

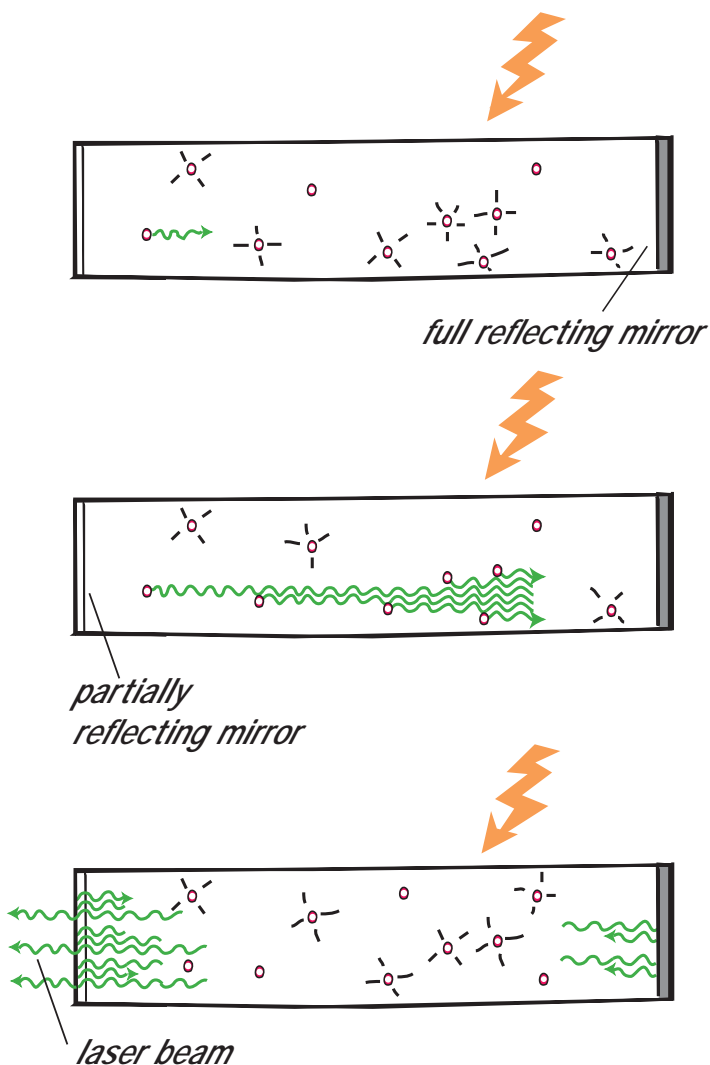
# Lasers

Laser stands for "Light Amplification by Stimulated Emission of Radiation".

Laser light is different from normal light because:

- it is unbelievably bright
- it comes out in a narrow beam
- the light waves have a fixed frequency (pure colour)
- the light waves all vibrate in step.

These are all because of the special way that lasers make light.



Laser light is made by feeding energy such as electricity into a material.

The atoms in the material are excited into a high energy state.

The material stores the energy until it cannot hold any more.

One atom will then release some of its energy as light waves.

These waves stimulate other high energy atoms to release IDENTICAL light waves.

There are mirrors at both ends of the laser so the light surges backwards and forwards inside the laser making the substance release more and more identical light.

Each time light reaches the partially reflecting mirror at the front of the laser, a small percentage of light escapes and forms the laser beam.