Choosing Waves Based on Wavelength v2 Name _____

Level 2

Metric Unit Reference

Text	**Symbol**	**Multiplier**
Exa	E	10^{18}
Peta	P	10^{15}
Tera	T	10^{12}
Giga	G	10^{9}
Mega	M	10^{6}
Kilo	K	10^{3}
Centi	c	10^{-2}
Milli	m	10^{-3}
Micro	μ	10^{-6}
Nano	n	10^{-9}
Pico	p	10^{-12}
Femto	f	10^{-15}

Electromagnetic Spectrum

Type of Wave	**Range in SI (meters)**
Radio	> 1
Microwave	1×10^{-3} to 1
Infrared	8×10^{-7} to 1×10^{-3}
Visible Light	4×10^{-7} to 8×10^{-7}
Ultraviolet	1×10^{-8} to 4×10^{-7}
X-Ray	1×10^{-12} to 1×10^{-8}
Gamma Ray	$< 1 \times 10^{-12}$

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Visible Light Spectrum

Color	**Wavelength**
Red	635 – 700 nanometers (nm)
Orange	590 – 635 nm
Yellow	560 – 590 nm
Green	490 – 560 nm
Blue	450 – 490 nm
Violet	400 – 450 nm

For each wave presented, determine what type of wave it is.
If it is a visible light wave, determine what color it is

1. Wavelength = 2.8 meters

2. Wavelength = 4.7×10^{-5} meters

3. Wavelength = 0.2 picometers

4. Wavelength = 4.30×10^{-7} meters

5. Wavelength = 2.00×10^{-7} meters

6. Wavelength = 0.58 meters

7. Wavelength = 8.0×10^{-10} m

8. Wavelength= 600 nanometers

9.Did you remember….that if any of the waves are visible, write what color they are!

10. What TV theme song tells the tale of a fateful “three-hour tour”?