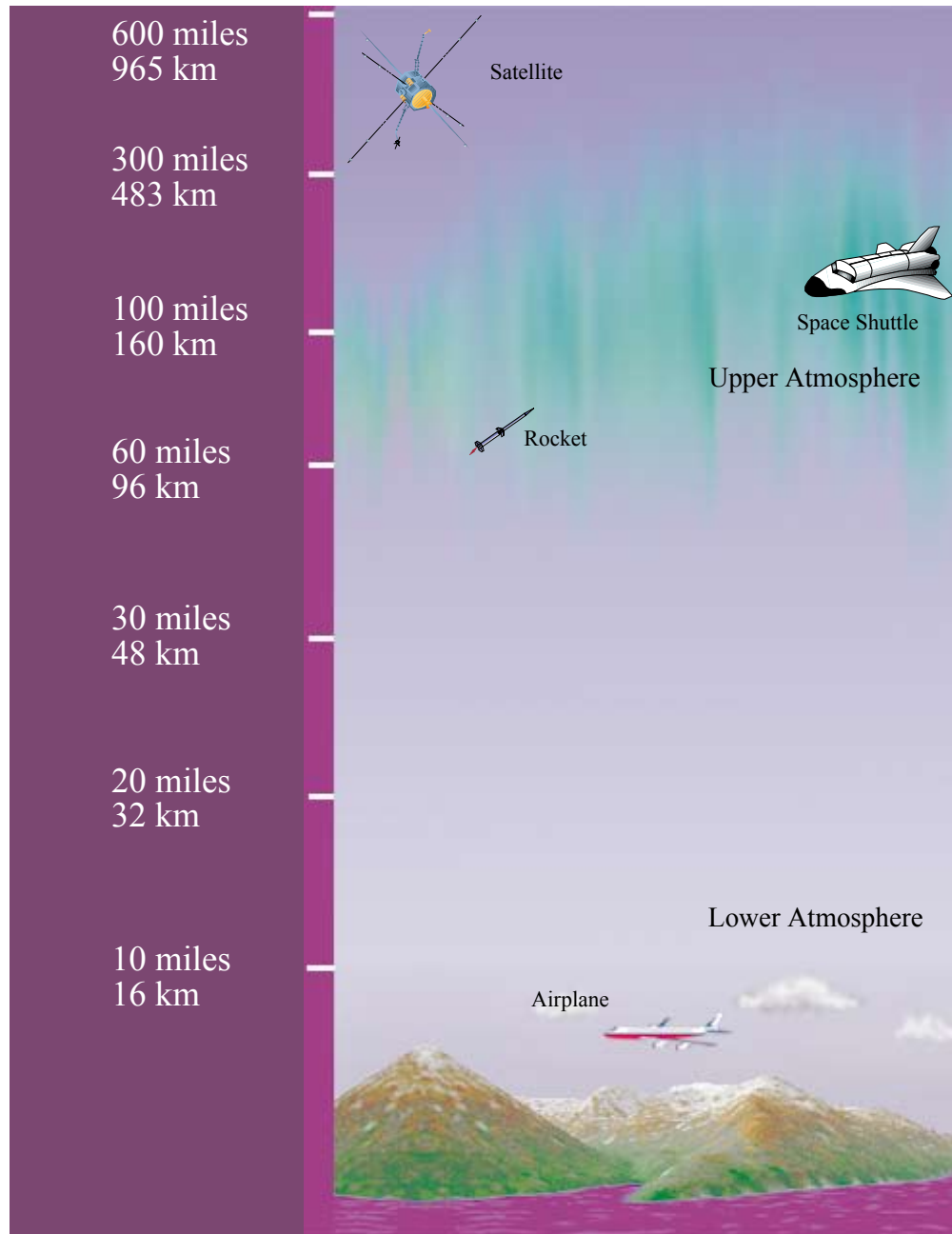


## Unit 4 - Particle Collision

## VISUAL AID: "Earth's Atmosphere"



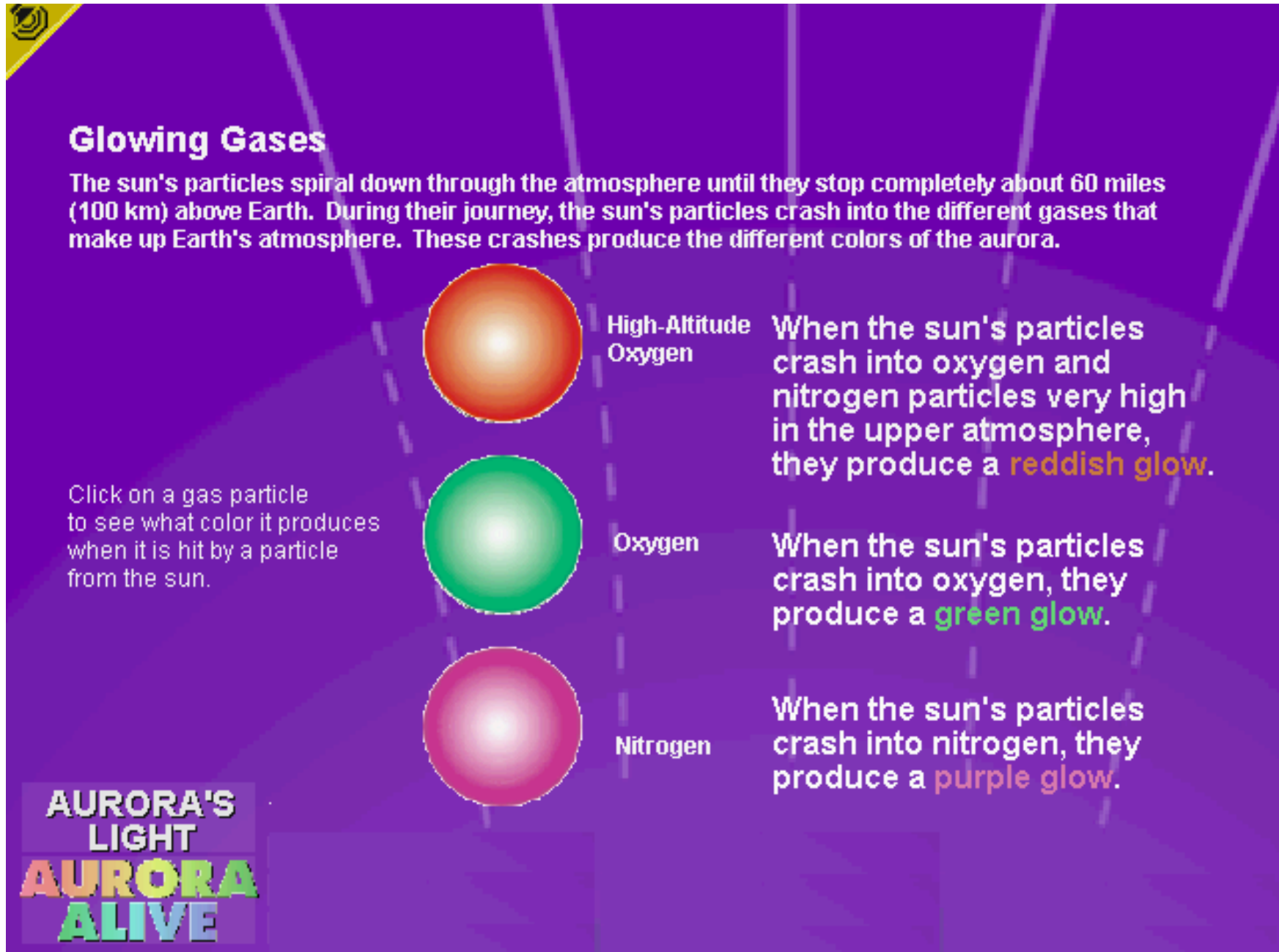
### Earth's Atmosphere

Earth's atmosphere is a mixture of gases.

Gases in the upper atmosphere act as a buffer zone between outer space and the life-sustaining gases near Earth's surface.

Gases close to the surface of our planet in the lower atmosphere allow people to breathe and make it possible for life to exist on Earth.




Gas particles are thin in Earth's upper atmosphere and thick in Earth's lower atmosphere.



**Glowing Gases**

The sun's particles spiral down through the atmosphere until they stop completely about 60 miles (100 km) above Earth. During their journey, the sun's particles crash into the different gases that make up Earth's atmosphere. These crashes produce the different colors of the aurora.

Click on a gas particle to see what color it produces when it is hit by a particle from the sun.

