

9/12

L3 Nuclear Reactors

- L3.1 What is a control rod typically made of?
- L3.2 What is the function of a moderator?
- L3.3 If a normal reactor had no moderator the reaction would stop. Why?
- L3.4 Give the term which describes the fact that one fission gives out neutrons which cause fission which makes more neutrons which cause more fissions...
- L3.5 What is a thermal neutron?
- L3.6 Which material is used as the coolant in most nuclear reactors?
- L3.7 Which isotope is typically used as fuel in a nuclear reactor?
- L3.8 Most nuclear reactors have two cooling loops, one heating the other. Why?
- L3.9 Nuclear waste is very radioactive. Why?
- L3.10
 - a) Why is a high temperature needed to sustain a fusion reaction?
 - b) Give one other condition needed for a sustained fusion reaction in a lab.
 - c) In the lab, how are the conditions needed for fusion produced?