

Legends of Learning

Structure of Our Solar System

#1

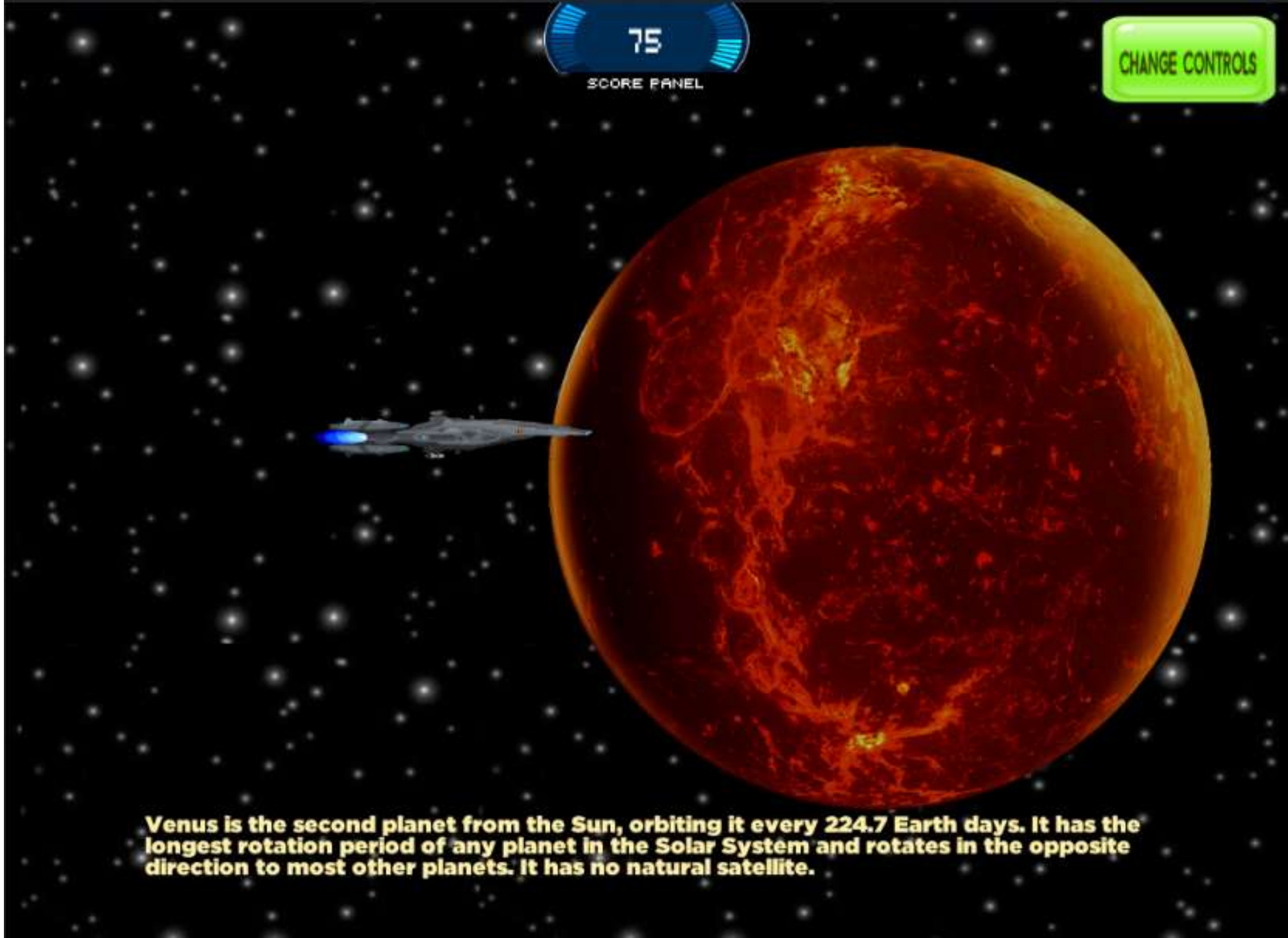


#2



Mercury is the smallest and innermost planet in the Solar System. Its orbital period around the Sun of 88 days is the shortest of all the planets in the Solar System.

#3



Venus is the second planet from the Sun, orbiting it every 224.7 Earth days. It has the longest rotation period of any planet in the Solar System and rotates in the opposite direction to most other planets. It has no natural satellite.

#4



Earth, otherwise known as our world, is the third planet from the Sun and the only object in the Universe known to harbor life. It is the densest planet in the Solar System and the largest of the four terrestrial planets.

