

Year 10 Curriculum Information Evening: Science

Miss Fox: Curriculum Director for Science

Science Y10 Parent information evening

- Two pathways in science at GCSE - combined and separate.
- The pathway is chosen by teachers not by students
- At the end of yr 9, you were notified of whether your child would be studying separate or combined science in yr 10.
- Exam Board: AQA
- Combined Science – AQA Trilogy.

Separate vs Combined



GCSE Combined Science: Trilogy

| | Separate | Combined |
|--------------------------------------|---|--|
| What do you study? | Biology, chemistry and physics | Biology, chemistry and physics |
| How many lessons? | 10 hours a fortnight | 10 hours a fortnight |
| How many GCSE's do you get? | 3 | 2 |
| How many exams do you sit? | 6 | 6 |
| How long are the exams? | 1 hr 45 minutes | 1 hr 15 minutes |
| What is the highest grade I can get? | Grade 9 | Grade 9 |
| What are tiers? | Higher – achieve up to a grade 9 | Higher – achieve up to a grade 9 Foundation – achieve up to a grade 5 |
| When are tiers decided? | Tiers of entry are not finalised until Easter yr 11 | |
| Can I do A-level science? | Yes – the minimum is a grade 6 | Yes – the minimum is a grade 6 |

99
98
88
87
77
76
66
65
55
54
44
43
33
32
22
21
11



| | | |
|---|--|---------------------------------|
| Revision for external summer exams | | |
| Year 11 March Mocks- Paper 2 Biology, Chemistry and Physics | | |
| Biology F- Inheritance | Chemistry E- Rates of reaction | Physics E- Magnetism and forces |
| Biology E- Ecology and evolution | | |
| Year 11 November Mocks- Paper 1 Biology, Chemistry and Physics | | |
| Biology D- Homeostasis and response | Chemistry D- Chemical calculations and organic 1 | Physics D- Waves |
| Year 10 End of Year Exams- Paper 1 Biology, Chemistry and Physics | | |
| Biology C- Bioenergetics | Chemistry C- Chemical Changes | Physics C- Forces and motion |
| Biology B- Organisation | Chemistry B- Energy Changes | Physics B- Electricity |
| Biology A- Ecology | Chemistry A- Bonding and structure | Physics A- Work and energy |



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Developing confident, respectful and successful young people

Please see separate document with hyperlinks to the relevant learning checklist which will provide you with links to help revision

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Revision for external summer exams

Year 11 March Mocks-

Biology F- Inheritance
Biology E- Ecology and evolution

Year 11 November Mocks-

Biology D- Homeostasis and response

Year 10 End of Year Exams-

Biology C- Bioenergetics

Biology B- Organisation

Biology A- Ecology

What do I need to know...?

Revision links

- I can define the terms: ecosystem, community, predator, prey, competition, habitat, interdependence, and extremophile.
- I can name biotic factors in a habitat and state how a change in a biotic factor might affect a community.
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- I can define: Food chain, Food web, Pyramid of numbers, and Pyramid of biomass.
- I can identify producers, primary, secondary, and tertiary consumers in a food chain.
- I can define the term biodiversity and state factors which can influence levels of biodiversity in an ecosystem.
- I can describe the carbon cycle.
- I can describe the water cycle.
- I can describe some structural, behavioural, and functional adaptations.
- I can describe how changes in the number of predators or prey may impact a food web.
- I can describe how deforestation leads to environmental issues, such as a reduction in biodiversity.
- I can state sources of air, water, and land pollution and describe how bioaccumulation of toxins can occur within a food chain.
- I can calculate area, mean, median, mode and range.
- I can explain how to carry out random sampling of organisms using a quadrat, including evaluations of the data collected (e.g. sample sizes).
- I can explain how structural, behavioural, and functional adaptations help organisms to survive in their habitat.
- I can describe the properties of peat bogs which make them unique habitats and explain why peat is a good fuel.
- I can interpret and explain population curves on a graph.
- I can explain the role of microorganisms in cycling materials through an ecosystem.
- I can explain the role of photosynthetic organisms in the carbon cycle and food chains.
- I can describe how the greenhouse effect has affected Earth's temperature and explain the potential impacts of climate change.

