

## The Story of Oil and Natural Gas

Go to: <http://www.api.org/story/index.html>

**Exploration:** *How is science involved in the exploration for oil and natural gas?*

How is *technology* involved in this exploration?

**The Big Squeeze:** *How did oil and natural gas begin? Briefly explain* the role of sedimentation and dead organisms in producing oil and natural gas.

**Migration:** *Why do oil and natural gas move upwards towards the surface? Describe the difference between reservoir rocks and impermeable rocks with respect to the movement of fluids and gases.*

In some places on earth, oil seeps through the surface while in other places, it is trapped below the surface. *Explain how the rocks below the surface of the earth cause this difference to occur.*

**Knowing Where to Drill:** *Through what type of rock are geoscientists trying to access oil and natural gas today?*

How do geoscientists use **sound waves** on the ground to locate oil and natural gas trapped below the *surface of the earth*?

How do geoscientists use sound waves to locate oil and natural gas trapped *beneath the seafloor*?

How do geoscientists use *computer modeling* with the data gathered through sound waves?

What are the three dimensions referred to in the term “**3D**”?

What is the fourth dimension referred to in the term “**4D**”? Why is the fourth dimension *important in mapping oil and natural gas*?

**Seismic Studies:** *Why are “virtual drilling” and visualization rooms so important to geoscientists?*

**Exploratory Wells:** *What is an exploratory well? When is an exploratory well drilled?*

**Offshore Drilling:** *Once an exploratory well finds oil or natural gas, what are the four aspects that geologists must consider before recommending additional wells for production to occur?*

What happens if an exploratory well finds little or no oil or natural gas?