

Branches of Chemical Engineering

Goal: students will know the main fields where chemical engineers are needed and name the main responsibilities in the respective fields.

1. Watch the video and name the fields where chemical engineers are needed
<https://www.youtube.com/watch?v=xHgbrXI2aDE>

2. Watch the video another time and answer the following questions.

1. What is chemical engineering?
2. What kind of aspects can chemical engineers improve in the field of clean energy?
3. What kind of role do chemical engineers play in the water sector?
4. How can chemical engineers help the developing world with attaining fresh water?
5. How can chemical engineers improve the quality of healthcare?
6. How can chemical engineers be useful in advanced materials section?
7. What kind of tasks can chemical engineers do in the field of bioprocessing?

3. Please write the following words into the gaps in correct places.

agriculture	pharmaceuticals	altering	analysing	reactions	diseases	catalysts	nutritious
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Chemical engineers employed in the chemical industry typically work on developing, creating, and testing new materials that can be used in new consumer or industrial products. This includes working on the chemicalassociated with plastics, metals, ceramics, and various composites, as well as developing and analyzing suitable to more efficiently produce chemical products.

Chemical engineers who work with fuels are usually employed by oil companies. Their job duties include chemically.....crude oil for different purposes. They may work on manufacturing such products as diesel fuel, kerosene, gasoline, liquid petroleum gas, lubricating oils, tar, and paraffin wax.

Chemical engineers employed in the food industry and in other consumer products companies work on creating more practical and desirable products. Job duties may include chemical experiments to produce more useful products, such as creating new plastics.

Chemical engineers working in biotechnology typically work in..... and medicine. Such jobs include altering the genetics of a biological product to increase its agricultural yield or its useful applications. This can include genetic alteration of crops to make them hardier or more.....

Chemical engineers working in the medical field can work on..... or medical products, such as drug delivery systems or monitoring devices. The job duties of a pharmaceuticals worker involve finding new medicines and medical solutions to and other medical conditions. A researcher may use chemical engineering to advance procedures in genetic testing and gene therapy.

Chemical engineers who choose a career in electronics work on the chemical components of electronic devices. Job duties may include working on the chemical composition of materials, electronic reactions, and chemical reactions. One example of a chemical engineering contribution to electronics includes..... and improving the chemical reactions occurring in batteries to increase their power, their lifespan, and the time between charging.

4. Find the meanings of the following words in the dictionary.

Composites

Catalyst

Crude oil

Kerosene

Gasoline

Tar

Alteration

Lubricating oil

5. Discussion. Which of these fields seems the most exciting for you? Where would you like to work yourself? Why?