#5



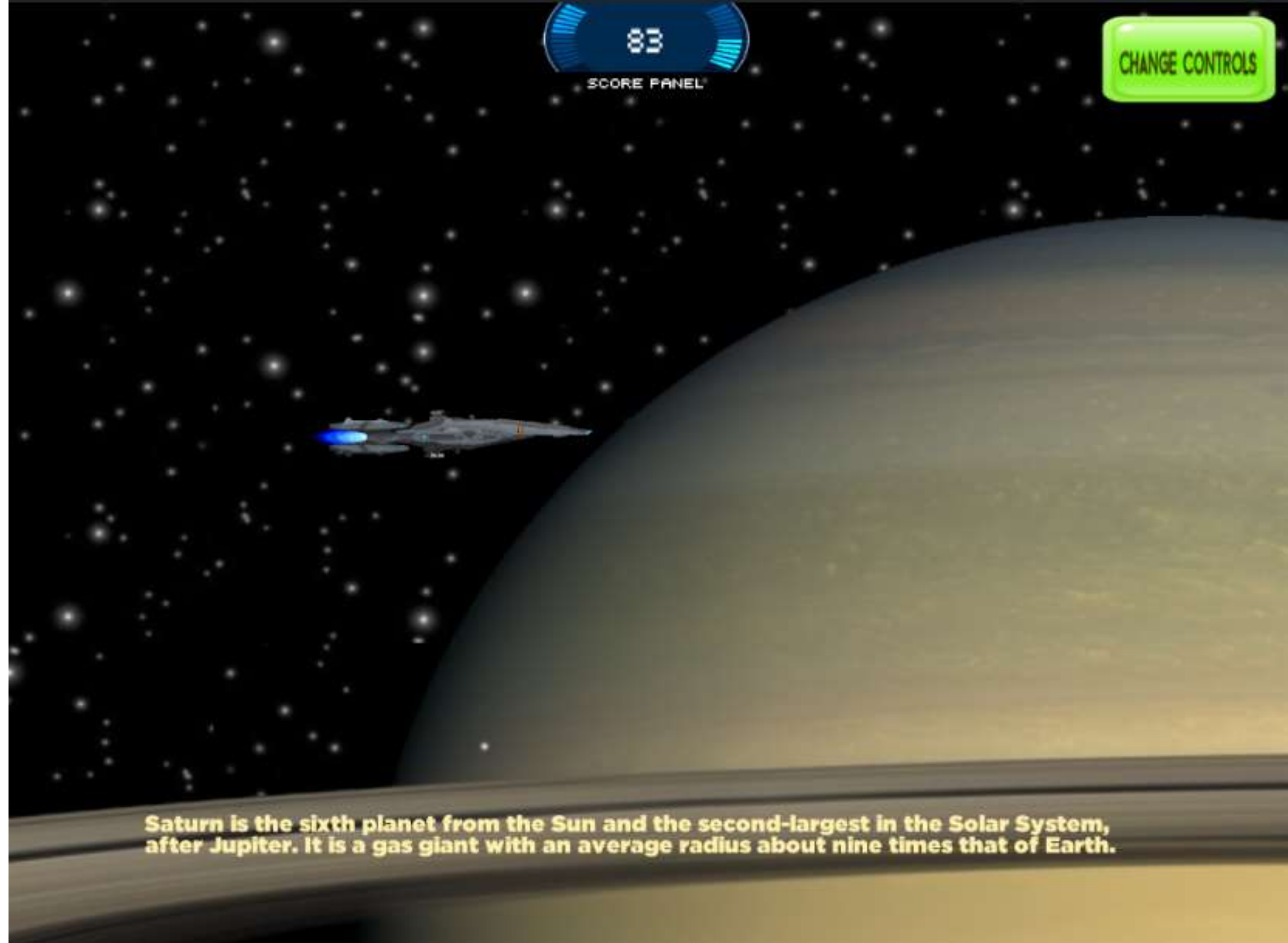
Mars is the fourth planet from the Sun and the second-smallest planet in the Solar System, after Mercury.