<https://www.bitesize.co.uk/bitesize/guides/z86gpbk/revision/1>

<https://www.bitesize.co.uk/bitesize/guides/zqskv9q/revision/1>

<https://www.bitesize.co.uk/bitesize/guides/z93mk2p/revision/1>

<https://www.bitesize.co.uk/bitesize/guides/zt69y4j/revision/1>

[Click here to return back to the learning journey](#)

Revision for external summer exams

Year 11 March Mocks- Paper 2 Biology, Chemistry and Physics

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Biology E- Ecology and evolution

Chemistry F- Organic II
Chemistry E- Rates of reaction

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Chemistry C- Chemical Reactions

Physics C- Forces and motion

Biology B- Organisation

Chemistry B- Energy Changes

Physics B- Electricity

Biology A- Ecology

Chemistry A- Bonding and structure

Physics A- Work and energy

Key Assessment Points throughout the year

- May 2023- Yr 10 internal exams – 1 paper per science covering GCSE content so far
- November 2023- Paper 1 for all sciences
- March 2024- Paper 2 for all sciences
- Teachers evaluate the best route for students at key points throughout the 2 years of study
- It is common for 1/3 of separate students to move to study combined in yr 11

Key Resources for Study



- **Tassomai**

- Seneca

- BBC Bitesize

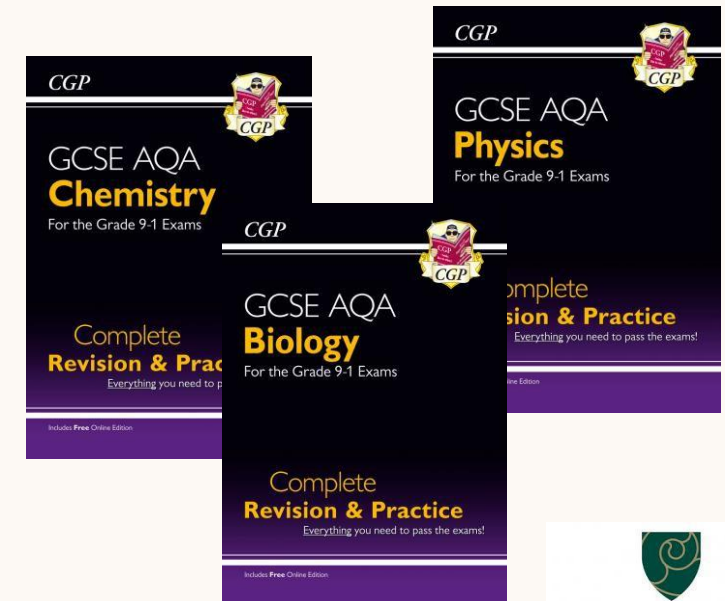


- **PLCs**

- CGP Revision guides – there will be an opportunity to buy a revision guide for a reduced price through the school in term 2/3

- Calculators – every science lesson!

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PLCs – Personal Learning Checklists

From key assessments, we do question level analysis to create PLCs

You can click on the QR codes to access exam questions and the mark schemes.

exampro

1 Question Mark Scheme

(a) (i) the three features correctly labelled on cheek cell (which are referred to in part (ii))
label lines should touch or end very close to part no marks if leaf cell labelled

nucleus
 cytoplasm
 cell membrane
 mitochondrion
accept mitochondria or one of these could be labelled vacuole 3 (3)

(ii) any **three** from

| feature | function |
|------------------|--|
| nucleus | controls cell <i>accept contains genetic material or genes or chromosomes or stores information do not credit the brain of the cell</i> |
| cytoplasm occurs | where respiration occurs <i>accept contains food or mitochondria</i> or reactions occurs |
| membrane | less water or |

treatments (including diabetes and paralysis) (3)

| | | | | | | |
|------|----------------------------|--|----------------------|--|------|--|
| 1.13 | H - 17 F - 17 H - 17 | | Link | Describe the process of diffusion, including examples, and how it can be affected by different factors | 100% | |
|------|----------------------------|--|----------------------|--|------|--|

