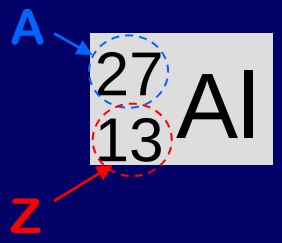
# Smaller is Bigger!

**Comparing Nuclear and Atomic sizes**

**Hydrogen Atom: Bohr radius =** $5.29 \times 10^{-11}\,\mathrm{m}$

**Nucleus with nucl number A:** $r \approx A^{1/3} \cdot (1.2 \times 10^{-15}\,\mathrm{m})$

Example




**has radius** $r \approx 3.6 \times 10^{-15}\,\mathrm{m}$

**Note the TREMENDOUS difference**

**Nucleus is $10^4$ times smaller and binding energy is $10^5$ times larger!**