Prism reflecting light essay sample

Light Effects

Refraction, reflection and dispersion are all processes which happen when a ray of light is shone at either a glass block, a mirror or a prism. The ray box is the light source.

Mirror

When the ray box is shone at a mirror the angle of incidence is always a few degrees different to the angle of reflection. For example, if you shine a light ray into a mirror at 60* then it will reflect out at about 57*.

Glass Block

If I shine a light ray into a glass block then the light would be refracted. It will bend either away or towards the normal. This is because glass is more dense than air so the ray will be refracted by the change in density.

Prism

“ White” light is a mixture of all frequencies of light from red to violet, red at the lowest visible frequency and vi-olet the highest. When a thin beam of white light is fed into a prism, red light is refracted less than violet light. The higher the frequency, the more refraction there is. Therefore, the white will be separated into the rainbow effect you see coming out of the other end.

Opaque means a substance that doesn’t let any light through. If I shine a light at an opaque material no light would be visible on the other side. If I shine a light at a transparent material, light would be completely visible on the other side and there would be a visible ray running through the material. The light ray that is shone into the material is called the incident ray. The ray of light which is reflected is called the reflected ray.

When the ray is shone at the prism a beam of coloured light will be dispersed. This is because the prism refracts the 3 primary colours of the spectrum (red, green and blue). Both reflection and refraction occur when light reaches the separation of two different environments e. g. air to glass.