Macro Photography

Definition:
Macro is extreme, usually of very small subjects and living organisms like insects, in which the size of the subject in the photograph is greater than life size (though *macrophotography* technically refers to the art of making very large photographs).

Points to consider when taking macro images.
Lenses; Lenses are usually categorized by their focal length. Some indicate that they are macro compatible, But what this often means is that they have a reasonably short minimum focusing distance (the distance between the subject and the front element of the lens).

Lighting; Because the subject is usually very close to the lens, it may be difficult to light it with a hot shoe flash. There are specific ring flashes that help to achieve better overall lighting with no shadow area. Studio lighting can also be beneficial. Good lighting is important to achieve a nice even exposure on the subject.

Tripod; useful where you can set up something like tabletop. Can be difficult to set up in the natural environment such as pond life etc. where you are photographing wild life such as insects and butterflies it is difficult to set up close to a plant without unsettling the insect. It may be necessary to set up prior to the insect landing on the plant with pre-focused lens and remote control.

Depth of Field; When you move this close to your subjects, you realize that aperture isn't the only factor that affects depth of field. At these ranges, the depth of field will shrink, regardless of what setting you choose. Keep in mind that the settings you're used to won't produce the same results. In general, when shooting macros or close-up work, you will work with apertures set to f/16 or smaller.

Practical V's Effective aperture; Something funny happens to aperture effect when you focus close to a subject. So when you focus with say f/11 with a 50mm lens, it performs more like a f/22 in reality (DOF , defraction, and light loss) You might notice this with regard to shutter speed even in good lighting conditions. The formula is as follows;
Practical aperture setting = Physical aperture setting x (1 + fractional magnification).
The "fractional magnification" of, say, 1:2 is one-half. So, with a camera that reads f/11 at 1:2 magnification, your practical aperture is 11 x (1.5), or roughly f/16. Fairly easy, just something that takes too much time if you're changing magnification constantly.