"From the time of our birth, it is our instinct to explore. To map the lands, we must explore. To chart the seas, we must explore. To make new discoveries, we must explore. Three decades have passed since a human being has set foot on another world. It is time for America to take the next steps to explore the Earth, moon, Mars, and beyond."

Neil Armstrong, NASA Astronaut
NASA Vision for Space Exploration
http://www.nasa.gov/mission_pages/exploration/main/vision_video.html

Humanity's long history of exploration dates back as far as 3200 B.C. By 2300 B.C., Egyptian adventurers had landed on the east coast of Africa. By 800 B.C., Polynesian travelers were navigating the South Pacific and had begun to colonize the Hawaiian Islands. By 400 B.C., the Greeks had added England and India to their maps. By A.D. 1000, the Vikings had discovered Greenland and Iceland and had set sail for North America.

Advances in technology aided these early voyagers. During the first century A.D., the Chinese invented the compass, while Egyptian astronomer Ptolemy laid the foundations for the mapmaking science known as cartography. In the 17th century, the invention of the sextant improved navigational accuracy. As technology advanced, humanity's spirit of exploration flourished.

European explorers like Christopher Columbus, Vasco da Gama, and Ferdinand Magellan began journeys that expanded human understanding of the world. Likewise, Jacques Cartier, John Cabot, Sir Francis Drake, and Henry Hudson left their marks with expeditions to the continent of North America, the land known as the New World. These explorers traveled to relatively unknown areas of the Earth, often motivated by a desire for colonization, conquest, or trade.

North America soon became a place where the countries of Spain, France, and England would compete for land, natural resources, and political influence. England's first attempt at a permanent New World settlement failed in the late 16th century, but by 1607, the English would try again. Braving an uncertain future, 105 courageous and determined men set sail across the Atlantic Ocean and made landfall at the place they would name Jamestown. Only one man was lost during the journey, which lasted nearly 5 months. Perils in the months ahead would test the strength and conviction of those early Jamestown explorers. Their trials helped give rise to some of America's most valued qualities, such as freedom, democracy, and cultural diversity. Despite the hardships and setbacks, the Jamestown colony gave rise to a nation and changed the world.

Exploration continued through history and was significantly advanced in the 20th century with Orville and Wilbur Wright's invention of the airplane. It enabled humans to travel farther faster than before. Later, exploration rocketed into space with Alan Shepard (the first American in space), John Glenn (the first American to orbit Earth), and Neil Armstrong (the first person to set foot on the Moon).

Humans have an innate hunger to find new frontiers and a strong desire to establish a permanent presence in unexplored territories. NASA's Vision for Space Exploration calls for humans to return to the Moon by the end of the next decade, paving the way for eventual journeys to Mars and beyond.

The educational module ***Exploration: Then and Now*** examines four themes and compares exploration of the past and present. The module focuses on the settlement of Jamestown, the first permanent English-speaking colony in the New World, and NASA's plans to return to the Moon and reach for Mars. Each lesson consists of several student activities.

These lessons are organized using the 5E model that is based upon constructivism, a philosophy of learning that urges learners to create their own understanding of novel ideas through experience. To better incorporate new knowledge, learners connect prior experience with new investigations.

Each lesson has these 5E stages:

- **Engage:** Activities to capture students' attention, stimulate thinking, and access prior knowledge.
- **Explore:** Activities that guide students to think, plan, investigate, and organize collected information.
- **Explain:** Activities to analyze what students have learned through exploration and deepen or clarify their understanding of the main issues.
- **Extend:** Activities that give students the opportunity to expand and solidify their understanding of the concept and/or apply this understanding to a real-world situation.
- **Evaluate:** Activities, both formal and informal, to assess student understanding.

Essential Questions

Essential Questions focus each lesson's study, guiding students to investigate, discover, and think critically about the concepts being presented. These questions, found at the beginning of each lesson, should be posted so that students and teachers can refer to them throughout the module.

Exploration: Then and Now is made up of four lessons and one introductory activity, "Survival!" Teachers may choose to complete any or all parts of the lessons.

The components of this module are as follows:

- Cover
- Survival!
- Transportation
- Settlement
- Follow the Water
- Human Needs