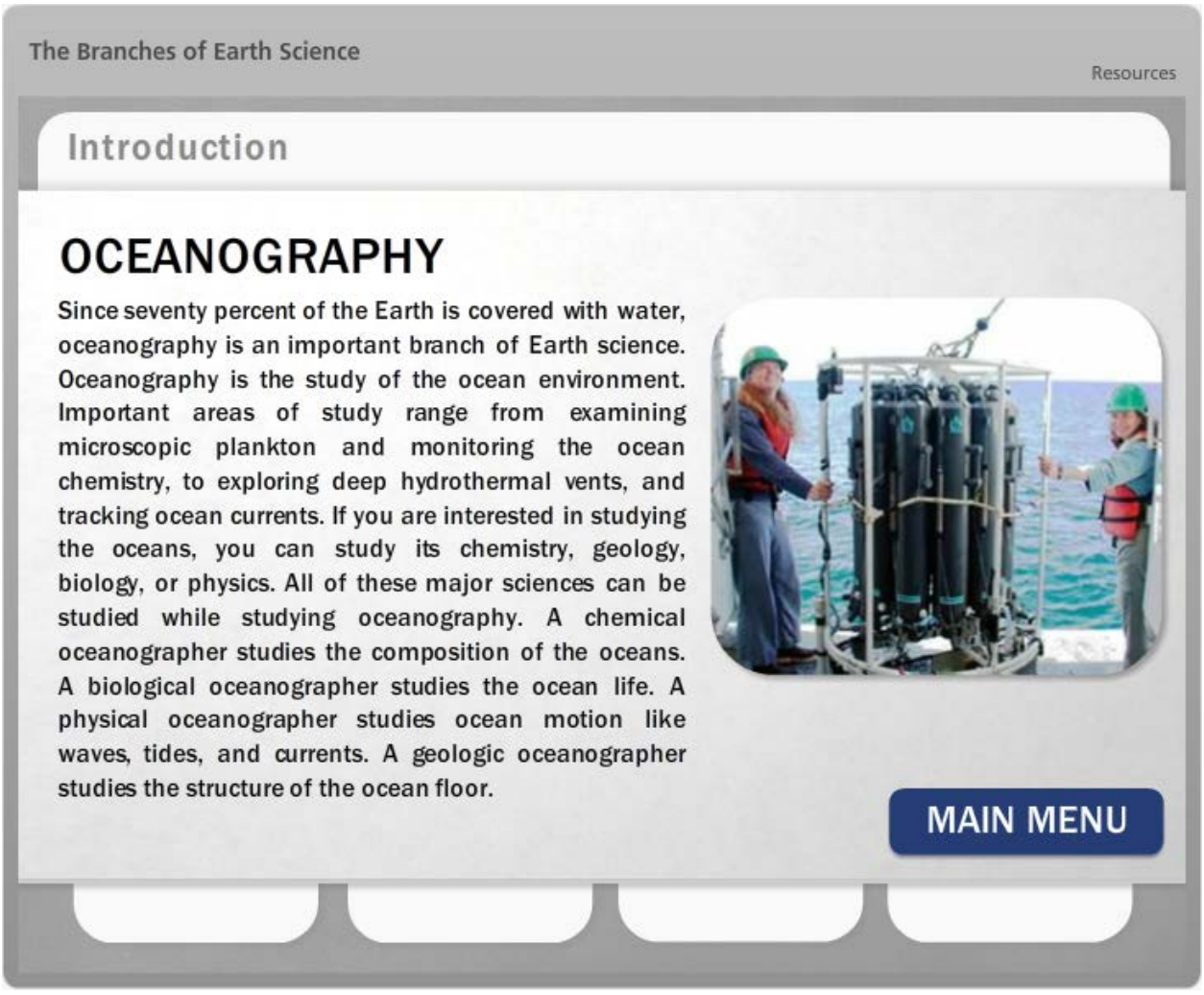

Since seventy percent of the Earth is covered with water, oceanography is an important branch of Earth science. Oceanography is the study of the ocean environment. Important areas of study range from examining microscopic plankton and monitoring the ocean chemistry, to exploring deep hydrothermal vents, and tracking ocean currents. If you are interested in studying the oceans, you can study its chemistry, geology, biology, or physics. All of these major sciences can be studied while studying oceanography. A chemical oceanographer studies the composition of the oceans. A biological oceanographer studies the ocean life. A physical oceanographer studies ocean motion like waves, tides, and currents. A geologic oceanographer studies the structure of the ocean floor.