

The Night Sky

English II

WHAT IS ASTRONOMY?

Basic activity to study sky and learn about what we see in the universe.

Two categories:

- 1.) Astronomers - professionals who trained to do in-depth studies of the stars and galaxies
- 2.) Amateur observers – enjoy the study of stars and galaxies as a hobby and pastime activity (stargazing)

HISTORY OF ASTRONOMY

Comes from two Greek terms → astron (star) + nomia (law); laws of the stars

15,000 years early astronomers started studying the sky → clocks, calendar, navigation tools

Long road of the human history to study the sky

The invention of tools such as the telescope, observers began to learn more about the sky and it moved to realm of science and maths

IMPORTANT INVENTORS

Copernicus → explained the retrograde motion of planets in the 16th century

Kepler → accurate measurements in the 17th century of the planetary positions

Galilei → helped the development of astronomy (Copernican view) + telescope
→ proved that the Earth and other planets revolved around the Sun

Newton → universal law of gravitation; motion of comets, shape of the Earth;
predictions and explanations of Kepler's laws

THE UNIVERSE

10 billion stars + 50 million galaxies

13,8 billion years old → started with the BIG BANG

Expanding universe



GALAXIES

Collections of billions of stars, gas and dust held together by gravity

All stars belong to a galaxy

Our galaxy is the Milky Way Galaxy

More than 50 million galaxies in the universe

Classified by their shape: spiral, elliptical or irregular

STARS

Large balls of gas that give off light

About 3000 stars with a naked eye; billions of billions with telescopes

Vary in size, color and brightness

Color: red, orange, yellow, white or blue → depends on its surface temperature determined by its age and mass

Can shine for p to 10 billion years

PLANETS

Objects wander against the backdrop of stars

Move slowly or others move quickly through the year

Planetes → greek word for wanderers

8 planets in our solar system



CONSTELLATIONS

Pictures of objects and characters outlined by stars in the night sky

Ancient people imagined these starry figures; created stories

Named by the Greeks many year ago; other cultures developed their own stories



OUR SOLAR SYSTEM

Natural objects that orbit around the Sun

Includes 8 planets, 170 moons, lot of asteroids and space objects

Sun is the biggest object; the reason why there is life on Earth → provides light and heat energy

The Solar System is about 4,6 billion years old

QUESTIONS

What is astronomy?

What is the name of the study of stars and galaxies as a hobby?

What do the Greek terms astron and nomia mean?

Mention at least 3 inventors related to astronomy!

What are the Galaxies?

What does the color of the star tell to the astronomers?

What are the constellations?

How many planets are there in our Solar System?



THANK YOU
FOR YOUR
ATTENTION!