Session 1: Measurements

Preparations

- [ ] Whiteboard marker
  You'll be doing stuff on slates
- [ ] Bag
- [ ] Chemistry binder
  Your chemistry notes
- [ ] Headphones

1 Significant Figures as Implicit Uncertainty

These numbers, when expressed using uncertainty, would be:

314		3104	
0.314		0.3140	
3140		3.140×10^3	

Rules for counting significant figures:

		description	examples
1-9			
zero			

2 Precise volume measuring tools

Name	Sketch	Notes

Homework

- [ ] Add chemical equipment Anki deck
- [ ] Do Anki decks
- [ ] Take notes in equipment drawing as needed

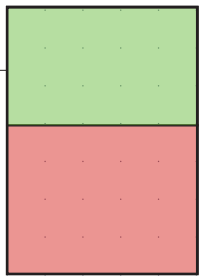
- [ ] Q1-4 of Measurements practice stack
- [ ] Do
- [ ] Mark & annotate with color pens

Session 2: Mass

Preparations

- ☐ Additional 2-3 sheets A4
  You may wish to do additional calculations.
- ☐ Smartphone / **calculator**
  There are calculations that you cannot do in head
- ☐ Data Booklet
  Find out where to find atomic masses

1 Moles as a Unit for Counting



To count the large numbers of atoms / molecules, we use a unit called

[ ] defined to be [ ] (*value*) [ ] (*unit*)

The value [ ] (*value*) is also known as the [ ]

and has the symbol [ ] or [ ]

This value is *defined* by

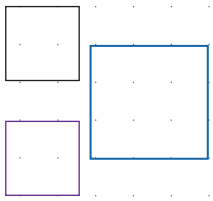
Conversions for helium atoms:

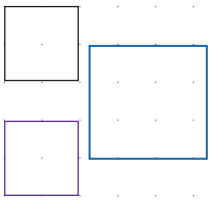
1 MOL	=		atoms	12.04×10^{23} ATOMS	=		mol
1×10^{-4} MOL	=		atoms	3.01×10^{18} ATOMS	=		mol
3.2×10^{-6} MOL	=		atoms	1000 ATOMS	=		mol

2 Isotopes

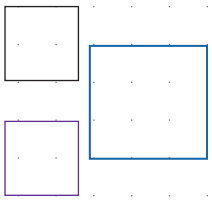
Isotopes are

Example with hydrogen (Z=1):

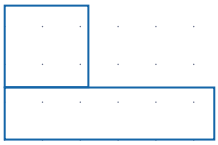




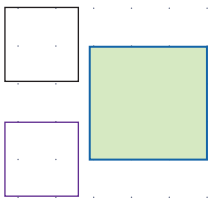
also known as

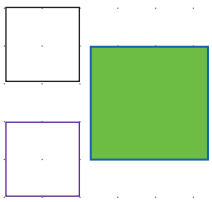


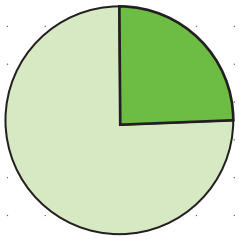
also known as



Example with chlorine:







Ratio found in nature, i.e.,

Species	Amount	Mass
		This is the ____ found in Data Booklet Table ____

3 Molar mass

The molar mass is calculated from the _____

by

Its unit is _____

Or, as a mathematical expression,

Species	Formula	Molar mass

Homework

- [ ] Keep doing your Anki decks!
- [ ] Read Section 1.2 (p14-21)
- [ ] Exercises in Section 1.2 (Q13-23)
- [ ] Upload both Session 1 & 2 homework for Monday 21:00