The Electromagnetic Spectrum

continues on the next page →

1

Radio waves



Name it **2**



Name it **3**



4

Visible light



towards radio waves **wavelength** _____ **frequency** _____

What do all electromagnetic waves have in common?

1. They all travel at the same _____ in a vacuum: _____ m/s
2. They can all be _____ and _____
3. They are all _____ waves and transfer energy

	1	2	3	4
USES				
HAZARDS				

USES — SUGGESTIONS TO CHOOSE FROM

broadcasting radio and TV · cooking food · satellite communication · mobile phones · heaters and grills · night-vision cameras · remote controls · photography · optical fibres · fluorescent lamps · security marking · sterilising water · seeing broken bones · airport security scanners · sterilising surgical instruments · treating cancer

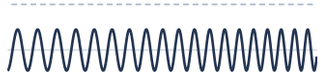
Uses and Hazards

← continued

Name it 5



Name it 6



7

Gamma rays



KEY WORDS TO USE

- ☐ wavelength
- ☐ frequency
- ☐ increases
- ☐ decreases

wavelength _____ **frequency** _____ *towards gamma rays* →

Ionising radiation — ultraviolet, X-rays and gamma rays

ionises atoms → mutates cells → causes cancer

Ultraviolet only causes **skin cancer**: it does not travel deep into the body.

	5	6	7
USES			
HAZARDS			

HAZARDS — SUGGESTIONS TO CHOOSE FROM

internal heating of body tissue · skin burns · damage to the retina · skin cancer · blindness · mutates cells · cancer · burns (high doses) · very low risk