

The Nuclear Bomb

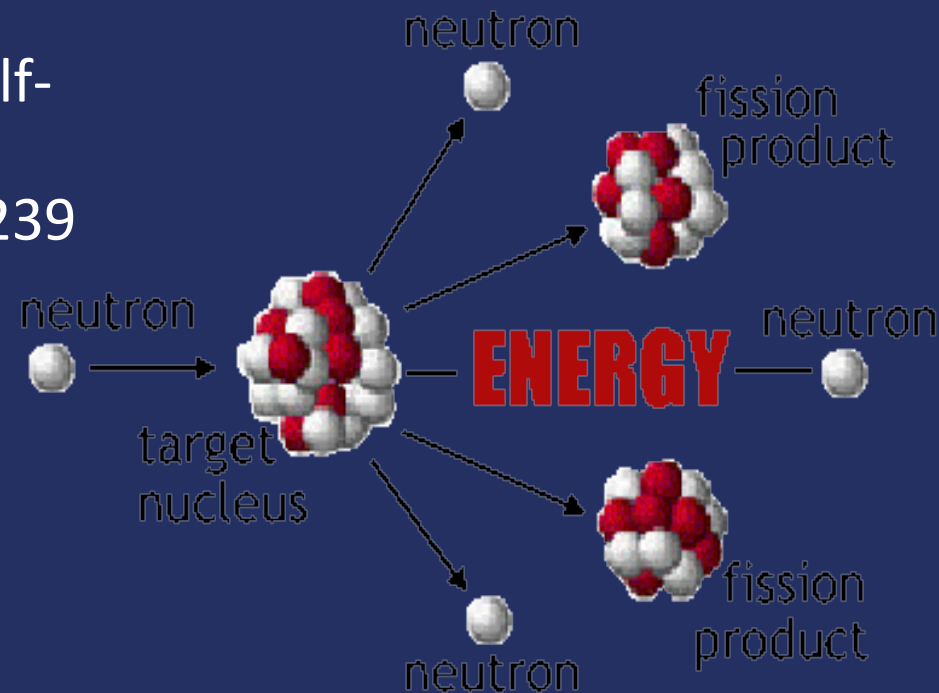


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What is a Nuclear Bomb?

- Why it goes bang:
 - Draws on the power stored in the atom
 - Certain isotopes will “fission”
 - A critical mass will become self-sustaining
 - Uranium 235 and plutonium 239
 - Atom bombs and hydrogen bombs
- What it does:
 - (1) Significant damage and destruction is caused by the blast
 - (2) Radiation poisoning and other nasty illnesses are caused by the fallout after the explosion



How powerful are nuclear bombs?

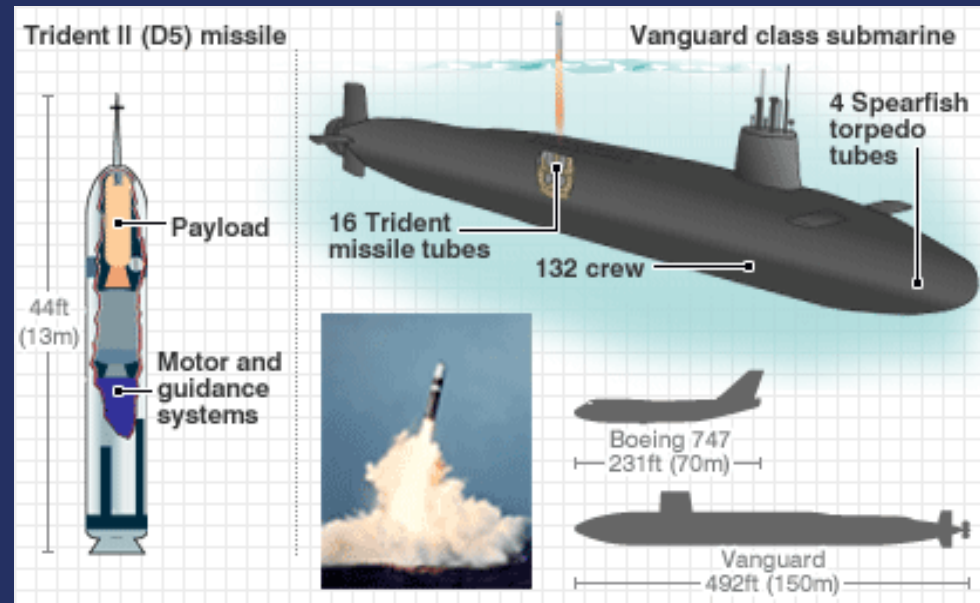
- Hiroshima and Nagasaki
 - First and only nuclear use in 1945
 - 16-20kt blasts
 - Estimated casualties: ~200,000
- The Tsar Bomba
 - Tested in 1961 by the Soviet Union
 - 57 megaton blast
 - 5km fireball
 - 3rd degree burns at 60km
- <http://nuclearsecrecy.com/nukemap/>



Who Has Nuclear Weapons?

	First Nuclear Test	Estimated Nuclear Weapons
The United States	1945	7,300
Soviet Union/ Russia	1949	8,000
The UK	1952	225
France	1960	300
China	1964	250
India	1998	110
Pakistan	1998	80
North Korea	2006	Less than 10
<i>Israel</i>	<i>1979</i>	<i>80</i>
TOTAL		~16,300

- Four nuclear powered submarines
 - Each boat can carry 16 missiles
 - Each missile can carry up to 14 warheads
 - Each warhead can be up to 100kt yield
- One of these submarines is on patrol at all times ready to fire
- A decision to replace this will be made in 2016



Building new Trident submarines will cost us £15-20 billion.
What else could we do with the money?



600 new schools

11,000,000 homes insulated and made more energy efficient

350,000 affordable homes

7,500 megawatts of wind power

70 fully equipped new hospitals

1,280 high speed trains

Our Nuclear Future...

- The nuclear disarmament movement is at its strongest for many years
- But - there are still more than enough nukes to destroy the planet
- Many impediments and problems remain
 - Iran and nuclear terrorism
 - Spread of nuclear power
- ***As long as nuclear weapons exist there is always a chance they might be used***



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