NUEN 302 Final Cheat Sheet

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

1 R (roentgen) =	
$2.088*10^{9}$ e-i pairs/cc	$1.61*10^{12}$ e-i pairs/g
$2.58*10^{-4}$ C/kg	$8.77*10^{-3}$ 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_a/density)	D_e = QF*D
1 Gy (grey) = 1 [J /kg] = 100 rad	1 sv = 100 rem

Percentage of Deuterium in Water (mass%)	
H_2O	99.9688%
D_2O	.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	= $6.242*10^{12}$ MeV
1 D-D reaction	7.2 MeV / D
1 U-235	200 MeV
1 D-T reaction	17.59 MeV

By **Bama**
cheatography.com/bama/

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