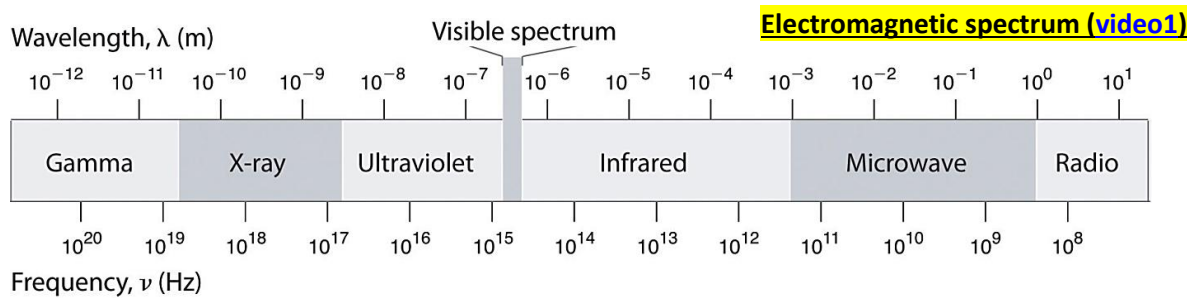


ARE MICROWAVE OVEN AND SMARTPHONE HARMFUL?

Both microwave ovens and smartphones emit microwave radiation. But what are ? Are they harmful for human beings? Let's watch [video1](#) to know more about it ...

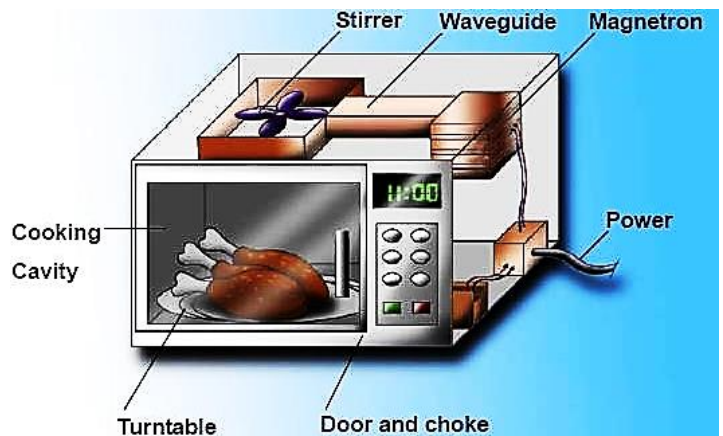
How they are made

Microwaves are basically extremely high frequency radio waves. They can be produced by different types of transmitter: in a mobile phone, they're made by a transmitter chip and an antenna; in a microwave oven, they're made by a "magnetron". Their wavelength is usually a couple of centimeters. Stars also give off microwaves.



Uses

Microwaves cause water molecules to vibrate, which makes the substances hot. So we can use microwaves to cook many types of food. Mobile phones use microwaves, as they can be generated by a small antenna, which means that the phone doesn't need to be very big. Microwaves are also used by fixed traffic speed cameras, and for radar, which is used by aircraft, ships and weather forecasters.



Dangers

Prolonged exposure to microwaves is known to cause "cataracts" in your eyes, which is a clouding of the lens, preventing you from seeing clearly. So don't make a habit of pressing your face against the microwave oven door to see if your food's ready! Recent research indicates that microwaves from smartphones can affect parts of your brain because you're holding the transmitter right by your head. Other research is inconclusive, although there is a feeling that you're more vulnerable if you're young and your brain is still growing. So the advice is to keep calls short...

Questions :

- 1) Introduce and comment on this documents.
- 2) How similar and different are EM radiations ?
- 3) What kind of food can be warmed up by microwaves ? How does it work (watch [video2](#))?
- 4) Is it dangerous to use microwave ovens (watch video3) ?
- 5) How safe are mobile phones ? Should it be handled with caution ?