

## MARS

The nationwide movement for high standards has not only determined what students should learn, but also has mandated that students demonstrate what they know. Teachers who choose MARS will find it is a standards-based program addressing National Science and English Language Arts Standards. The content of this unit is the target of most state frameworks for space science, life science, and research. MARS provides many opportunities for performance assessment as students plan a voyage to explore the planet Mars. MARS addresses Applied Learning standards when students use brainstorming, analysis, and cooperative decision-making to solve problems.

### National Science Education Standards

#### **Content Standard C: Life Science**

##### **Structure and Function in Living Things**

- Disease is a breakdown in structures or functions of an organism. Some diseases are the result of intrinsic failures of the system. Others are the result of damage by infection by other organisms.

##### **Diversity and adaptations of organisms**

- Extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient to allow its survival. Fossils indicate that many organisms that lived long ago are extinct.

#### **Content Standard D: Earth and Space Science**

##### **Earth in the Solar System**

- The earth is the third planet from the sun in a system that includes the moon, the sun, eight other planets and their moons, and smaller objects, such as asteroids and comets. The sun, an average star, is the central and largest body in the solar system.
- Most objects in the solar system are in regular and predictable motion. Those motions explain such phenomena as the day, the year, phases of the moon, and eclipses.
- Gravity is the force that keeps planets in orbit around the sun and governs the rest of the motion in the solar system.

#### **Content Standard F: Science in Personal and Social Perspectives**

##### **Personal Health**

- Regular exercise is important to the maintenance and improvement of health. The benefits of physical fitness include maintaining healthy weight, having energy and strength for routine activities, good muscle tone, bone strength, strong heart/lung systems, and improved mental health. Personal exercise, especially developing cardiovascular endurance, is the foundation of physical fitness.
- Food provides energy and nutrients for growth and development. Nutrition requirements vary with body weight, age, sex, activity, and body functioning.

- Natural environments may contain substances (for example, radon and lead) that are harmful to human beings. Maintaining environmental health involves establishing and monitoring quality standards related to use of soil, water, and air.

### **Risks and Benefits**

- Individuals can use a systematic approach to thinking critically about risks and benefits. Examples include applying probability estimates to risks and comparing them to estimated personal and social benefits.

## **NCTE Standards for the English Language Arts**

**Standard 7:** Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources to communicate their discoveries in ways that suit their purpose and audience.

**Standard 8:** Students use a variety of technological and informational resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.

## **California Applied Learning Standards**

**Standard 2.** Students will understand how to solve problems through planning and organization. Students will plan and organize an activity.

**Standard 6.** Students will understand how to apply communication skills and techniques. Students will demonstrate ability to communicate orally and in writing.

**Standard 8.** Students will understand the importance of teamwork. Students will work on teams to achieve project objectives.