



**THE SNAITH
SCHOOL**

Science Revision Tools

Content!



- A massive amount of content across Biology, Chemistry & Physics
- Students need to ensure they know what content is in each paper
- Students need to revise the content and then practice applying it to exam questions

Mock Priorities: Paper 1

Highlighted are Y9 taught
HT means higher tier
T means triple only

Biology	Chemistry	Physics
<p>B1</p> <ul style="list-style-type: none">Eukaryotes and prokaryotesCell structureMicroscopes required, practical (RP)DifferentiationStem cellsCell CycleDiffusion, Osmosis, Active TransportRP OsmosisCulturing microorganisms (T)	<p>C1</p> <ul style="list-style-type: none">Atoms, elements, compounds, mixturesBalancing equationsDevelopment of the model of the atomAtomic structureElectronic structurePeriodic table developmentGroups 0, 1 & 7Transition metals (T)	<p>P1</p> <ul style="list-style-type: none">Energy stores and systemsKinetic energy, EPE, GPESpecific heat capacityRP Specific heat capacityPowerDissipation of energyEfficiencyEnergy resourcesRP 2: Insulation (T)
<p>B2</p> <ul style="list-style-type: none">OrganisationDigestive System, Enzymes and Digestive EnzymesRP Food TestsRP AmylaseHeart, Blood and Blood vesselsHealth: cancer, CHD.Plants: tissues, organs, leaf structure,Transpiration	<p>C2</p> <ul style="list-style-type: none">Ionic BondingIonic compoundsCovalent bondingGiant covalent compounds including polymers, diamond and graphiteMetallic BondingStates of matter and state symbolsMetals and alloysNanoparticles (T)	<p>P2</p> <ul style="list-style-type: none">Circuit symbolsOhms LawChargeRP Resistance of a wireRP IV – and graphsSeries & ParallelDC & ACMains electricity and energy transfersNational gridStatic electricity (T)Electric fields (T)
<p>B3</p> <ul style="list-style-type: none">Bacterial, viral, fungal and protist diseases.Human defenceVaccinationAntibiotics and painkillersDevelopment of drugsMonoclonal antibodies (T)Plant diseases and defences (T)	<p>C3</p> <ul style="list-style-type: none">Conservation of massRelative formula massCalculating moles (HT)Avogadro's Constant (HT)Limiting Reactants (HT)Concentration of solutions% yield (T)Atom economy (T)Concentration in mol/dm³ (HT) (T)	<p>P3</p> <ul style="list-style-type: none">Density of materialsRP DensityChanges of stateInternal energySpecific latent heatParticle motion in gasesPressure in gases (T)Increasing pressure (T) (HT)
<p>B4</p> <ul style="list-style-type: none">Photosynthesis: equation, factors affecting rateRP Light Intensity on pondweedUses of glucoseAerobic respirationAnaerobic RespirationMetabolism	<p>C4</p> <ul style="list-style-type: none">Metal oxidesReactivity seriesREDOX reactionsStrong and weak acids (HT)Acids and metalsNeutralisationpH scaleRP Making SaltsElectrolysisRP Titration (T)	<p>P4</p> <ul style="list-style-type: none">Atomic StructureMass numberDevelopment of atomRadioactive decayNuclear equationsHalf lifeRadioactive contaminationBackground radiation (T)Nuclear fission (T)Nuclear fusion (T)
	<p>C5</p> <ul style="list-style-type: none">Exo and endothermicRP temperature changeReaction ProfilesBond energies (HT)Fuel cells and batteries (T)	