1

Question

Mark Scheme

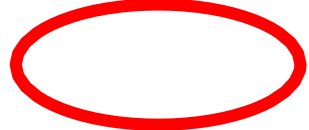
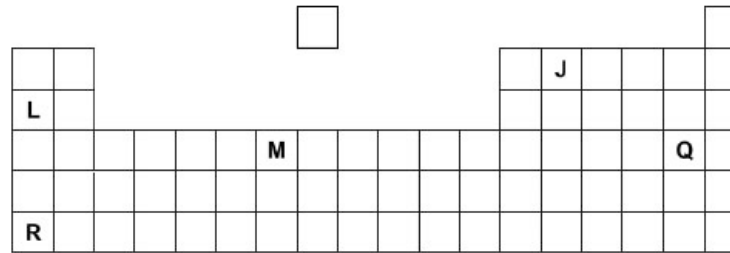


Figure 1 shows an outline of the modern periodic table.

Figure 1



J, L, M, Q and R represent elements in the periodic table.

(a) Which element has four electrons in its outer shell?

Tick (✓) **one** box.

J L M Q R

(1)

(b) Which **two** elements in **Figure 1** are in the same period?

_____ and _____

(1)

(c) Which element reacts with potassium to form an ionic compound?

Tick (✓) **one** box.

