

## The Story of Gasoline

By the time gasoline reaches a gas pump, it has been on a long journey. Each statement below describes one step in finding, transforming, or transporting this fuel. (Each statement comes with one extra fact.) Put the statements in chronological order. We found the first one for you.



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a. Geologists gather data while aboard airplanes and from satellites, ships, and the ground to see where oil might lie.

FACT: One way of “seeing” below ground is to bounce sound waves off the rock deep underground and study the patterns that bounce back.

b. Oil companies inject water into oil wells to force up any oil that wasn’t pumped out of the rocks.

FACT: When a well stops producing oil, workers may add oil-eating bacteria to the soil to clean up contamination.

c. From oil fields around the world, oil travels to the U.S. in huge oil tankers capable of carrying more than a million gallons of crude oil.

FACT: By 2015, all ships traveling in U.S. waters must have two *hulls* (outer steel shells).<sup>1</sup>

d. Tanker trucks fill up from storage tanks at refineries or marketing terminals and drive to gas stations, where they unload their fuel into the station’s underground tanks.

FACT: Tanker trucks have several compartments so they can transport different kinds of fuel at once.

e. Scientists dig an exploration well to learn more about what’s underground. They determine whether the site has the potential to produce oil.

FACT: Only one third of these wells will show enough promise for further drilling.<sup>2</sup>

f. Often huge oil tankers are unable to come into a port to unload their crude oil. These vessels need to “lighter,” or unload crude oil to smaller ships or an offshore lightering facility, in certain designated areas.

FACT: Much of the oil that reaches U.S. refineries is unloaded at a deepwater lightering port (called “LOOP”) off the coast of Louisiana. From there, it is pumped through underwater pipelines to land.

g. You drive up to the pump and get your gasoline.

FACT: In the U.S., about two thirds of all refined oil is used for vehicles.<sup>3</sup>

h. Oil companies set up electricity-powered drilling rigs to bore through rock an average of 1,800 meters (6,000 feet)<sup>4</sup> and pump up *crude oil* (oil in its raw state).

FACT: Workers pump in manufactured mud to cool the drill and help hold open the hole.

i. Throughout the U.S., underground pipelines carry refined gasoline to local storage tanks.

FACT: There are more than 200,000 miles of oil pipelines stretching across the U.S.<sup>5</sup>

j. At the oil refinery, crude oil is separated, or refined, into gasoline, heating oil, jet fuel, and other fuels.

FACT: Oil companies can change their refining methods to make more gasoline—and less of other fuels or products—when needed.

## Bonus: Tell an Action Story

After you discuss this story with your class, write an essay, with a twist, describing the story you just constructed above. Invent a new step or an improvement to one of the steps.