

Follow along worksheet for

## Applications of Particle Accelerators by Prof. Rob Edgecock

- 00:01:20 **1.** \*92\*% of radial tires use a particle accelerator during the manufacturing process.
- 00:02:00 **2.** An \*electron\* beam is used to create links between the polymer chains.
- 00:03:50 **3.** Implanting \*ions\* into a material can change its properties.
- 00:04:50 **4.** There are more than \*10,000\* ion implantation accelerators in the UK.
- 00:06:20 **5.** Electron linacs used to create x-rays for radiotherapy are usually just over \*1m\* long.
- 00:07:30 **6.** A multileaf collimator (usually made of tungsten) is used to \*shape\* the beam, by absorbing unwanted x-rays.
- 00:09:10 **7.** Around \*22\*% of the world population have roundworm.
- 00:11:20 **8.** Up until recently roughly \*25\*% of the sludge was disposed of in the sea in the UK.
- 00:12:10 **9.** In anaerobic digestion bacteria in the absence of \*oxygen\* is used to break down organic matter.
- 00:14:00 **10.** Treating the sludge before anaerobic digestion, breaks it down, making it more \*digestible\*.