Dangers and Uses of Electromagnetic Radiation

Low Energy ↓ **ENERGY** ↑ High Energy

Low Frequency ↓ **FREQUENCY** ↑ High Frequency

Long Wavelength ↓ **WAVELENGTH** ↑ Short Wavelength

Type of Radiation	Uses and/or Dangers
gamma ray	– very dangerous radiation, nuclear, cancer causing – used for cancer treatment, gamma ray knife (brain surgery)
X-rays	– cancer causing – medical imaging, structural imaging
ultraviolet	– cancer causing, sunburn – water filters, vitamin D production in your skin
visible light	– good to see with – plants need for photosynthesis
infrared	– only dangerous if the concentration is to high – radiant heat energy – “spy goggles”
microwaves	– only dangerous at specific wavelengths – used for microwave ovens – telecommunications (cellphones)
radiowaves	– telecommunications, cellphones, medical imaging (MRI), GPS signals, astronomy