

5

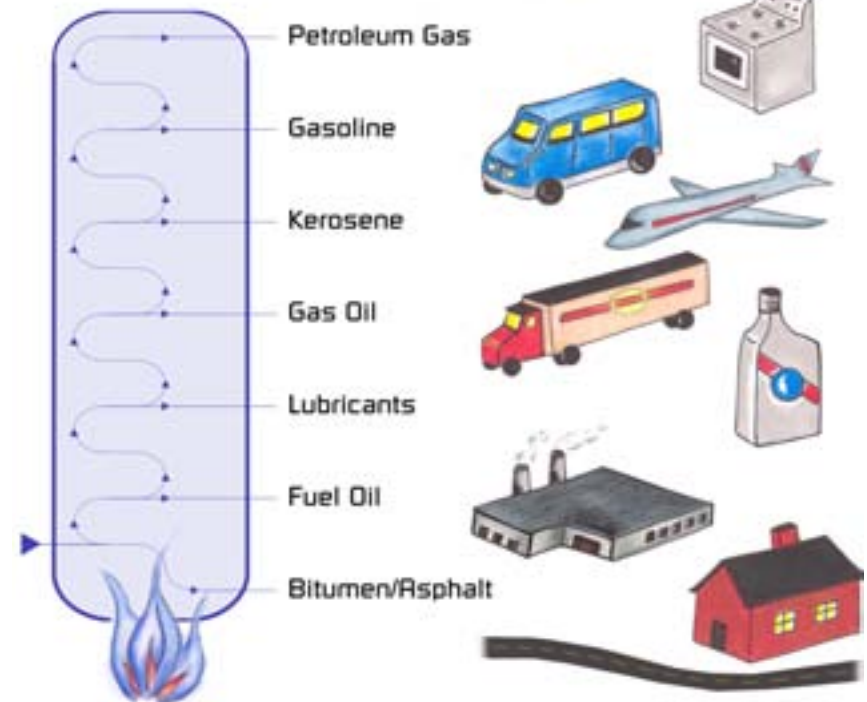
Refining

of Natural Gas and Oil

The crude oil produced from a well cannot be used in its raw form. To make it into products we can use, it is sent by truck or pipeline to a processing plant called a refinery. The refinery uses a process called cracking to heat the crude oil and distill it into useful petroleum products. The lightest products such as jet airplane fuel and gasoline break out of the crude oil first. Then, as the temperature of the oil is increased, the heavier products such as motor oil, lubricating greases, and asphalt are distilled from the oil.



Process Product By-Products



CareerConnection

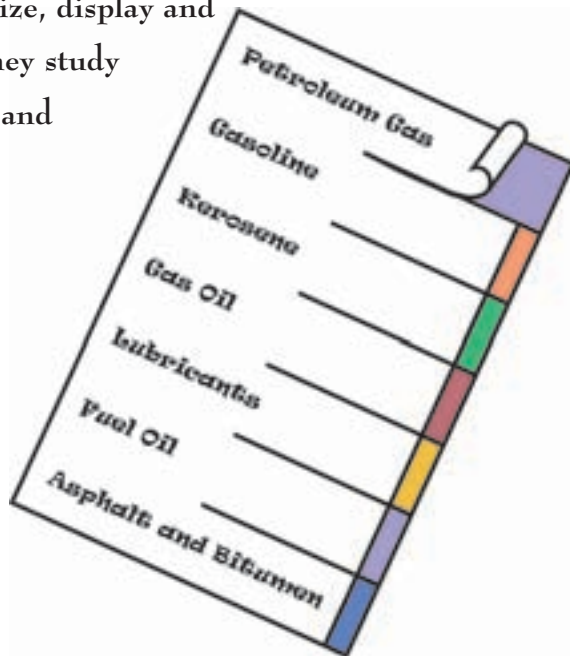
At play in streams of molecules...

On the outside, the refinery looks like a maze of steel and steam, but inside it's a different story. The cracker unit uses various chemicals to produce a million gallons of gasoline each day. As a **chemical engineer**, you will study the composition, structure, and properties of substances to help the refinery produce safely and efficiently.

Graphic Organizers

Using a Diagram and Tab Book to Understand the Refining Process

Charts can be used as study guides when students rearrange information and diagrams. By letting students organize, display and arrange data, they study concepts, ideas and information.



Facts *True or False?*

The average American consumes 3 gallons of refined petroleum products each day.

TRUE.

National Standards

Physical Science

- EXPLORE INTERACTIONS OF ENERGY AND MATTER
- EXPLORE CHEMICAL REACTIONS

Science as Inquiry

- CONDUCT SCIENTIFIC INVESTIGATIONS
- USE PROPER EQUIPMENT AND SAFETY PRECAUTIONS

Science and Technology

- UNDERSTAND THAT TECHNOLOGY HELPS SOLVE HUMAN PROBLEMS

