Name _____ **Date** _____

West Islip Technology Department **Period** _____

Macro Photography

Macro Photography: is extreme close-up photography, usually of very small subjects, in which the size of the subject in the photograph is greater than life size.

Equipment:

- **Diopter:** A macro lens can cost from about $200 and it goes up from there. But if you are not that serious about macro photography, you can consider a diopter lens for as cheap as $25. When it comes to a diopter lens, you screw it onto your regular lens, it in essence acts like a magnify glass in to take close-up shots. On the minus side, diopter lens have a subtle curve and warp the edges of your image.

- **Extension tubes:** extending the distance between the lens and the camera's image sensor by inserting spacers. It moves your lens further from the camera, and the front element closer to the subject. The closer you can focus, the more magnification you get. Because the extension tube does cause your lens to focus more closely than it was designed to, this can cause decreased sharpness and image quality (not because it changes the optics but because it changes how you are using your lens).

- **Macro lens:** lenses specifically designed for close-up work with a long barrel for close focusing. The lens to image sensor distance is increased in a macro lens unlike a standard lens where the distance is kept to a minimum to obtain precise focus on distant subjects.
  - **45-65mm:** product photography, small objects that can be approached closely without causing undesirable influence (ie. disturbing the subject) and scenes requiring natural background perspective.
  - **90-105mm:** insects, flowers, and small objects from a comfortable distance.
  - **150-200mm:** insects and other small animals where additional working distance is required.

Technical Considerations:

- **Depth of field:** as you get your lens closer and closer to your subject you get a very shallow depth of field. A small aperture (high f-number) is often required to produce acceptable sharpness across a three dimensional subject. Therefor proper exposure will depend greatly on lighting, shutter speed, and film sensitivity (ISO).

- **Shutter speed:** as we know slow shutter speeds will require a tripod to prevent camera shake. It is also recommended to use a wireless shutter release remote or set you camera to a shutter release delay.

Lighting Considerations: because of your need for a very small aperture, getting enough light into the camera can be difficult.

- **Camera Flash:** a device that emits light momentarily. You can use the flash's light to compensate for the lack of brightness when shooting in dimly lit situations like indoors or night scenes. Thanks to the instant exposure, using the flash can also be effective to prevent camera shake and subject blur. Disadvantage is they are one direction and illuminate the subject directly head on.

- **Speedlight:** flash unit that can be used on or off the camera body. They can be used as a single unit or as multiple units remotely.

- Why use a Speedlight?
    - Improved strength and range.
    - Longer camera battery life.
    - Flexibility of angles.
    - Portable with minimal set up.