Question: Why does sound need to travel through a medium?

SOUND

Sound waves – compressional waves formed from vibrating objects colliding with air molecules

\* Remember compressional waves are made of two regions called compressions and rare factions

Speed of sound – depends on temperature and state of medium

* sound travels faster in solids and liquids – molecules are closer together than gas molecules
* as medium temp rises, molecules move faster conducting sound waves faster

REFLECTION AND REFRACTION OF LIGHT

Objects MUST reflect light in order to be seen.

Opaque translucent transparent

does not allow light some light transmits almost

to pass through - passes through all light – absorbing

only absorbs & reflects and reflecting little

Law of Reflection – the angle of incidence (i), or where light strikes a surface, is equal to angle of reflection (r)

Regular Diffuse

Reflection Reflection

MIRROR ROCK

(SMOOTH i WALL

SURFACE) r (ROUGH

SURFACE)

Refraction of light – occurs when wave of light passes from one medium to another and light wave is bent or refracted

Index of Refraction – indicates how much a material reduces the speed of light;

the more light slowed, the greater the index of refraction

SUNLIGHT Water droplet (Rainbow)

\* Prisms separate

white light into spectrum

\* Light refracted through

air layers of different

densities can result in

mirages