

Waves

3. Wave Effects

CONCEPT 3

TEST YOURSELF

ULTRAVIOLET AND INFRARED

KNOW

- Q1 What is the colour spectrum of white light?
- Q2 What is the wavelength of (a) red light? (b) violet light?
- Q3 What colour do you think light with a wavelength of 600nm would be?

APPLY

- Q4 What does suntan lotion do to UV waves?
- Q5 The ozone layer of the Earth's atmosphere filters out most of the UV radiation reaching the Earth's surface.
Why has there been a concern about the release of chemicals that damage the ozone layer?
- Q6 TV remotes can send signals to the TV to control it. We cannot see the waves that are sent out from TV remotes.
Suggest a possible wavelength for the waves sent out by the TV remote.

EXTEND

- Q7 A company called *De La Rue* print UK banknotes. They add additional security features that we can't see to help prevent counterfeit (fake) banknotes being used.
How can a shopkeeper check to see if a banknote a customer has given her is genuine?
- Q8 Some walkers are lost and stranded on a hillside and it is dark. They call Mountain Rescue and a helicopter is sent to find them.
What equipment could the helicopter crew use to help locate the walkers at night? Explain why this is better than using a large searchlight.