

# **Astronomy**

Timeframe: Week 7 and 8

Topic: Ch 6 Methods of Observation

## Objectives

The student will understand the basic methods and tools of observation in astronomy.  
The student will understand the limitations and obstacles of observation.

## Lessons

Telescopes

Telescope types

Advantages of refractors over reflectors

Special telescopes

## Activities

Lecture

Worksheets

Video

Lab activity

Demonstrations

Review

Exam

## TEKS

HS. Scientific processes.

HS. The student uses scientific methods during field and laboratory investigations.

HS.2D Communicate valid conclusions

HS.2A Plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology

# **Astronomy**

Timeframe: Week 9-11

Topic: Ch 7 The Earth

## Objectives

The student will understand the basic structure and components of the earth.

The student will be able to use these characteristics of earth to compare to other planets and objects in the solar system.

## Lessons

Earth's atmosphere

Earth's hydrosphere

Earth's crust

Earth's mantle

Earth's core

Earth's magnetosphere

## Activities

Lecture

Worksheets

Video

Lab activity

Demonstrations

Review

Exam

## TEKS

HS. Scientific processes.

HS. The student uses scientific methods during field and laboratory investigations.

HS.2D Communicate valid conclusions

HS.2A Plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology

HS. Science concepts

HS. The student knows how life on Earth is affected by its unique placement and orientation in our solar system.

HS.10A Compare the factors essential to life on Earth such as temperature, water, mass, and gases to conditions on other planets.

HS.10C Identify the effects of the moon on the tides

HS.10B Determine the effects of the Earth's rotation, revolution, and tilt on its environment

HS. The student knows the role of the sun in our solar system.

HS.8C Describe the Sun's effects on the Earth

HS. The student knows that planets of different size, composition, and surface features orbit around the sun.

HS.9B Compare the planets in terms of orbit, size, composition, rotation, atmosphere, moons, and geologic activity

# **Astronomy**

Timeframe: Week 12-14

Topic: Ch 8 The Moon

## Objectives

The student will understand the basic structure and components of the moon.

The student will be able to compare these characteristics to the earth.

The students will understand the basics of the moon's orbit and rotation.

The student will know the manned and unmanned flights to the moon.

## Lessons

The moon's surface

History of the moon

The moon's origin

The Apollo program

Apollo 13

Space flight up through Apollo

## Activities

Lecture

Worksheets

Video

Lab activity

Demonstrations

Review

Exam

## TEKS

### Astronomy

HS. The student knows scientific information about the universe.

HS.4A Observe and record data about lunar phases and uses that information to model the Earth, moon, and sun system

HS. The student knows that planets of different size, composition, and surface features orbit around the sun.

HS.9D Relate the role of gravitation to the motion of the planets around the Sun and to the motion of moons and satellites around the planets.

HS. The student knows how life on Earth is affected by its unique placement and orientation in our solar system.

HS.10C Identify the effects of the moon on the tides

HS. The student knows how mathematical models, computer simulations, and exploration can be used to study the universe.

HS.7E Analyze the impact of the space program on the collection of data about the Earth and the universe

## **Astronomy**

Timeframe: Week 14-15

Topic: Ch 10&11 Mercury and Venus

### Objectives

The student will understand the basic structure and components, orbits and rotation, temperature and atmosphere of the Mercury and Venus.

The student will be able to compare these characteristics to the earth.

The student will know the manned and unmanned flights to Mercury and Venus.

### Lessons

Mercury and Venus in bulk

The orbits and rotation of Mercury and Venus

The investigations of the inner planets

### Activities

Lecture

Worksheets

Video

Lab activity

Demonstrations

Review

Exam

### TEKS

#### Astronomy

HS. The student knows that planets of different size, composition, and surface features orbit around the sun.

HS.9D Relate the role of gravitation to the motion of the planets around the Sun and to the motion of moons and satellites around the planets.

HS.9B Compare the planets in terms of orbit, size, composition, rotation, atmosphere, moons, and geologic activity

# **Astronomy**

Timeframe: Week 16

Topic: Ch 12 Mars

## Objectives

The student will understand the basic structure and components, orbits and rotation, temperature and atmosphere of the Mars.

The student will be able to compare these characteristics to the earth.

The student will know the manned and unmanned flights to Mars.

## Lessons

Mars in bulk

The orbit and rotation of Mars.

The investigations of Mars.

## Activities

Lecture

Worksheets

Video

Lab activity

Demonstrations

Review

Exam

## TEKS

### Astronomy

HS. The student knows that planets of different size, composition, and surface features orbit around the sun.

HS.9B Compare the planets in terms of orbit, size, composition, rotation, atmosphere, moons, and geologic activity

HS.9D Relate the role of gravitation to the motion of the planets around the Sun and to the motion of moons and satellites around the planets.