Exam Priorities: Paper 2

HT means higher tier
T means triple only

Biology	Chemistry	Physics
<p>B5</p> <ul style="list-style-type: none">HomeostasisNervous systemRP Reaction TimesEndocrine systemBlood glucoseHormones in human reproductionContraceptionIVF (HT)Feedback systems (HT)The brain (T)The eye (T)Body temperature (T)Kidneys (T)Plant hormones (T)	<p>C6</p> <ul style="list-style-type: none">Calculating rates of reactionRP Rate of reactionCollision theoryCatalystsReversible reactionsLe Chatelier's Principle (HT)	<p>P5</p> <ul style="list-style-type: none">Scalar and vector quantitiesTypes of forceWeight, mass and gravityWork DoneElasticityRP Hooke's LawDistance and displacementSpeed and VelocityAccelerationRP AccelerationNewton's LawsReaction Time and Stopping DistancesMomentum (HT)Moments (T)Pressure in fluids (T)
<p>B6</p> <ul style="list-style-type: none">Sexual and asexualMeiosisDNA and inheritanceInherited disordersVariationEvolution and evidenceGenetic engineering and selective breedingExtinctionClassificationAdvantages of sexual and asexual reproduction (T)Structure of DNA (T)Cloning (T)Theory of evolution (T)SpeciationMendel's Genetics (T)	<p>C7</p> <ul style="list-style-type: none">Crude oilFractional distillationCrackingAlkenes (T)Alcohol (T)Carboxylic Acids (T)Polymerisation (T)Amino Acids (T)DNA (T)	<p>P6</p> <ul style="list-style-type: none">Transverse & Longitudinal WavesWave PropertiesRP Ripple TankElectromagnetic Waves: uses and applicationRP: RadiationReflection of Waves (T)Sound Waves (T)Waves for detection or exploration (T)Lenses (T)Black body radiation (T)
	<p>C8</p> <ul style="list-style-type: none">Pure SubstancesFormulationsChromatographyRP ChromatographyGas TestsFlame Tests (T)Metal Hydroxides (T)RP Ion Identification (T)Flame emission spectroscopy (T)	<p>P7</p> <ul style="list-style-type: none">Poles of a magnetMagnetic fieldsElectromagnetsLeft hand rule (HT)Motors (HT)Loudspeaker (T) (HT)Uses of generator effect (T) (HT)Microphones (T) (HT)Transformers (T) (HT)
<p>B7</p> <ul style="list-style-type: none">CommunitiesAbiotic and BioticAdaptationsLevels of organisationRP Species DistributionBiodiversityWaste management and land useDeforestationGlobal warmingDecomposition (T)RP Decay (T)Enviornmental Change (T)Trophic Levels (T)Biomass (T)Food security, farming and fishing (T)Biotechnology (T)	<p>C9</p> <ul style="list-style-type: none">Earths AtmosphereChanging atmosphereGreenhouse gasesClimate changeCarbon footprintPollutants	<p>P8 – TRIPLE ONLY</p> <ul style="list-style-type: none">Solar systemLife cycle of a starOrbital motionRed-shift
	<p>C10</p> <ul style="list-style-type: none">Earths ResourcesPotable WaterRP Water PurificationWaste water treatmentLife cycle assessmentsCorrosion (T)Alloys (T)Ceramic and composites (T)Haber Process (T)NPK Fertilisers (T)	

Homework



Homework is extremely important for Science as it enables students to recap prior knowledge and also to practice exam technique

There are 2 main forms of homework for Science:

1. Past exam question practice – taken in and marked by the class teacher – feedback given to improve exam technique
2. Tassomai

Tassomai!



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The Learning Program

How does TASSOMAI work?



1. Investigating
We start by analysing a subject, down to the finest level of detail...



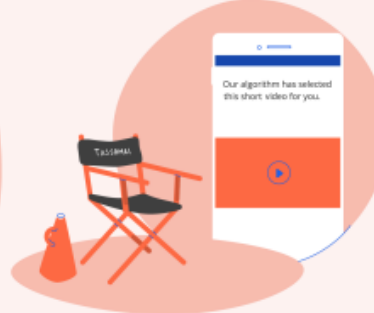
2. Creating
... turning everything a learner needs to know into quiz questions that teach as well as test.



3. Discovering
Every question answered helps us build up a detailed knowledge profile.



4. Personalising
Our intelligent algorithm continually adapts the content for each learner.



5. Supporting
Sometimes we'll suggest a short tutorial video, designed to supplement learning in a particular topic.



6. Evolving
Tassomai discovers more about what you understand (and what you don't) with every interaction.



7. Reinforcing
Quizzes are shown at the optimum time and repeated occasionally to check that knowledge has been retained.



8. Celebrating!
Your knowledge, understanding and confidence builds until you master the subject, helping you achieve your best possible results.



