# Waves Quiz #2 Review

The quiz is closed note. Ways to prepare are:

1. Read through your notebook for this unit
2. Go through any materials in your binder
3. Study the vocabulary in the word bank
4. Use the resources on my website (videos, links, etc.) - www.mrwadnizak.weebly.com
5. Do the activities below

| | **Word Bank** | |
|---|---|---|
| Wave(s) | medium (plural -media) | Absorption |
| amplitude | wave speed | Reflection |
| frequency | electromagnetic (EM) spectrum | Transmission |
| wavelength | electromagnetic wave | Infrared |
| | | Ultraviolet |
| | | visible light |

**A. Use the words above to fill in the blanks. Try to do this first without looking at your notebooks. You can use the words more than once.**

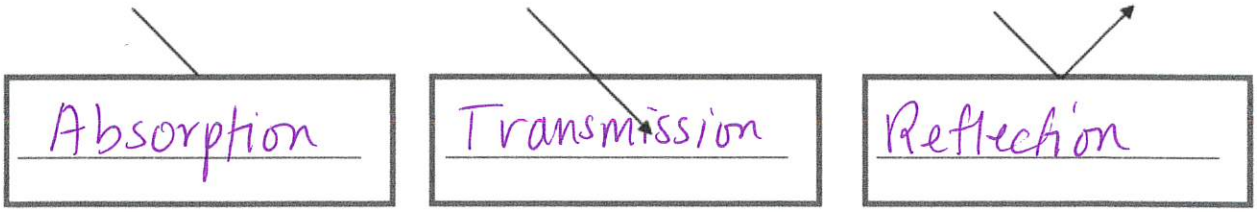
1. Radio, infrared, ultraviolet and visible light are all examples of Waves on the electromagnetic spectrum.
2. UV light is responsible for giving us sunburns and suntans.
3. All waves on the electromagnetic spectrum have the same wave speed.
4. Amplitude and Frequency determine the amount of energy that a certain EM wave has.
5. The longer the wavelength, the lower the frequency.
6. transmission is when a wave passes through a medium into another. (ex: air to water)
7. When a wave bounces off something, we call that reflection.
8. The shorter the wavelength, the higher the frequency.
9. Absorption is when the energy of a wave is taken in by a substance and turned into another kind of energy.
10. Infrared light is responsible for a lot of the heat we get from the sun.

B. Compare and contrast Infrared light and ultraviolet light. You can use images or text. Think about:

- ❑ Wavelength and frequency
- ❑ Energy
- ❑ Effect on humans
- ❑ Effect on matter
- ❑ Speed
- ❑ other

C.

**Label what each light wave is doing: transmission, absorption or reflection**




D. Below each box, explain what is happening in each situation. Try not to use the sentences from the fill in above. Make sure you understand basic wave behaviors.

E. Our eyes detect light that lies only within a small region of the electromagnetic spectrum. This region is called visible light. Which of these statements describes the visible spectrum of light as seen by the human eye?

A. The lowest frequency appears red, and the highest frequency appears violet.
B. The lowest frequency appears green, and the highest frequency appears red.
C. The lowest frequency appears blue, and the highest frequency appears orange.
D. The lowest frequency appears yellow, and the highest frequency appears green

F. Sunlight shines through a clear window. What happens to most of the visible light that strikes the window?

A. It is reflected.
B. It is absorbed.
C. It is scattered.
D. It is transmitted.

G. Which statement best explains why a banana is yellow?

A. It emits yellow light.
B. It reflects yellow light and absorbs other colors.
C. It absorbs yellow light and reflects other colors.
D. It transmits yellow light and absorbs other colors.

H. Sunlight is composed of energy that is visible to humans and invisible to humans. Which statement below describes how the two are different?

A. They have different amplitudes.
B. They travel a different distance.
C. They travel at a different speed.
D. They have different wavelengths

Think about how different surfaces interact with visible, infrared and ultraviolet light. How does a black surface, a reflective surface and a transparent surface interact with light?