UNDERSTANDING THE DATA SHEET

TABLE 1: PHYSICAL CONSTANTS/*TABEL 1: FISIESE KONSTANTES*

NAME/*NAAM*	SYMBOL/*SIMBOOL*	VALUE/*WAARDE*
Standard pressure *Standaarddruk* — Galvanic cell with a GAS (std cond)	p^θ	1,013 x 10^5 Pa
Molar gas volume at STP *Molêre gasvolume by STD* — Only for a GAS at STP	V_m	22,4 $dm^3 \cdot mol^{-1}$
Standard temperature *Standaardtemperatuur*	T^θ	273 K
Charge on electron *Lading op elektron*	e	$-1,6 \times 10^{-19}$ C
Avogadro's constant *Avogadro-konstante* — Number of particles per mol	N_A	$6,02 \times 10^{23}$ mol^{-1}

Particles – atoms, molecules, ions, formula units

Covalent compounds - molecules
Ionic compounds – ions & formula units

MAKE SURE YOUR EQUATION LOOKS IDENTICAL TO THE DATA SHEET

$n = \frac{m}{M}$ Mass to Moles	$n = \frac{N}{N_A}$ Particles to Moles — Particles – atoms, molecules, ions, formula units
$c = \frac{n}{V}$ Conc Definition $c = \frac{m}{MV}$	$n = \frac{V}{V_m}$ Volume of GAS to Moles
$\frac{c_a V_a}{c_b V_b} = \frac{n_a}{n_b}$ Titration calculations (neutralisation has occurred)	$pH = -\log[H_3O^+]$ Calculating pH
$K_w = [H_3O^+][OH^-] = 1 \times 10^{-14}$ at/*by* 298 K	$[HNO_3] = [H_3O^+]$ $[H_2SO_4] = 2 \times [H_3O^+]$ $[H_3PO_4] = 3 \times [H_3O^+]$
$E^\theta_{cell} = E^\theta_{cathode} - E^\theta_{anode}$ / $E^\theta_{sel} = E^\theta_{katode} - E^\theta_{anode}$ or/*of* Just learn one and don't worry about the rest $E^\theta_{cell} = E^\theta_{reduction} - E^\theta_{oxidation}$ / $E^\theta_{sel} = E^\theta_{reduksie} - E^\theta_{oksidasie}$ or/*of* $E^\theta_{cell} = E^\theta_{oxidisingagent} - E^\theta_{reducingagent}$ / $E^\theta_{sel} = E^\theta_{oksideermiddel} - E^\theta_{reduseermiddel}$	

KNOW YOUR DATA SHEET

Your CHEMISTRY DATA SHEET is SO USEFUL!

Make full use of it.

Remember the periodic table is there to help you with Molar Mass Values (the relative atomic mass number) ; its there to help you classify elements as metals and non-metals to help with bonding questions.

Use your Table 4A or 4B (depending on which one your school has taught you). Use the arrows on the sides to help answer which one is a stronger reducing agent or oxidising agent. Use the E values to help with calculations!

mol $n = \frac{m}{M}$ g; g.mol^{-1}	$n = \frac{N}{N_A}$ Particles – atoms, molecules, ions, formula units
mol.dm^{-3} $c = \frac{n}{V}$ dm^3 or/*of* $c = \frac{m}{MV}$	$n = \frac{V}{V_m}$ dm^3; dm^3.mol^{-1}
$\frac{c_a V_a}{c_b V_b} = \frac{n_a}{n_b}$	$pH = -\log[H_3O^+]$ pH = no units
$K_w = [H_3O^+][OH^-] = 1 \times 10^{-14}$ at/*by* 298 K	
$E^\theta_{cell} = E^\theta_{cathode} - E^\theta_{anode}$ / $E^\theta_{sel} = E^\theta_{katode} - E^\theta_{anode}$ V	

Useful conversions:
ml to dm^3 (divide by 1000)
cm^3 to dm^3 (divide by 1000)
l = dm^3