

# The Big Picture

## The Ionosphere

This part of the Earth's atmosphere is made of layers. Ions are created by a layer's molecules reacting to the sun's energy. The density of the layers—which changes depending on the time of day—determines whether radio signals pass through, are absorbed, or bounce back to Earth.

VHF/UHF radio waves travel out into space

### Outer Space

400 km

### Ionosphere

300 km

F Region

F2

F Region

F1

200 km

At night the ionosphere collapses into one region

E Region

100 km

D Region

50 km

HF radio signals up to a certain frequency bounce back to Earth

