

Indices of refraction for some materials

Material	Index
Vacuum	1.00000
Air at STP	1.00029
Ice	1.31
Water at 20 C	1.33
Acetone	1.36
Ethyl alcohol	1.36
Sugar solution(30%)	1.38
Fluorite	1.433
Fused quartz	1.46
Glycerine	1.473
Sugar solution (80%)	1.49
Typical crown glass	1.52
Crown glasses	1.52-1.62
Spectacle crown, C-1	1.523
Sodium chloride	1.54
Polystyrene	1.55-1.59
Carbon disulfide	1.63
Flint glasses	1.57-1.75
Heavy flint glass	1.65
Extra dense flint, EDF-3	1.7200
Methylene iodide	1.74
Sapphire	1.77
Rare earth flint	1.7-1.84
Lanthanum flint	1.82-1.98
Arsenic trisulfide glass	2.04
Diamond	2.417

1. In m/s, what is the speed of light in
 - a. Vacuum
 - b. Air
 - c. Ice
 - d. Water
 - e. Diamond
2. What would be the refracted angle for a light ray which strikes materials $c \rightarrow e$ above if it strikes the surface 30 degrees from the normal coming from air? How much would the angle CHANGE by in each case?
3. What would be the angle for $c \rightarrow e$ for each leaving from that material into air? How much would the angle CHANGE by in each case?