

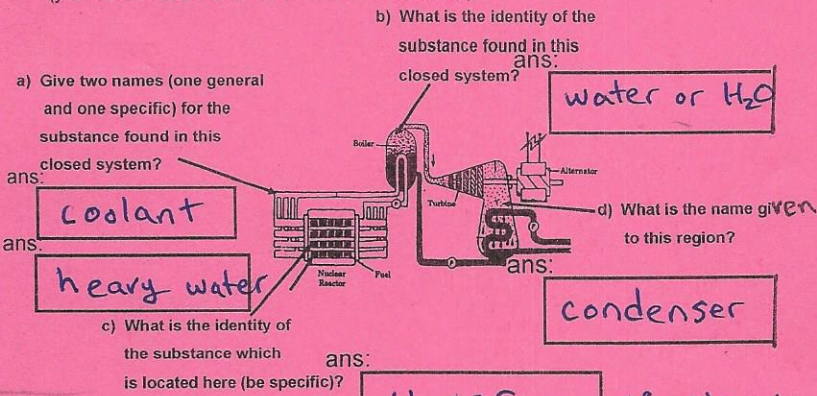
1. Place an A (for atomic bomb) or an H (for hydrogen bomb) on the lines below to indicate to which type of bomb each statement refers:

- H a) This bomb produces more energy than the other type of bomb.
- A b) Uranium or Plutonium can be used for this type of bomb.
- A c) A limited amount of material must be used to make this type of bomb.
- H d) This bomb is referred to as a "thermonuclear bomb".
- A e) This bomb is required to detonate the other type of bomb.
- H f) In theory, there is no limit to the explosive power of this bomb.
- A g) In this bomb, the fissile material is divided into two separate blocks, each with a mass lower than the critical mass.
- H h) Nuclear fusion is the major source of this bomb's energy.
- A i) This bomb killed about a quarter of a million Japanese civilians in 1945.
- H j) The first detonation of this type of bomb was carried out in 1952 by the United States.

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2. Write the appropriate terms in the rectangles below (you cannot use the same term more than once):



3. Consider the power plant shown in question #2. Which of the following statements is/are true?

- a) Power output can be increased when there is an increase in demand for electricity.
- b) Waste from this plant can be reused.
- c) The reactor remains in operation during the times that new fuel is added.
- d) Energy is produced only in the nuclear reactor.

OR
Uranium

Answer/s: C + D

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4. Write T (for true) or F (for false) for each of the following statements:

F a) Hydroelectric power plants produce chemical waste.



T b) Nuclear power plants do not produce chemical waste.

T c) Nuclear power plants and conventional power plants are both thermal power plants.

F d) Conventional power plants convert the potential gravitational energy of water into electrical energy.

To

F e) Mercury contamination of groundwater is the result of operating thermal power plants.

T f) Cadmium rods are used in nuclear reactors to slow fission rates.

F g) There is a condenser unit present in ALL power plants.

T h) Nuclear fission is the source of energy in nuclear power plants.

T i) Conventional thermal plants are the only power plants that greatly contribute to greenhouse gases and acid rain.

T j) Coolant circulates in a closed system in the CANDU reactor.

Bonus: Why does the coolant in a nuclear power plant not boil and turn to steam?

It is heavy water (D₂O) which has a higher boiling point than regular water. (1)