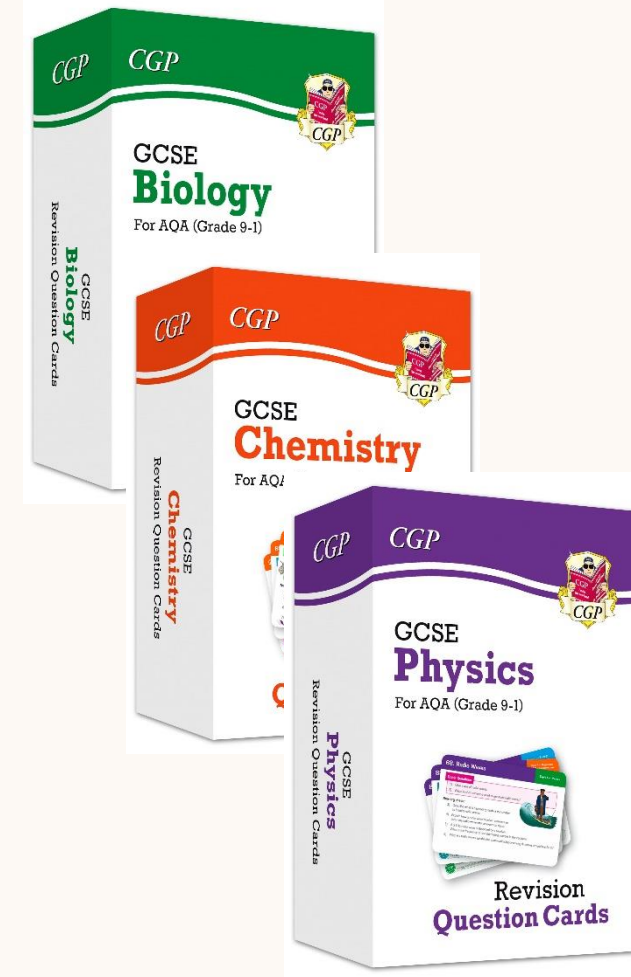
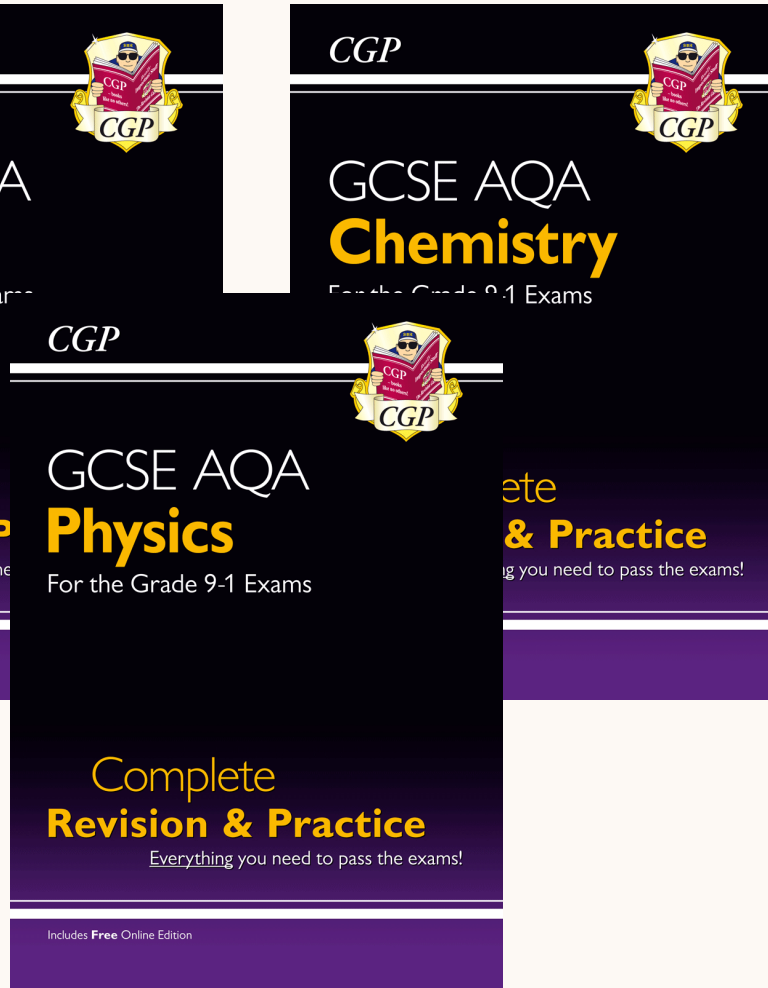
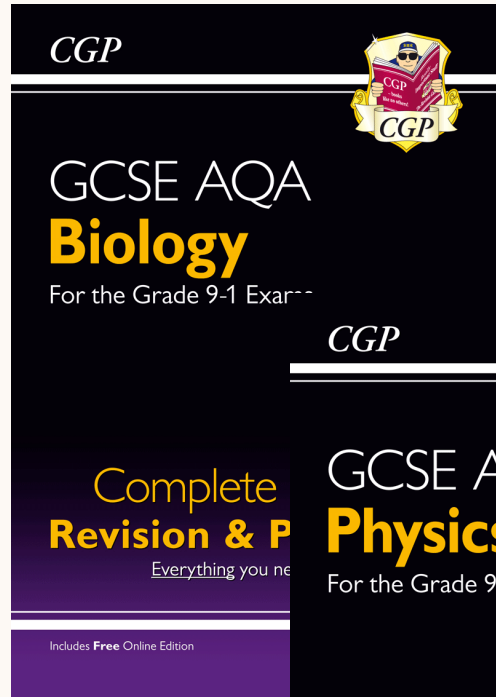
