

# **HIROSHIMA DAY**

On **Aug 6, 1945**, LITTLE BOY – a NUCLEAR BOMB containing URANIUM was dropped on **Hiroshima City**, Japan

On **Aug 9, 1945**, FAT MAN – a NUCLEAR BOMB containing PLUTONIUM was dropped on **Nagasaki City**, Japan

Info needed to know about a-bomb

1. All matter is made up of Elements
2. Each Element is made of Atoms
3. All the Atoms of One Element are Identical
4. Atom is made of a Central Nucleus and Outer Electrons
5. Nucleus is the most important part of the Atom
6. Nucleus has Mass [= weight] – it is called Atomic Mass
7. Nucleus contains Protons and Neutrons – these give mass to the atom
8. Most of the Atoms in nature are stable –i.e. their atoms remain the same
9. Some Atoms are Unstable – they can change to another atom
10. Unstable Nucleus can become stable by a process called Radioactivity
11. A few elements are very [= too much] Unstable – they have heavy nuclei –i.e big mass number –an example of a heavy element is U.
12. This element uranium [U] is not only radioactive but also can undergo fission [conditions apply]
13. Elements like U can easily break into two other elements. This process is called Fission. Another fissionable element is plutonium

14. When Nuclear Fission happens, large amount of energy is released

15. What is special about Fission?

- > Neutron causes Fission – in the process New Neutrons are released
- > These new Neutrons can interact with other [New] Uranium atoms to produce more fission
- > Thus Fissions occur one after another [like a Chain]
- > Chain Reaction is the Special nature of Fission

16. Once a Chain reaction is started, it will continue until...

- > The Fuel[U, Pu or Fissionable material] is exhausted [= all used up]

Or

- > The Chain reaction is Stopped or controlled [externally]

17. What is a Bomb?

- > Bomb explodes – releases lot of energy in a short time
- > Once a Chain reaction is created in Uranium [or any fissionable material] it will continue unless controlled
- > Thus Uncontrolled Nuclear Fission reaction will automatically become a Nuclear Bomb

18. Nuclear Bomb can produce very large amounts of energy in less than a second [at the rate of 200 mev / fission][ev is a unit of energy]

19. Nuclear energy should only be used for good purposes like producing electricity and useful radioisotopes

20. All the nations of the world have agreed **not to use a-bomb**.

Many countries [including India] use nuclear energy in peaceful ways.