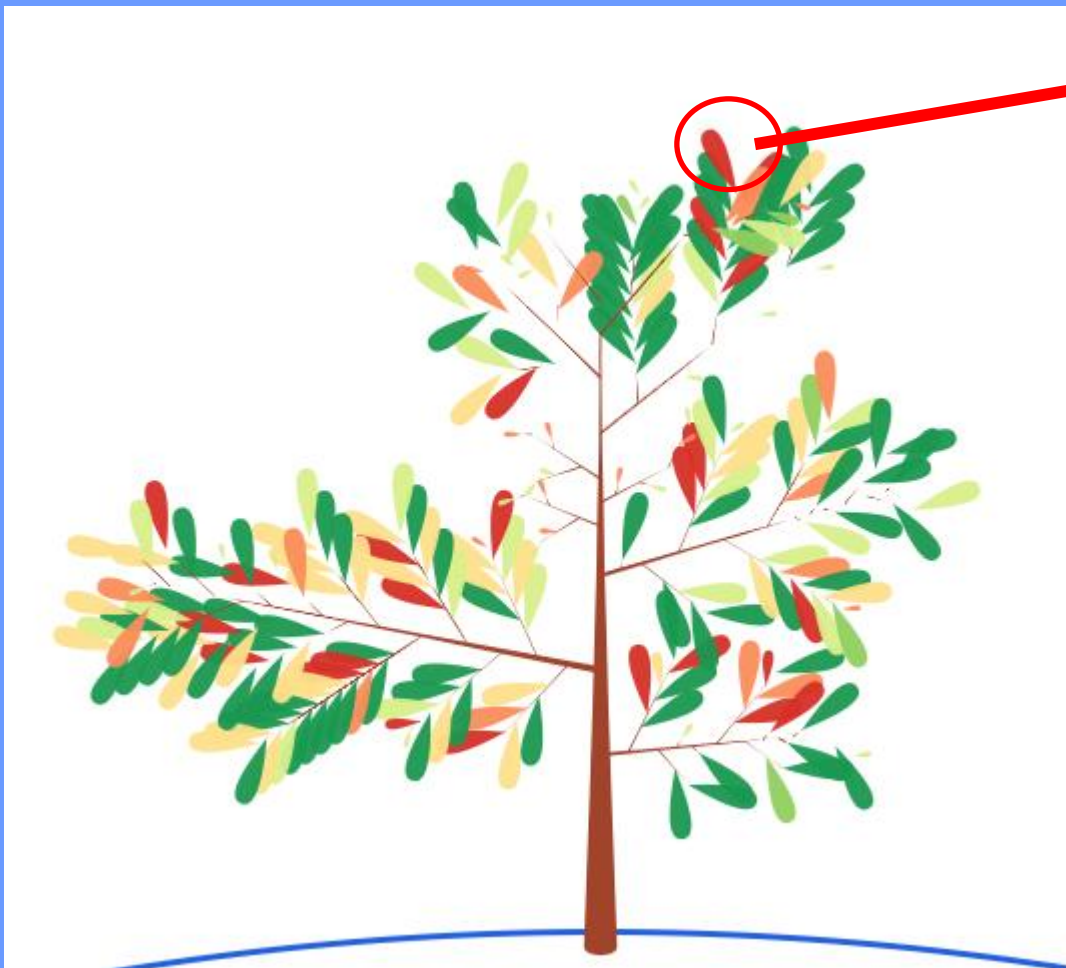
Scan the QR code to download the Tassomai app



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Chemistry / The Rate & Extent of Chemical Change / Activation Energy & Catalysts

Last Seen: 16/07/25

Last 3 Attempts:

Explain

A CATALYST has the effect of ---(1)--- for a reaction. This will decrease the distance between the ---(2)--- on a REACTION PROFILE.

✓
1: decreasing the ACTIVATION ENERGY; 2: REACTANTS and MAXIMUM energy levels

✗
1: decreasing the ACTIVATION ENERGY; 2: REACTANTS and PRODUCTS energy levels

1: increasing the rate of COLLISIONS; 2: REACTANTS and MAXIMUM energy levels

1: increasing the rate of COLLISIONS; 2: REACTANTS and PRODUCTS energy levels



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What does the parent dashboard offer?



