

## NUEN 302 Final Cheat Sheet

by Bama via cheatography.com/66428/cs/16608/

1 R (roentgen) =	
2.088*10 <sup>9</sup> e-i pairs/cc	1.61*10 <sup>12</sup> e-i pairs/g
2.58*10 <sup>-4</sup> C/kg	8.77*10 <sup>-3</sup> J/kg

Density	
Cobalt-60	9.8 g/cc
Cesium-137	1.873 g/cc
Plexiglass	1.18 g/cc
Water	.997 ~ 1 g/cc
Gold	19.32 g/cc
Aluminium	2.7 g/cc
Lead	11.34 g/cc
Air	.00125 g/cc
Coal	~1.5 g/cc

1 rad =	
100 erg/g	.01 J/kg

Dose rate	
D = I (mu <sub>a</sub> /density)	$D_{e} = QF^*D$
1 Gy (grey) = 1 [ J /kg ] = 100 rad	1 sv = 100 rem

Percentage of Deuterium in Water (mass%)	
H₂O	99.9688%
D <sub>2</sub> O	.0312%

Quality factors	
X, gamma	1
Low energy Beta	1
High energy Beta	1.7
n (thermal)	3
n (fast), p, alpha	10
A+ (heavy ions)	20

Miscellaneous	
1 Joule	= 6.242*10 <sup>12</sup> MeV
1 D-D reaction	7.2 MeV / D
1 U-235	200 MeV
1 D-T reaction	17.59 MeV



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