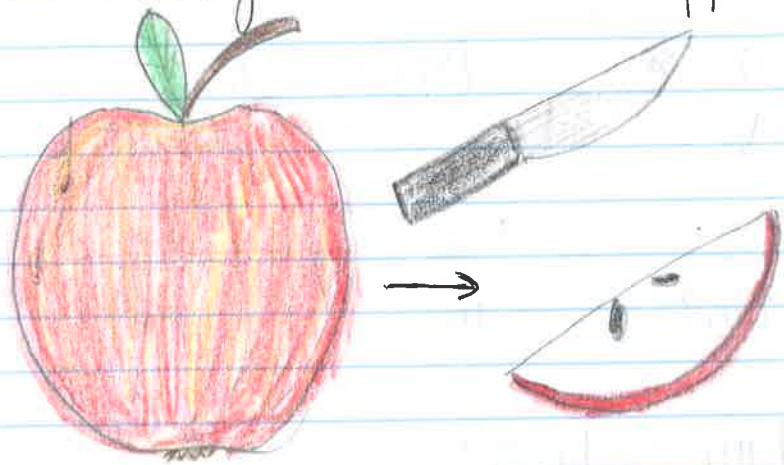
& Chemical

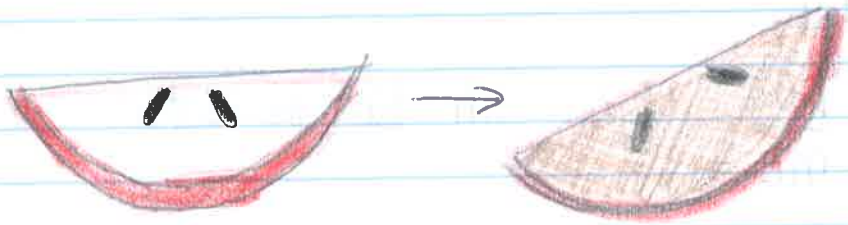
Physical Change

Cut an apple into slices.



Chemical Change

Apple browns when exposed to air. (oxidizes)

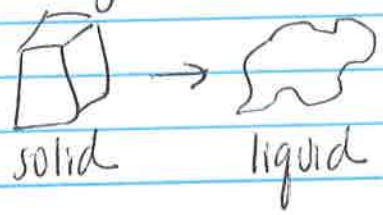


Physical + Chemical Properties

Physical Properties - characteristics you can observe directly without changing the material's identity.

Ex: size, color, texture, melting pt., boiling pt. malleability, strength (tensile)

Physical Change - any change in size, shape, or phase of matter that does not change the identity of the substance.

H_2O: 

→ water vapor (gas)

Chemical Properties - can only be observed when one substance changes into a different substance.

Ex: flammability (set on fire) or chemical reactivity.

Chemical Change - any change that transforms one substance into a different substance i.e. changes the identity of the substance.

iron + oxygen = iron oxide (rust)

$4Fe + 3O_2 = 2Fe_2O_3$