#6



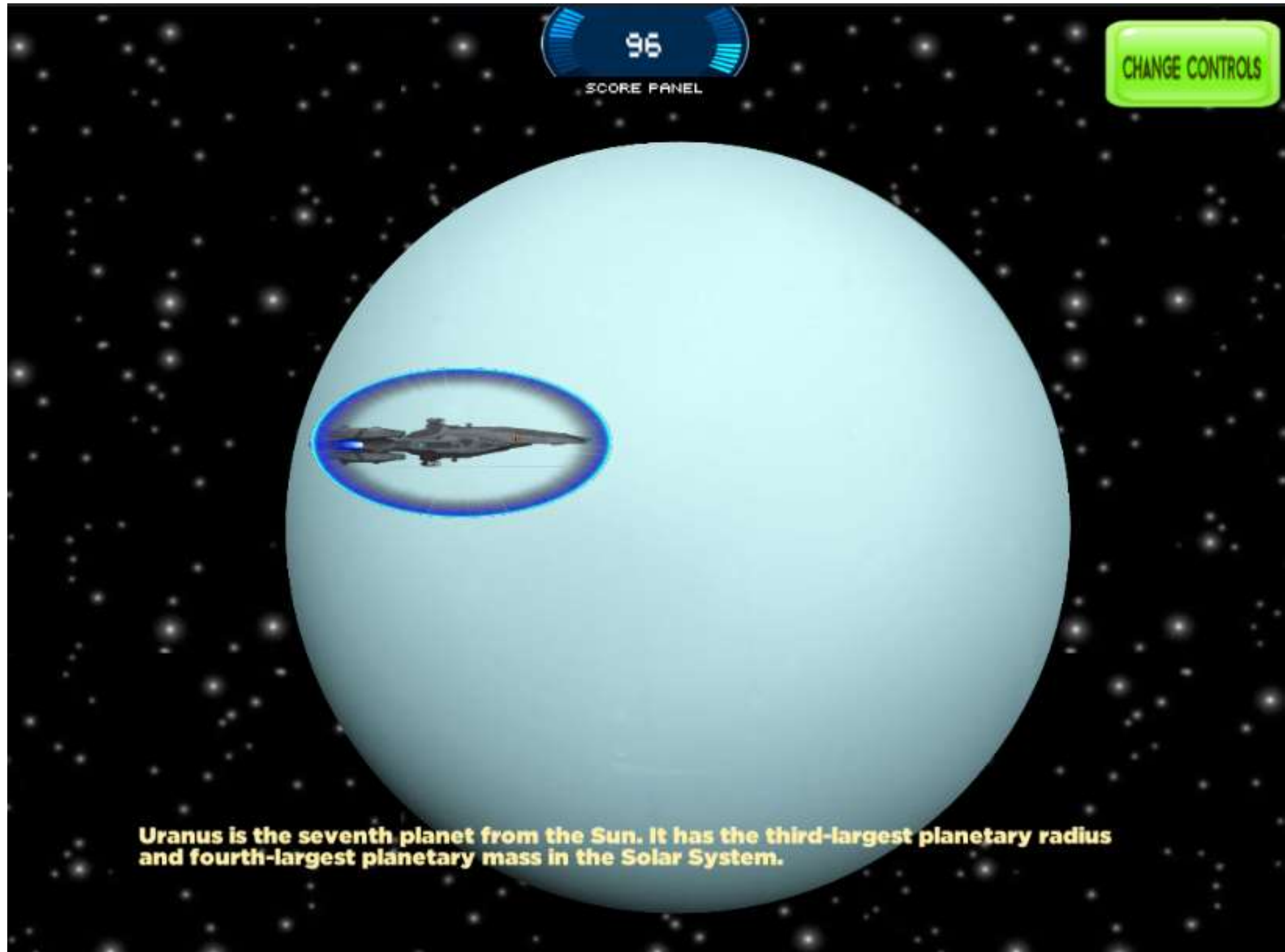
Jupiter is the fifth planet from the Sun and the largest in the Solar System. It is a giant planet with a mass one-thousandth that of the Sun, but two and a half times that of all the other planets in the Solar System

#7



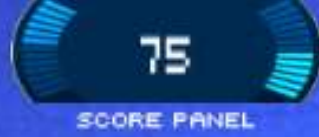
Saturn is the sixth planet from the Sun and the second-largest in the Solar System, after Jupiter. It is a gas giant with an average radius about nine times that of Earth.

#8



Uranus is the seventh planet from the Sun. It has the third-largest planetary radius and fourth-largest planetary mass in the Solar System.