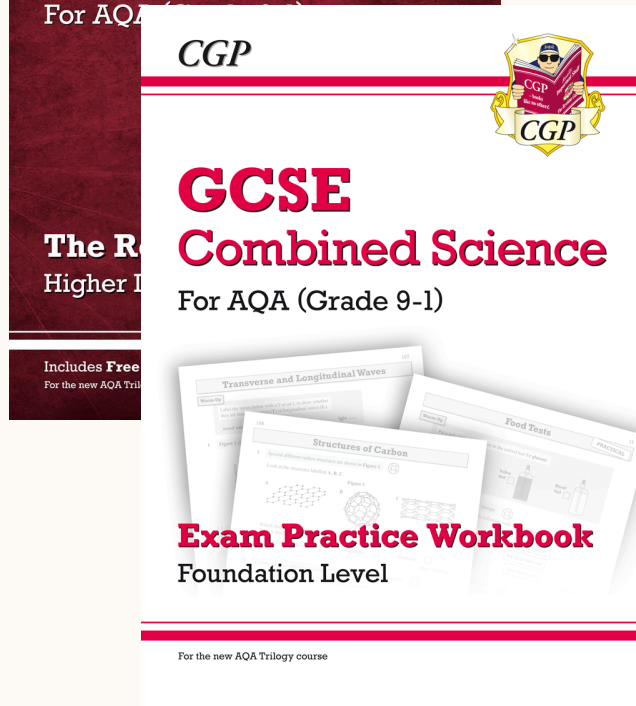
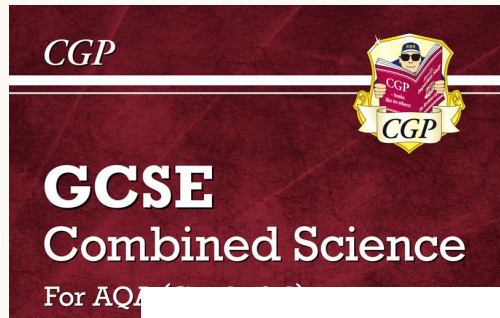
J L M Q R

