**Constants:**

Acceleration due to gravity g = 9.80 m/s2

At the Earth’s surface (field strength)

Gravitational Constant G = 6.67 x 10-11 N•m2/s2

Earth Mass me = 5.98 x 1024 kg

Radius re = 6.38 x 106 m

Moon Mass mm = 7.35 x 1022 kg

Radius rm = 1.74 x 106 m

Radius of orbit about Earth r = 3.84 x 108 m

Speed of light c = 3.00 x 108 m/s

**Table of Specific Heat Capacities:**

|  |  |  |  |
| --- | --- | --- | --- |
| Substance | **(J/kg/˚C)** | **Substance** | **(J/kg/˚C)** |
| water | 4200 | steam | 2100 |
| methyl alcohol | 2400 | aluminum | 920 |
| ethylene glycol (antifreeze) | 2200 | glass | 840 |
| ice | 2100 | iron | 450 |
| kerosene | 2100 | copper | 430 |
|  |  | lead | 130 |
|  |  |  |  |

**Table of Refractive Indices:**

|  |  |
| --- | --- |
| Substance | Refractive Index |
| Water (at 20˚C) | 1.333 |
| Diamond | 2.42 |
| Glass | 1.5-1.9 (depends upon composition) |
| Air | 1.00029 |
| Ethanol | 1.36 |
| Quartz Crystal | 1.54 |
| Zircon | 1.92 |