==Density==

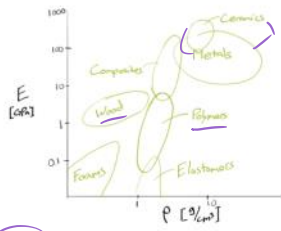**Figure 1:** plot of Young's modulus versus density on logarithmic axes.

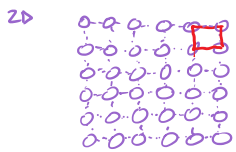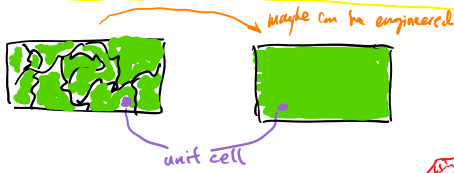Q: electrons

"atom"
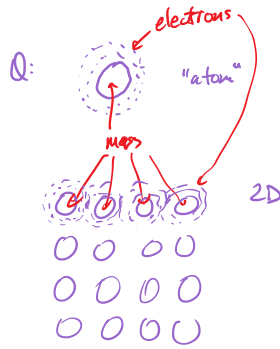
mass

2D

---

h   4.0 mm = 0.4 cm

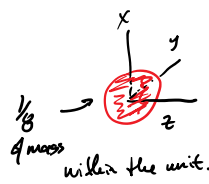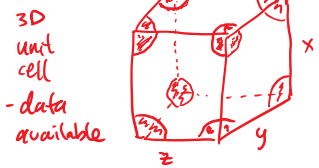w   154 mm = 15.4 cm

L   406.2 mm = 40.62 cm

area ⇒ $A = h \times w$

mass ⇒ $M = A \times L \times \rho$ ρ = density

$= h \times w \times L \times \rho$

FYI ☺   A

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maybe can be engineered

unit cell

2D

metal

3D
unit
cell
- data
available

"square"

x
y
z

$\frac{1}{8}$ → of mass
within the unit.

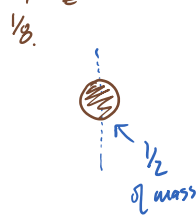$\frac{1}{8}$

$\frac{1}{2}$ of mass

100% mass

3D
unit cell

3D
unit
cell
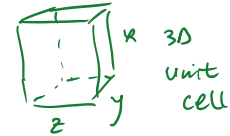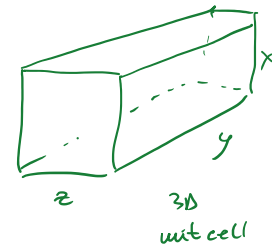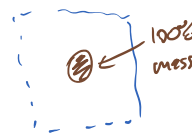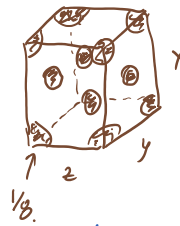
$\frac{1}{8}$% – CuO – 100%

also applies
to the ceramics