4.2 Properties of Visible Light

Look through pages 144-148. Look at the headings of the sections, the bolded words or the pictures. Write down as many words that come to mind about what we will be learning about.

Wave Model of Light

Pictures waves traveling as a _____. Light is a type of _____ that travels through empty _____ and transfers _____ from one place to another. _____ is a wave you can see.

Refraction of Light

When one wave passes from one material to another - if the _____ and _____ that light travels in is different in the two materials, the wave will be _____.

_____ is the bending or changing or direction of a wave as it passes form one material to another.

Light waves are considered _____. When they pass through a prism, the different wavelengths are refracted by different amounts. This allows different colours to emerge from the prism.

Colours of the Rainbow

_____ also refract light. The human eye can distinguish _____ of colours.

In order of _____ wavelength and _____ frequency the colours are:

Red Wavelength:

Orange Wavelength:

Yellow Wavelength:

Green Wavelength:

Blue Wavelength:

Indigo Wavelength:

Violet Wavelength:

These are called the _____.

The colours of the rainbow are abbreviated into a person's name: _____

Complete BLM 2-5.

Producing the Visible Spectrum

Issac Newton (17th Century) used a _____ and by shinning white light onto it, he created the _____. He determined the different colours must already to present in the light.

Next, he passed the _____ through more prisms. He produced _____ and concluded that white light is produced from mixing all the colours.

IF ONE colour is removed it will no longer create white light.

Colour and Reflection

Reflection occurs when _____. Some colours are _____ and others are _____, only the reflected colours can be seen.

When no source of light is present, objects appear _____. It is because objects do not produce their own light.

Only three colours are needed to produce all colours of the rainbow:

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These are called the _____.

Adding all three together in the proper amounts will create _____.

The three secondary colours are:

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Mixing these secondary colours (or _____) in any combination will create all colours used today.

These three colours are commonly used as the primary colours in painting and predates modern scientific colour theory.

Complete Pg. 58 in your Student Workbook.