


Nuclear Energy Project

Before Spring Break, we were looking at the many different forms of energy and how energy can be transferred or transformed. I have scanned the textbook for your reference and is on my website as a pdf file.

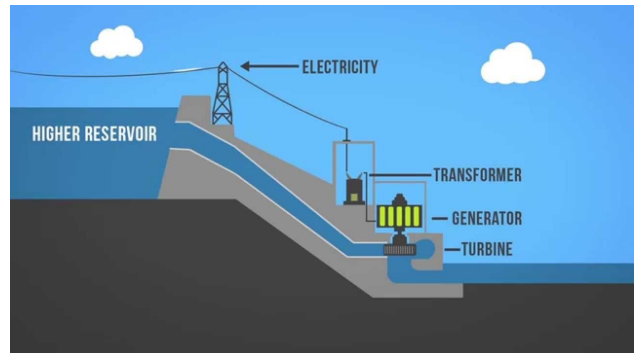
Past Learning	
Kinetic (motion)	Potential (stored)
Mechanical Kinetic Energy Radiant Energy Thermal Energy Electrical Kinetic Energy Sound Energy	Chemical Potential Energy Elastic Potential Energy Gravitational Potential Energy Nuclear Energy Electrical Potential Energy Magnetic Potential Energy

Law of Conservation of Energy:	
energy is neither created or destroyed, but is transferred from one form of energy to another or transferred from one object to another	
	
When energy is transferred , it stays in the same form. In pool, mechanical kinetic energy is transferred from one ball to another setting the second ball into motion	When energy is transformed , the form of energy always changes. In pool, the mechanical kinetic energy is transformed into sound and thermal energy when the balls strike.

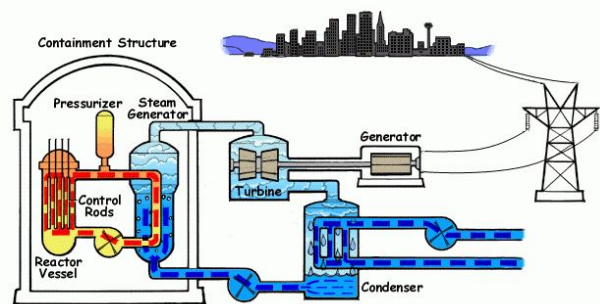
What was covered in Grade 9

Most of the electric energy used in Canada comes from river flow, fossil fuels, and nuclear reactions.

At a dam station (to the right), water stored behind the dam has potential energy. As it flows downhill, it gains kinetic energy, which turns a turbine connected to a generator. This spins the generator to produce electrical energy.



Inside a nuclear reactor, uranium or plutonium atoms undergo fission reactions. Thermal energy from a nuclear reactor boils water to make steam (gas form of water). Steam has kinetic energy (moving) and spins giant turbines, which spin a generator to generate electrical energy.



Your project will focus on how energy is transformed in nuclear reactions.

You will use google slides and share with me for assessment. There are six parts (A-F) to your research.

Questions I often get...

- Can this be done in point form. YES, its google slides :)
- Should I have pictures...YES its google slides
- Can I copy graphs from websites....Yes, its google slides
- Do I need a bibliography...Yes (use EasyBib)
- Visual presentation counts! Put in transitions. Use an appropriate font. Titles. Spelling :(
- Can I copy and paste. NO! Like I have mentioned before, it needs to be in your own words.

Please go to my website: jenipherpatton.weebly.com for textbook, videos and websites. This will be under **Science 10 Assignments**

Step 1: Open up google slides and name Nuclear Energy Project. Then share with me at jpatton@gedu.sd73.bc.ca

Step 2: **Complete Part A-C by April 2**
This will take 3 hours

Step 3: **Complete Part D-F by April 8**
This will take 3 hours

You can always ask me questions by emailing me.

How is Energy Transformed in Nuclear Reactions?

Part A-C Due April 2 (3 hours)

- A. Types of Nuclear Reactions
 - a. What is a nuclear reaction?
 - i. Isotopes
 - ii. Radioactive Isotopes
 - iii. Radiation
 - b. Types of Nuclear Reactions
 - i. Alpha decay
 - ii. Beta decay
 - iii. Gamma decay
- B. Nuclear Fission
 - a. What is nuclear Fission?
 - b. Chain Reactions
 - c. Reactor
- C. Nuclear Fusion
 - a. What is nuclear Fusion?
 - b. Chain Reactions
 - c. Reactor

Part D-F Due April 8 (3 hours)

- D. Nuclear Reactors
 - a. How do they work?
 - b. Which countries use nuclear power? Why? Map?
 - c. Nuclear energy in Canada
- E. Potential Hazards
 - a. Radiation
 - b. Nuclear waste
 - c. Any others?
- F. Fission or Fusion
 - a. Opinion based on scientific knowledge
 - b. Consider:
 - i. Byproducts
 - ii. Energy released

This is a RESEARCH PROJECT....

- Read: BC Science 10 Connections textbook for a broad overview of topic
- Research topic
- Look for MEANINGFUL diagrams, graphs and tables
- Use google slides
- Share with your teacher

This project is meant to show your depth of understanding of the chosen topic. This is an opportunity to "WOW" your teacher.

100 marks