	High-Altitude Oxygen	When the sun's particles crash into oxygen and nitrogen particles very high in the upper atmosphere, they produce a <b>reddish glow</b> .
	Oxygen	When the sun's particles crash into oxygen, they produce a <b>green glow</b> .
	Nitrogen	When the sun's particles crash into nitrogen, they produce a <b>purple glow</b> .

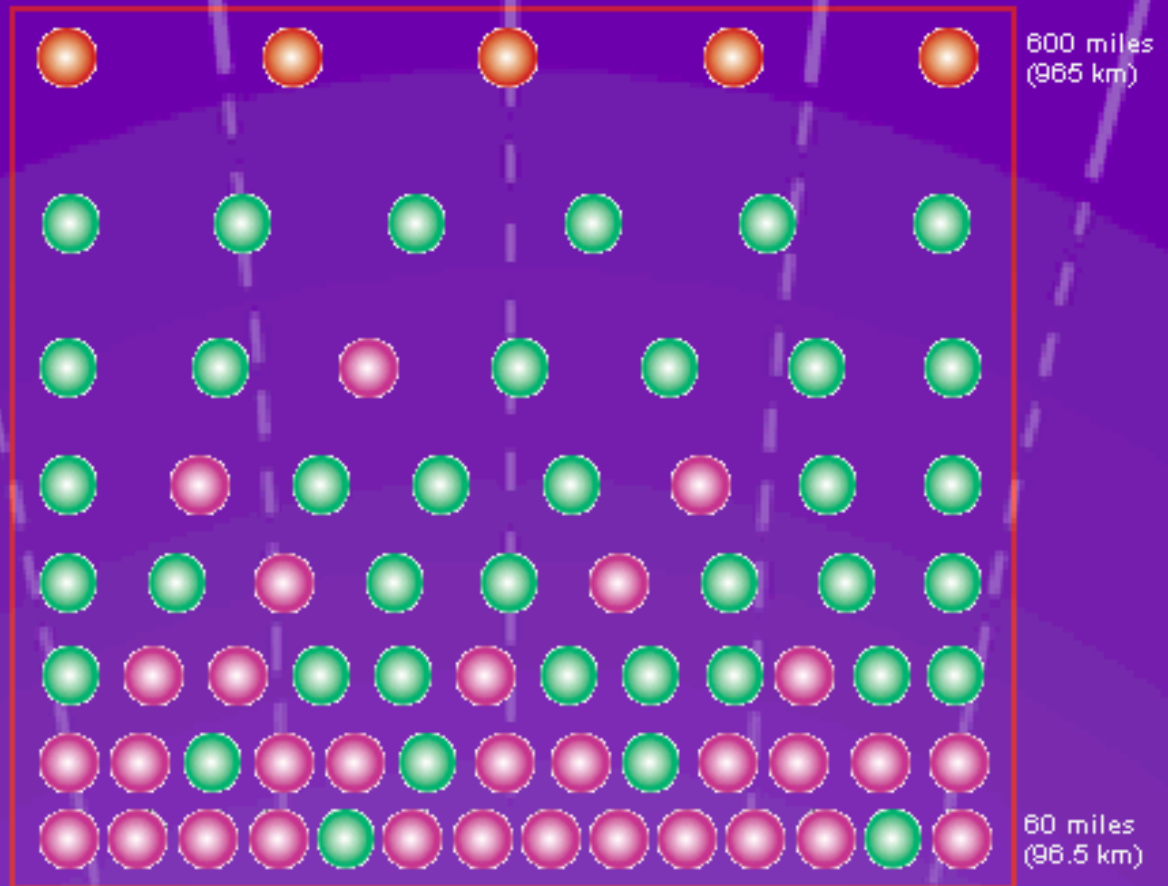
**AURORA'S LIGHT**  
**AURORA**  
**ALIVE**

## Bright Aurora

The aurora appears to glow brightest toward its lower edge because that is where gas particles in Earth's atmosphere are the most dense.



**AURORA'S  
LIGHT  
AURORA  
ALIVE**



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The aurora appears to glow brightest toward its lower edge because that is where gas particles in Earth's atmosphere are the most dense.



AURORA'S  
LIGHT  
**AURORA**  
**ALIVE**



600 miles  
(965 km)

60 miles  
(96.5 km)