**Study Guide: Optics Unit Test**

Are you **B**eginning, **D**eveloping, or **A**ccomplished at each of the following learning goals? Go through the check list and mark each row as “B”, “D”, or “A” based on your level of understanding. Use the “B”s as areas to focus on when you’re studying!

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| **KNOW** |
| **B** | **D** | **A** | **LEARNING GOAL** |
|  |  |  | I can describe light, its different sources, and the input energies of those sources |
|  |  |  | I know what the following terms mean:- **diverge - translucent - transparent - opaque - normal** **- focal point - refraction - incident ray - reflected ray - focal length****- refracted ray - angle of incidence - angle of reflection - angle of refraction - converge** |
|  |  |  | I can describe what a shadow is and why it forms |
|  |  |  | I can identify the parts of a wave |
|  |  |  | I can differentiate between the wave model of light & the ray model of light |
|  |  |  | I can describe the electromagnetic spectrum, including the spectrum of visible light |
|  |  |  | I can define the laws of reflection |
|  |  |  | I can explain the difference between reflection and refraction |
|  |  |  | I can tell the difference between a convex lens, concave lens, convex mirror, and concave mirror |
|  |  |  | I can describe the types of images formed by convex & concave mirrors (at different distances) |
|  |  |  | I can describe the types of images formed by convex & concave lenses (at different distances) |

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| **DO** |
| **B** | **D** | **A** | **LEARNING GOAL** |
|  |  |  | I can explain what happens to light rays when they hit a translucent, transparent, or opaque object |
|  |  |  | I can explain how frequency & wavelength are related |
|  |  |  | I can compare the wave characteristics of different types of radiation on the Electromagnetic spectrum |
|  |  |  | I can give real-life examples of different types of radiation |
|  |  |  | I can explain why a blue object appears blue |
|  |  |  | I can draw ray diagrams for the following scenarios:* Refracting light as it enters a different substance
* Reflecting light off a plane mirror, convex mirror, or concave mirror
* Refracting light through a convex lens or concave lens
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|  |  |  | I can explain why light bends **toward** or **away** from the normal during refraction and can use angles of refraction and incidence to determine if light is **speeding up** or **slowing down** |
|  |  |  | I can give examples of scenarios where different types of lenses or mirrors would be used in real life |