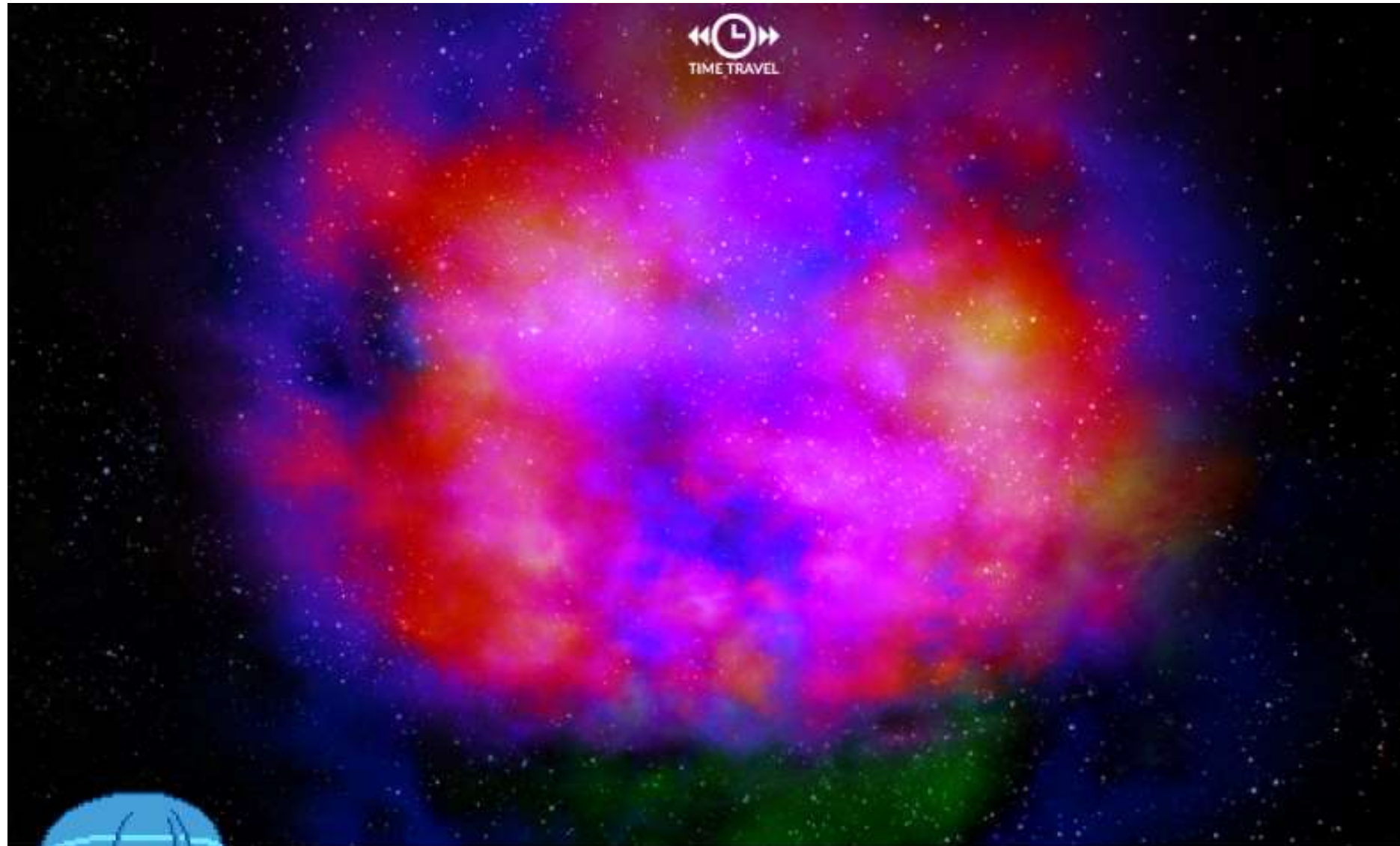
#9



Neptune is the eighth and farthest known planet from the Sun in the Solar System. In the Solar System, it is the fourth-largest planet by diameter, the third-most-massive planet, and the densest giant planet.

Nebular Theory

- Solar Nebular
 - **Gravitational collapse** caused the cloud to spin.



Then, about 4.6 billion years ago, something happened that caused a gravitational collapse of the cloud into a spinning, swirling solar nebula. This could have been the result of the shock waves from a nearby exploding star, called a supernova.

- Formation of the Sun
 - Gravity pulled matter together at the center of the disk. Making it hot enough for nuclear fusion of hydrogen to helium.



Within 50 million years, as gravity pulled matter together at the center of the disk, the density and pressure increased tremendously, until they became great enough to begin nuclear fusion: hydrogen atoms fuse together to form helium atoms, releasing tremendous amounts of nuclear energy in the process.

- Accretion of Planets
 - Dust and gas gravitated together and formed large bodies, forming the planets.



The planets formed by accretion from the protoplanetary disk, in which dust and gas gravitated together and coalesced to form large bodies.

- Death of a Star/Sun
 - After the Red Giant the core will remain and cool to form a white dwarf star.

