Lighting Fundamentals

Light basics

Light is energy that travels in straight lines called rays from a source.

When light hits an object it gets either:

1. Gets some of it absorbed by the material which turns into heat, dark object get hot
2. Gets some of it reflected (bounced back), which is the reason why your eyes and camera can see the object

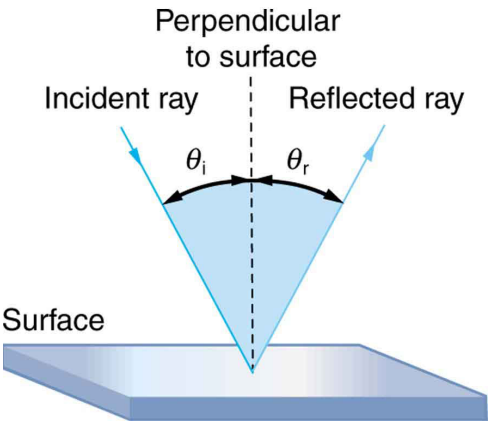
Depending on the surface of the object it can reflect light differently:

1. White wall reflects more light
2. Black shirt absorbs most light
3. A mirror reflects light in an organized way which is why you can see reflections from it
4. Rough surfaces doesn't reflect light perfectly and reflects the light in all directions which is why you can see it and may look dull

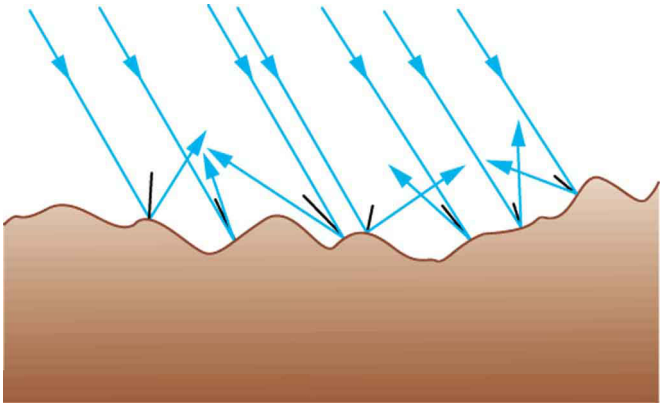
> Some physics incoming!

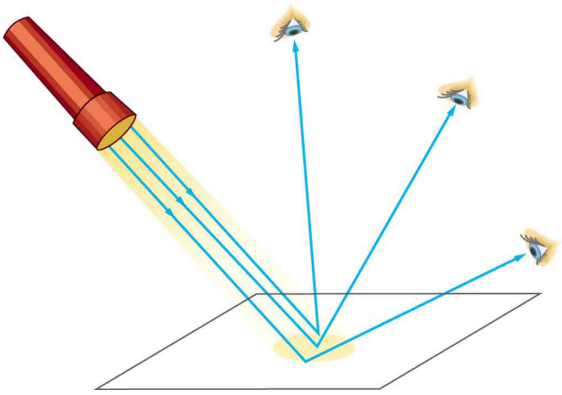
Light Physics

When light bounces on a surface, the angel of incident is equal to the incident of reflection, and depending on the surface all of the rays can be reflected in the same fashion, or in the case of rough surface it will be reflected all over the place.

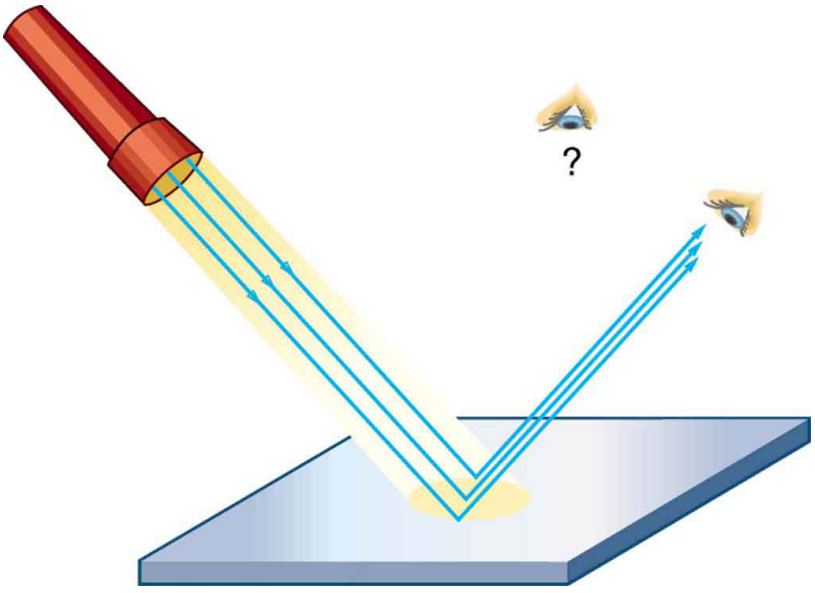


When light hits a rough surface, even if the surface looks smooth to you, it can contain microscopic troughs and valleys, and light will bounce off of those gaps which causes the light to diffuse, and that is why you can see the object in any angel as long as light is shining on it.





However, in the case of a mirror because the light is reflected perfectly only at an angel only the eyes at the angel of reflection can see t he light, anywhere else you will observe no light.



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