**Measurements and Their Errors:**

* Metric Prefixes: You are expected to know how to convert between metric prefixes into SI unit standards, such as converting mA or Milli-Amps (10-3) into regular Amps.

Top of Form

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* Bottom of Form
* Calculating Averages: You are expected to know how to calculate an average:

*(Sum of Results / Number of measurements taken)*

* *Calculating Uncertainties:*
* Uncertainty = Range / 2 = (Largest value – Lowest value) / 2
* Percentage uncertainty = (Uncertainty / value of measurement) x 100
* Fractional uncertainty = (Uncertainty / value of measurement)

**Particles Physics:**

* Specific Charge: You are not given the formula to calculate the specific charge, you have to remember this!

*Specific Charge =*

* Relative Charge and Mass of the particle: You are not given the relative charge and mass of particles!

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Particle* | *Relative Charge* | *Relative Mass* | *Charge (C)* | *Mass (kg)* |
| *Proton* | *+1* | *1* | *+1.6x10-19* | *1.67x10-27* |
| *Neutron* | *0* | *1* | *0* | *1.67x10-27* |
| *Electron* | *-1* | *0.0005* | *-1.6x10-19* | *9.11x10-31* |

* Minimum energy required for pair production and anhillation: You need to remember this

*Pair Production: Energymin = 2 x Erest*

*Annihilation: Energymin = Erest*

* Baryon Numbers for the particles: You need to remember this!

**Quantum Phenomena:**

* Stopping Potential: Work done required for a photon to lose energy

eVs = EK (MAX)

**Waves:**

* Diffraction Grating equation: Technically you don’t need to know it, but just to be sure – remember it!

dSinθ = nλ

**Mechanics and Materials:**

*It seems you’re given everything, even impulse (Note: This is on the new formula sheet for the new spec,* [*click here*](http://filestore.aqa.org.uk/resources/physics/AQA-7407-SDB.PDF) *for a copy)*

**Electricity:**

* Energy used in a certain amount of time: Really simple to remember, so don’t forget it!

Power x Time = Energy

…where “Power” is in Watts, “Time” is in seconds & “Energy” is in Joules.

* Potential Divider Voltage Calculations: You don’t really need to remember it since you can derive it but well, if you insist?

Vout = (Vin x R2) / (R1 + R2)

Advice from Umut:

They pretty much give you everything else on the formula sheet, even how to calculate the area of a circle. So there’s no reason why you shouldn’t get a good grade! Good Luck!