(1)

(d) Which element forms ions with different charges?

PLC

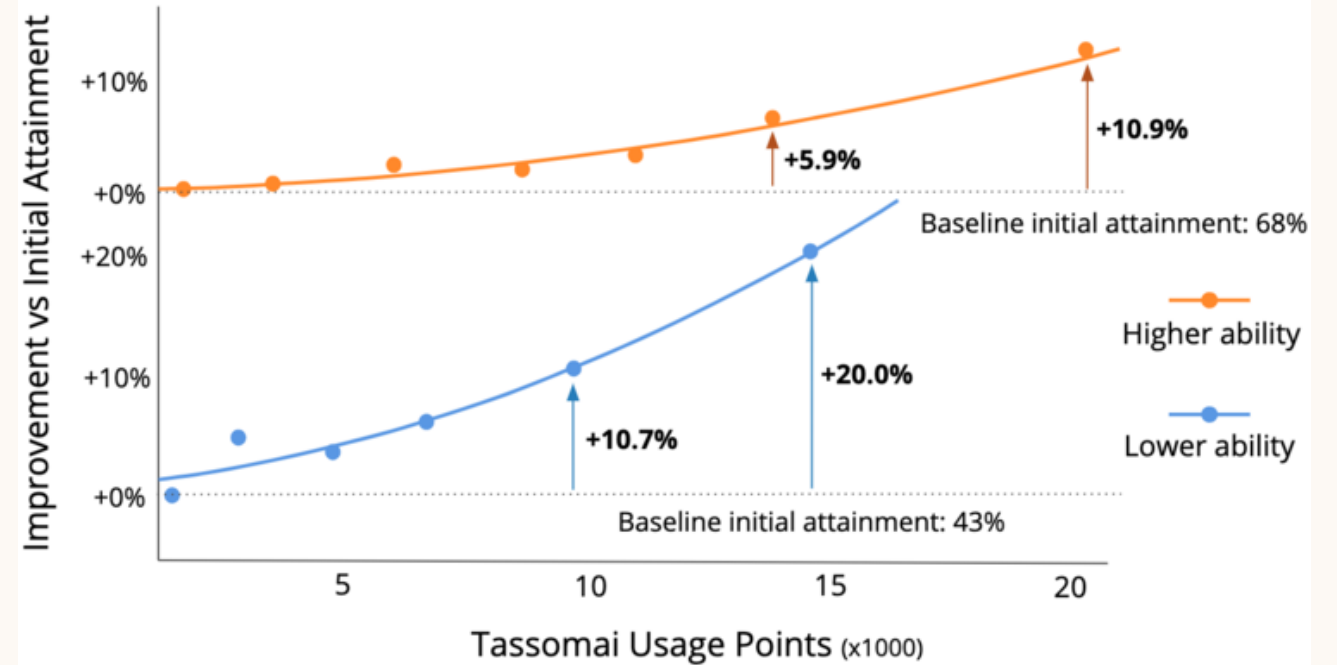
CGP Revision Resources



Tassomai

| Physics [AQA] | | | | | | | |
|---------------|-----------------|--------------------|--------------------|------------|-----------|--------------------|---------------------|
| 01: Energy | 02: Electricity | 03: Particle Mo... | 04: Atomic Stru... | 05: Forces | 06: Waves | 07: Magnetism &... | 08: Space Physic... |
| ● | ● | ● | ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● | ● | ● | ● |

- We will be launching with yr 10 next term
- Revision App- free to download, subscription is paid for by the trust
- Multiple choice quizzes – supports with fact recall
- Key is routine, the earlier students engage the more effective it is!



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
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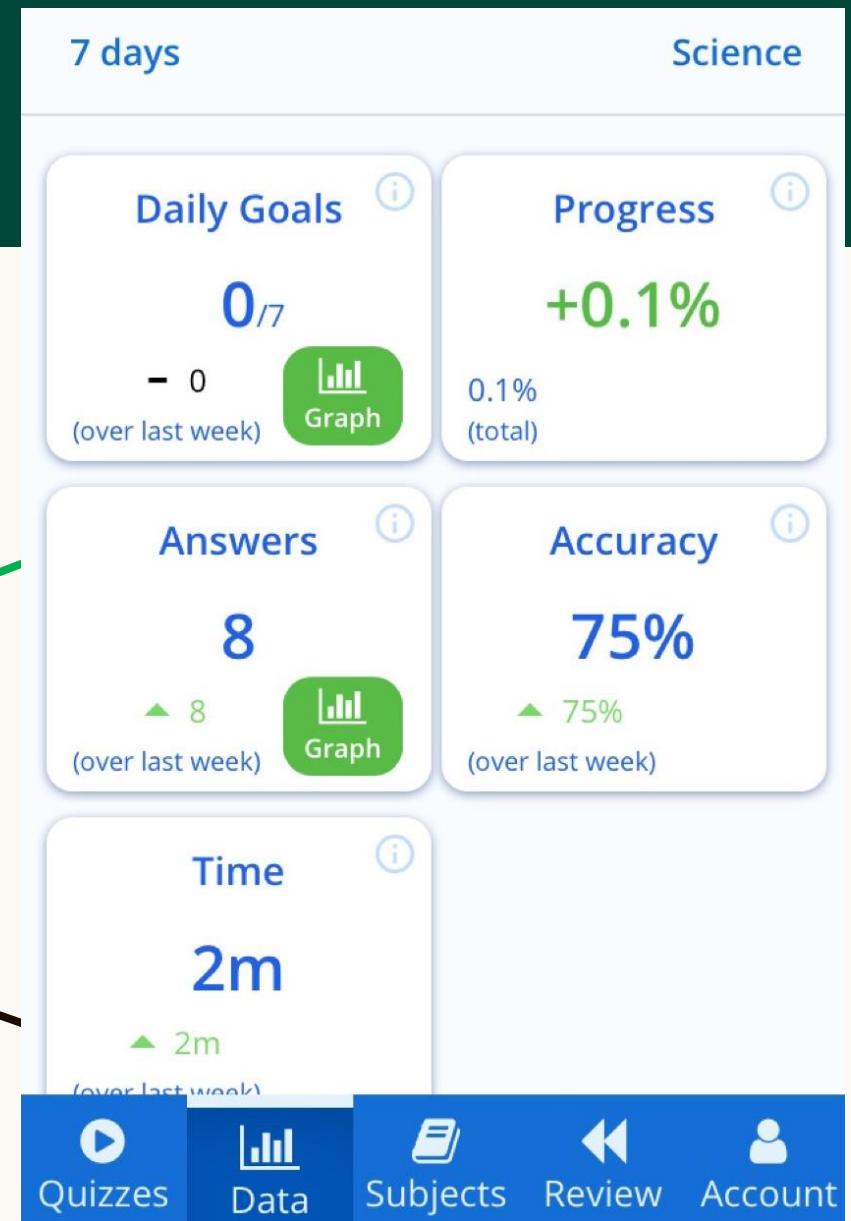


Tassomai is most effective when used frequently (3-4 times a week for 10-15 minutes).

