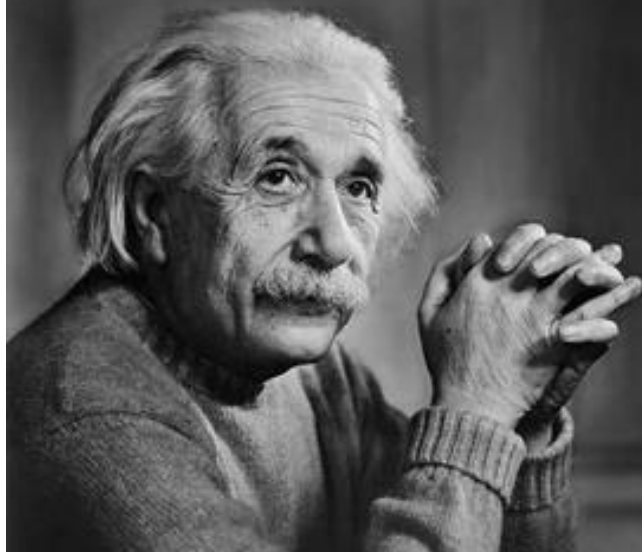


**“Education is not the learning of facts,
but the training of the mind to think”**

If you can't explain it **simply**, you
don't understand it well enough.

– Albert Einstein



**I have no
special
talents.**

***I am only
passionately
curious.***

Science Two



Olga Kosobokova



LET US REVIEW...

What is Matter?

