Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Forensic Use of Light Technology Quiz**

*Directions: Match the name of each type of forensic light equipment (number) with how it works/the light property involved (capitol letter). Then also match it with a picture of the actual equipment (symbol). In other words, write the matching number, letter and symbol in the first column. (See example #1.*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Answer** |  |  | **Name of Equipment:** |  |  | **How it works/Light Property** |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | **A.** When shown on hair/fiber this creates an |  |  |
|  | 1. D, @ |  | **1.** | **Magnifying glass** |  |  | interference/diffraction pattern that can be used to |  |  |
|  |  |  |  |  |  |  |  | calculate the diameter of the fiber/hair |  |  |
|  |  |  |  |  |  |  |  | **B.** Causes a reflection of a substance that has invisible |  |  |
| 2. |  | **2.** | **Refractometer** |  |  | electromagnetic waves—shorter wavelength is converted |  |  |
|  |  |  |  |  |  |  |  | to longer wavelength |  |  |
|  |  |  |  |  |  |  |  | **C.** Optical filter only allows wavelengths of a certain |  |  |
| 3. |  | **3.** | **Spectrophotometer** |  |  | amplitude and direction to be transferred; used with a |  |  |
|  |  |  |  |  |  |  |  | white light source to find evidence of different wavelengths |  |  |
| 4. |  | **4.** | **Scanning Electron Microscope** |  |  | **D**. Refracts/bends light, makes object appear larger |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | **E.** Uses refraction of light to make an object appear bigger |  |  |
| 5. |  | **5.** | **Microscope** |  |  | (optical device is thicker in the middle), or object appear |  |  |
|  |  |  |  |  |  |  |  | more in focus (optical device is thinner in the middle) |  |  |
| 6. |  | **6.** | **Infrared Detection** |  |  | **F.** Uses one or more convex lenses and a light source to |  |  |
|  |  |  | visualize trace evidence |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 7. |  | **7.** | **Ultraviolet Light** |  |  | **G.** Compares refractive index; can be laboratory or |  |  |
|  |  |  | handheld. |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 8. |  | **8.** | **Laser** |  |  | **H.** Picks up images of objects based on their heat energy |  |  |
|  |  |  | released |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | **I.** Uses subatomic particles to light up and focus on |  |  |
| 9. |  |  | **9. Convex or Concave Lenses** |  |  | objects, rather than lenses and white light; combines with |  |  |
|  |  |  |  |  |  |  |  | a camera to capture images |  |  |
|  |  |  |  |  |  |  |  | **J.** Calculates absorption, transmittance, and/or emission |  |  |
| 10. |  |  | **10. Polarizing Lenses** |  |  | of the light of an unknown substance for the identification |  |  |
|  |  |  |  |  |  |  |  | of the chemical composition using light dispersion |  |  |

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