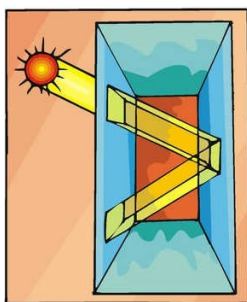


LIGHT AND OPTICS

3 TRUE OR FALSE?

	T	F
Green plants use sunlight to produce oxygen.	X	
An atom or particle that has little energy is called excited.		X
A light bulb glows because a wire inside is heated.	X	
Light can only travel as waves.		X
All electromagnetic waves are visible.		X
Light is an electromagnetic wave.	X	
The amplitude is the distance between two high points of a wave.		X
X-rays are long waves that pass through the human body.		X
Ultraviolet and infrared light are invisible.	X	
Radio waves belong to the longest waves we know.	X	
Opaque materials only let some light pass through.		X
We can see objects because light bounces off them and hits our eyes.	X	
When light waves hit a solid object they become faster.		X
The sky is blue because the air absorbs most of the blue light.		X
White objects reflect all colours.	X	
An apple is red because it absorbs all the colours except the red ones.	X	
Light travels at a speed of 300,000 kilometres an hour.		X
In the metric system we measure the brightness of light in lux.	X	
Radio waves have low frequencies.	X	
Visible light has a high frequency because it has a long wavelength.		X

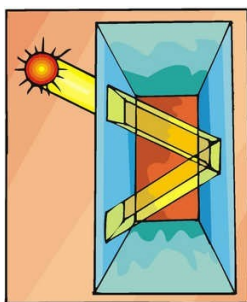


LIGHT AND OPTICS

4 MATCH THE WORDS WITH THE DEFINITIONS

A	amplitude
B	breathe
C	excited
D	space
E	particles
F	store
G	translucent
H	X-ray
I	laser
J	bounce off
K	refract
L	intensity
M	equal
N	hertz
O	microwaves
P	sunburn
Q	horizon
R	reflect
S	solid
T	flashlight

C	if an object has more energy than normal
M	to be the same as something else
K	light changes direction when it passes through glass, water
T	a small electric light that you can carry in your hand
O	longer waves that are used to make food warm
A	distance between the highest and lowest point of a wave
I	machine that produces powerful beams of light in which all
F	to put things somewhere for a longer time
R	to send back
P	the red skin that you get when you spend too much time in
B	to take air into your lungs and send it out again
N	the unit frequencies are measured in
L	how strong something is
H	beams of light that can go through objects and make a pic-
S	hard, with a fixed shape
J	to hit an object and then quickly move away from it
D	the area far away from the earth where the stars and the
Q	a line far away where land or the sea seems to meet the sky
G	not transparent, but clear enough so that you can see
E	very small pieces of something



LIGHT AND OPTICS

5 FILL IN THE CORRECT WORDS FROM THE LIST BELOW !

Light gives us the **energy** we need to stay alive. It **provides** us with **fuel**, heat and electricity. Most light comes from **atoms** when they give off energy. We get **natural** light from the sun and the stars, but light is also produced by **humans** .

Light is an **electromagnetic** wave that can travel through **space** at a speed of 300 000 km a second. It has a wavelength, frequency and **amplitude**.

When sunlight passes through special objects it **breaks** up into many different colours.

Violet light is at one end of the **visible** spectrum. It has the shortest **wavelength**. Red light, which has the longest wavelength, is at the other end.

Ultraviolet light is **invisible** and may cause sunburn and skin **cancer**. Infrared light makes you feel warm and can't be seen either.

When light hits an object it may **behave** in three ways. It can be **reflected**, which means it bounces off an object and travels to your eyes. Light refracts when it hits an object . It becomes slower and **changes** its direction. When light rays hit other atoms or molecules they **scatter**, which means they send off their rays in many different **directions**.

amplitude	electromagnetic	reflected
atoms	energy	scatter
behave	fuel	space
breaks	humans	violet
cancer	invisible	visible
changes	natural	wavelength
directions	provides	