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Parents can monitor their children's **Daily Goal completion** across the week (and go back by up to 3 weeks' worth of activity). They can also control their account settings, and opt into our new Parent Club! [Learn more here.](https://www.tassomai.com/school-parents)

<https://www.tassomai.com/school-parents>

It will also highlight the **weakest areas** for their child across their subjects, and **provide resources** to help support learning.



 TASSOMAI

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Command Words in GCSE Science

Command	Meaning	Example 1	Example 2
Compare	Describe both the similarities and differences between two or more things.	Both graphite and graphene comprise hexagonal rings of carbon atoms that are covalently bonded to three other carbon atoms in a giant lattice structure. Graphene is different to graphite because it is a 2D structure as it's only one atom thick.	Both aerobic and anaerobic respiration use glucose and release energy although aerobic respiration releases more. Also, aerobic respiration produces carbon dioxide and water whereas anaerobic respiration produces lactic acid.
Describe*	Recall accurate facts about an object, event or process.	The plum pudding model of the atom consists of a ball of positive charge with negative electrons dotted throughout	<i>(E.g. include data from the graph in your answer).</i> The temperature increased for 1 minute before remaining constant for two minutes. It then rose again for three minutes.
Design	Set out how something will be done.	The student will need to use the same volume and concentration of acid to ensure a fair test. They can change the temperature using a water bath and measure how much gas is produced in 20s.	
Evaluate <i>(often a 6 mark question)</i>	Use your own knowledge and the information provided to come up with arguments for and against something and then add a summary.	One advantage of using hydrogen fuel cells is that the only emission produced is water. Petrol makes carbon dioxide and nitrogen oxides when burnt. Carbon dioxide is a greenhouse gas and nitrogen oxides contribute to acid rain. One disadvantage is hydrogen is difficult to store. Overall, I think fuel cells are the better option, provided we can find a suitable source of hydrogen.	Power stations that emit less carbon dioxide cause less global warming. Coal and geothermal power stations contribute to global warming, whereas nuclear power doesn't. Sulfur dioxide causes acid rain meaning coal power stations contribute to acid rain, whereas geothermal and nuclear power stations don't. Radioactive waste, which has a long half-life and remains radioactive for a long time, needs burying. Overall, I think nuclear power is the best option, provided we can store its waste material safely.
Explain*	State something more clearly; give the reason(s) for it.	Potassium is more reactive than sodium because potassium has more electron shells resulting in a weaker attraction between the nucleus and the outer electron meaning it is lost more easily.	Bile helps the digestion of milk by neutralising acid and emulsifying fats so that they have a greater surface area thereby allowing enzymes to work more effectively.
Justify	Use evidence (data, statements, quotes) from the question to support your answer.	Glass is a much better material for milk bottles than plastic because each bottle can be re-used 25 times instead of once and new bottles can be made using up to 50% recycled material. Plastic bottles are only made up of 10% recycled material.	
Plan <i>(often a 6 mark question)</i>	Write a method.	Add an excess of the metal oxide to the acid and stir to make sure all of the acid has reacted. Filter the mixture to remove the excess oxide. Heat the filtrate to form a saturated solution. Transfer to a crystallising dish and leave for the crystals to slowly form as the water evaporates.	Measure the object's mass using a mass balance. Fill a displacement can with water, ensuring it is levelled with the can's spout. Place the object in the can and collect the displaced water in a measuring cylinder to determine its volume. Calculate density = mass/volume
Show	Use evidence (data, statements, quotes) from the question and/or your own knowledge to reach a conclusion.	The nail in test tube two rusted the most. You can tell this because the mass increased by the greatest amount from 8.45g to 8.91g.	
Suggest*	Apply your knowledge and understanding from a similar situation to the one presented.	The student could change the method to investigate the rate of reaction at 40°C by putting both of the reactants in a water bath.	<i>Suggest how needing less oxygen helps the animal to conserve water.</i> Less water is lost from respiration.

*These are the most common command words

Physics - units

Students **will** full equation sheet, they do not need to memorise the equations.

However, if students can learn the units of each term in Physics, this will massively help them to understand which equation they need to choose to use in a question e.g.