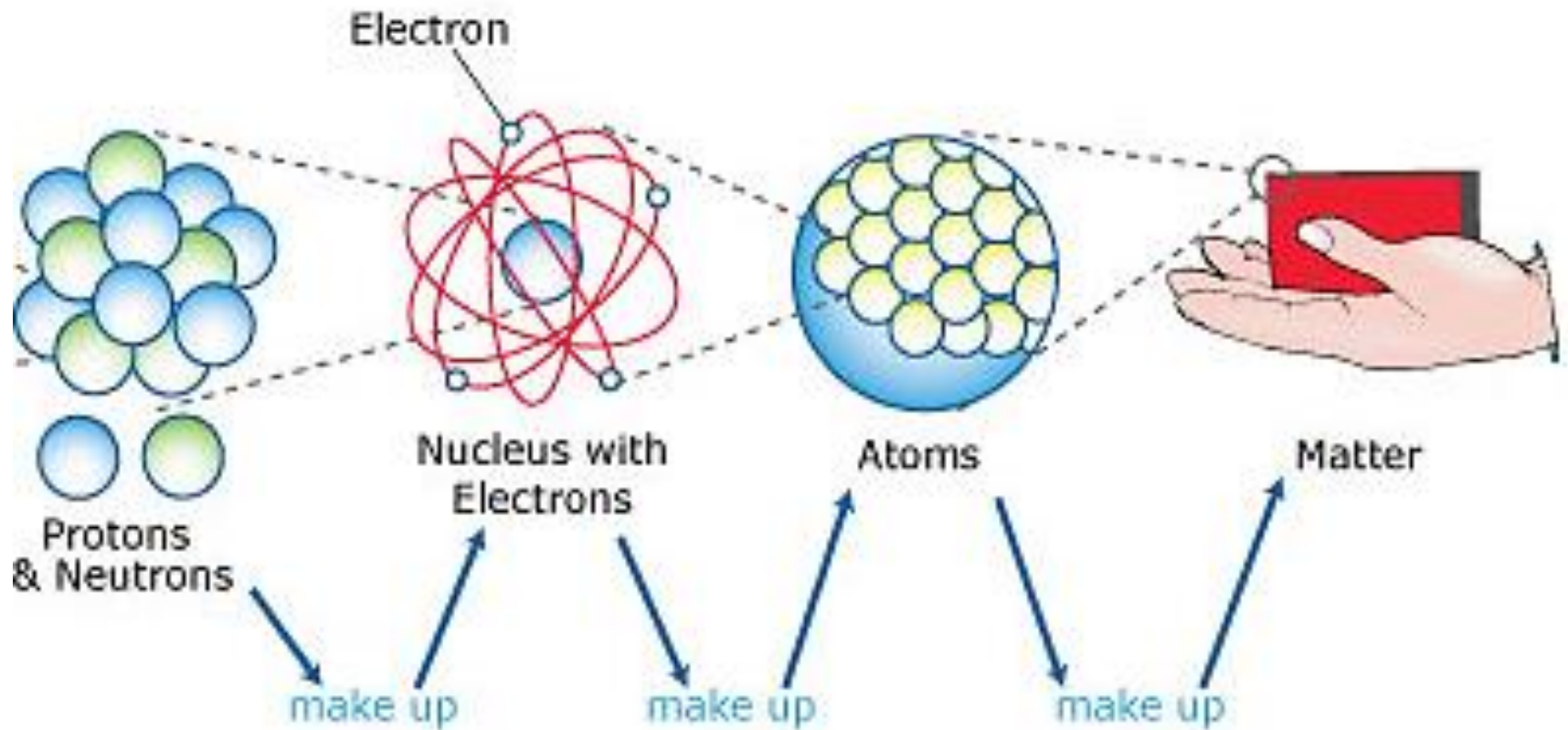
Atomic Structure

Properties of Matter

What is Matter?

REVIEW

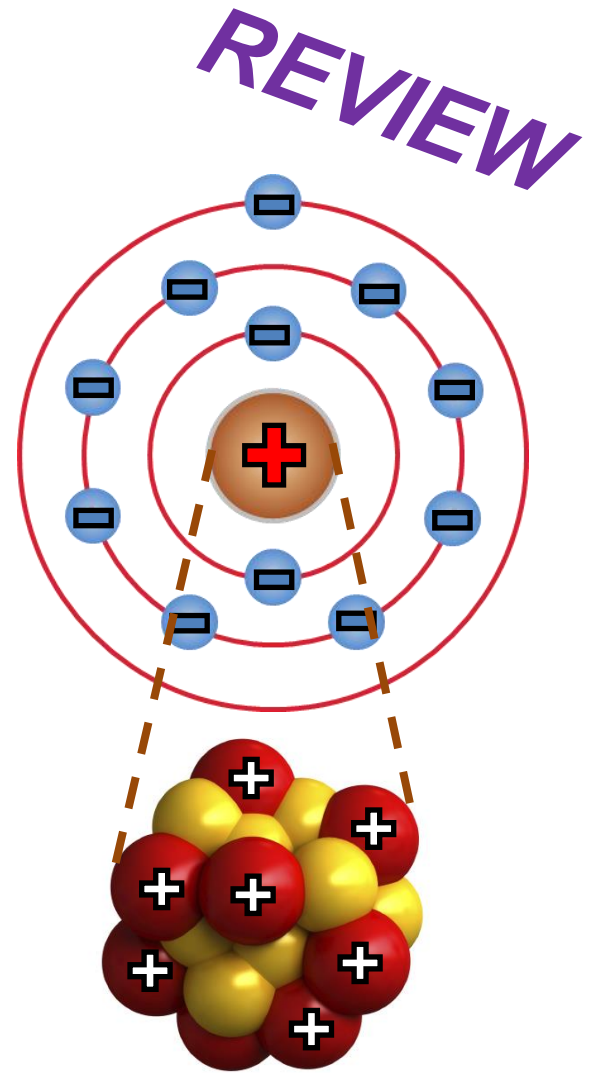
“Matter is anything that has mass and takes up space”



“Matter is made up of atoms”

Atomic Structure

- All atoms have:
 - a positively charged **nucleus**
 - and negatively charged **electrons** moving around within atomic orbitals
- Atomic **nucleus** consists of:
 - positively charged **protons**
 - and **neutrons** that have no electric charge
- Atoms are neutral:
of protons = **# of electrons**



Atom $\sim 10^{-10}\text{m}$
Nucleus $\sim 10^{-14}\text{m}$
Proton/Neutron $\sim 10^{-15}\text{m}$
Electron $< 10^{-18}\text{m}$

The Periodic Table of Elements: *all chemically different kinds of atoms*

1 H																	2 He
3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
55 Cs	56 Ba	57 La	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
87 Fr	88 Ra	89 Ac	104 Unq	105 Unp	106 Unh	107 Uns	108 Uno	109 Une	110 Unn								

Properties of Matter

“what can be observed”

REVIEW

