PETROLEUM

"Whoever controls oil controls much more than oil."

John McCain (1936 – 2018), American politician

1. Petroleum Discussion

1. What is petroleum? What do we use it for?
2. How reliant is the world on oil and gas? Is this reliance sustainable? What effect has this had on the environment? How could the world reduce its reliance on petroleum? Is this likely?
3. How does the price of oil affect the global economy and local economies? Has this affected your country in any way?
4. Which countries export a lot of oil and gas? How much power do these oil exporting countries have? How do they use this power?
5. What could be more important to a government than securing a reliable source of energy?
6. How important is energy for national security?
7. Do oil and gas companies have too much power? How much influence do they have over governments?
8. Do oil and gas companies care about the environment? What do you think about scientists employed by the petroleum industry that say climate change is not due to human activities?

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2. Petroleum Vocabulary

- **oilfield** (noun) – *an area that contains large amounts of oil underground.*
- **oil spill** (noun) – *an accidental release of oil to the ocean from an oil tanker or oil rig causing pollution.*
- **pipeline** (noun) – *a long pipe used to transport oil or gas over long distances.*
- **fracking** (noun) – *a technique that involves drilling into the ground and injecting high-pressure liquid into the rock to release gas and oil.*
- **peak oil** (noun) – *the hypothetical time in the future when oil extraction reaches its peak, after which production will decrease as resources run out.*
- **pipeline /energy diplomacy** (noun) – *political or diplomatic activities that either seek to secure energy resources, or that use these resources to achieve strategic objectives.*

Using the vocabulary words above, complete the following sentences (remember to use the correct form of the word, e.g. verb conjugation or plural noun):

1. A new **oilfield** discovered off the coast of Sri Lanka could contain up to three billion barrels of oil.
2. A new **pipeline** was constructed under the Baltic Sea from Ust-Luga in Russia to Greifswald in Germany. The German government hope this will secure the country's natural gas needs well into the future.
3. China's **pipeline / energy diplomacy** towards Africa aims to secure a stable supply of energy in return for infrastructure investments and other economic assistance.
4. Once we have passed **peak oil**, the price of oil will skyrocket, and the global economy will be brought to a standstill.
5. When the *Amoco Cadiz* hit rocks off the coast of France, it caused a huge **oil spill**, which killed over 20,000 seabirds.
6. When the government announced **fracking** would begin next year, local residents protested saying they were concerned it might cause subsidence to their houses or even earthquakes.

Petroleum vocabulary comprehension questions

1. Does your country have any oilfields? Where are they?
2. Which major oil spills can you remember? How do these affect the environment?
3. What are some security or political concerns for pipelines?
4. What is your opinion of fracking? Would you be happy if fracking happened near your home?
5. Will we ever reach peak oil, or will we continue to find new reserves?
6. Can you think of any examples of pipeline diplomacy? Does this affect your country in any way?

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3. Video: Fracking

You are going to watch a video by TED Ed called "How does fracking work?"

Watch the video here: https://yourenglishpal.com/blog/esl-conversation-lesson-plan-petroleum/

While you watch the video, answer the following questions:

Multiple choice

1. Over how many years is natural gas formed?
   a) hundreds *b) thousands* ***c) millions***
2. How long could energy from fracking power the world?
   a) years ***b) decades*** *c) centuries*
3. What material does a wellbore drill through?
   a) lava *b) magma* ***c) sediment***
4. What distance does the wellbore drill during its horizontal drilling phase?
   a) 1.5km *b) 1.5mi* *c) 1.5m*

Sentence completion

5. Fracking begins about **three or four** months after the hole is drilled.
6. Liquid is pumped into the hole at such a high pressure that it **cracks** the shale rock.
7. 10% of fracking liquid is made up of concentrated **chemical** additives.
8. Fracking has a significant impact on the local **water supply**.

Short answer

9. Recycling fracking liquid can increase levels of what? **Contamination**
10. What can become contaminated around a fracking site due to leakage? **Drinking water**
11. What is better to burn than coal for the environment? **Natural gas**
12. How long has modern fracking been around since? **1940s**

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4. Petroleum Conversation Questions

1. What can governments do to ensure a secure supply of energy to the country?
2. Which wars have been fought over access to energy resources such as oil?
3. Will the need for energy lead to more wars in the future? Where might these wars be fought?
4. In the future, will the public support or even demand wars to secure energy supplies? Why or why not?
5. Has the world turned a blind eye to human rights abuses in countries rich with oil? Can you give any examples?
6. What is more important: securing a supply of energy, or speaking out against human rights abuses?
7. What is more important: protecting the jobs of people who work in the oil and gas industry, or protecting the environment?
8. What will happen when the oil runs out? How will society and the world be different? Will it be better or worse?

5. Petroleum Writing Task

Write about your opinion of petroleum. Try to use some of the vocabulary you learned earlier in this lesson. In your answer, you could include some of the following topics:

- Whether the world's reliance on oil is sustainable.
- Alternatives to petroleum.
- What will happen when the oil runs out.

Alternative exam practice question:

As oil supplies run out and prices increase, more wars will be fought in the future to secure energy supplies. Do you agree or disagree with this?

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