Calculate the gravitational potential energy of a 12kg box at a height of 2.5m above the floor.
gravitational field strength = 9.8 N/kg

Using flashcards



- Repetition strategy - practice makes perfect!
- Simple approach - 'cue' on the front and the 'answer' on the back
- Engage active recall of information

Why flashcards help you learn



- They help you to **recall** information - creating **stronger connections** for your memory
- Encourage self-reflection - embedding information into your **long term memory**

Make Flashcards More Powerful



Retrieve (don't look) - write or say the answer out loud before flipping the card over

Reorder (shuffle) - to add challenge
- spacing and interleaving

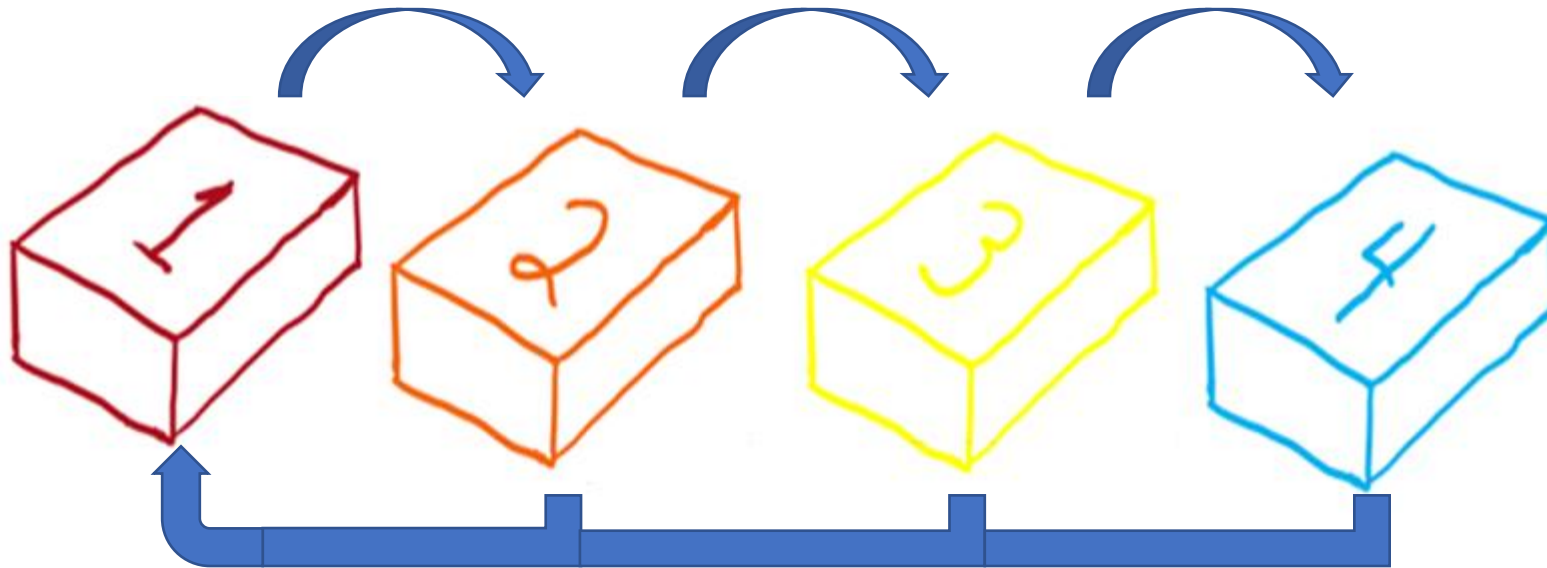
Repeat (at least 3 times) - to make sure you really know it and remember it!

Top tips for using flashcards

Use **spaced repetition** - review on specific days of increasing intervals (day 1, day 2, day 4, day 8...) as this activates your long term memory

All the cards start off in box 1

As you review the cards, each card you answer correctly goes into box 2



As you continue to get the answers correct, move the cards to box 3 and then 4.

Any incorrect answers in any box, go back to box 1

GCSE Past Papers



- Google "AQA Past Papers"
- <https://www.aqa.org.uk/find-past-papers-and-mark-schemes>
- link to this on TEAMS for students

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- Revision apps



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Any Questions?