Students should complete their daily goal.

You can view usage and achievement by clicking the data tab.

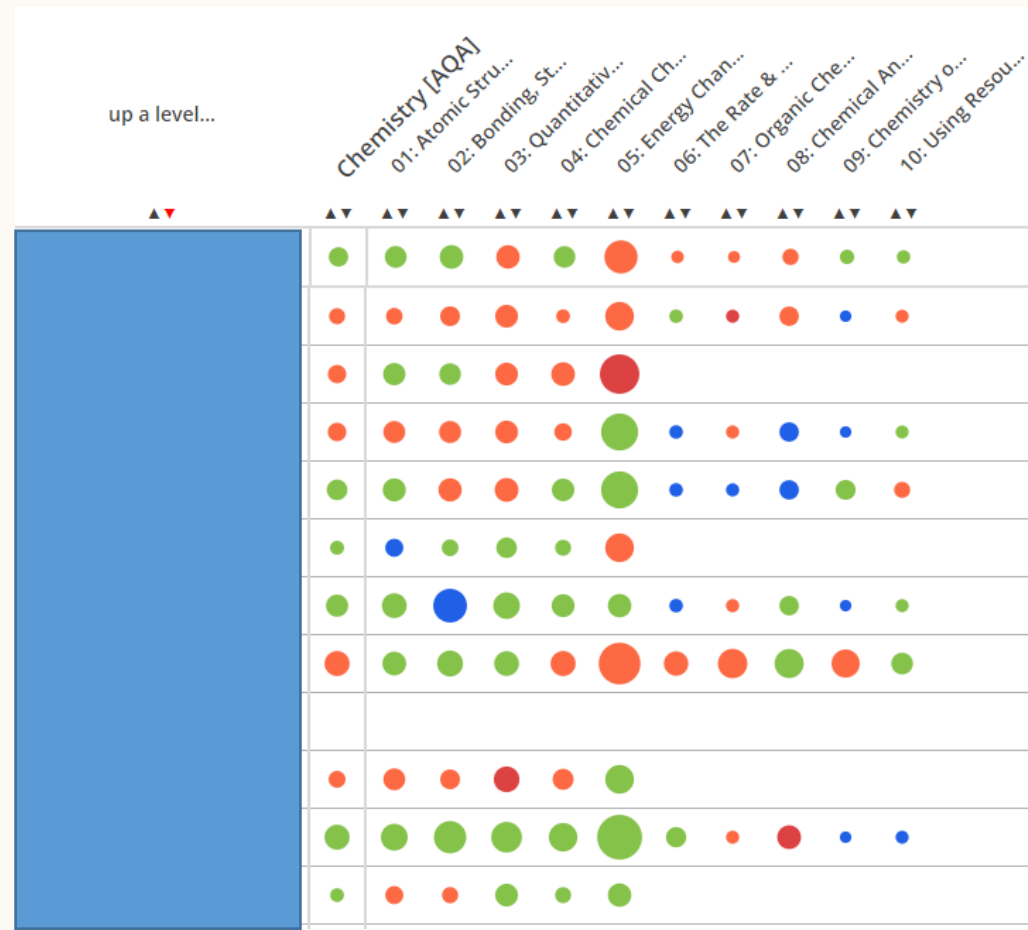
The more students engage, the lower their daily goal requirement, e.g 100 points → 50 points.



Tassomai – why is it helpful?

- Quiz is personal to pupils and programmed to visit your areas of weakness

- Teachers



Tassomai for parents - how can we help?

Once your students are up and running, Tassomai provides a **weekly progress report** to all parents for each of their children using the platform, sent via email.



Required Practical Work

- Practicals are not assessed practically.
- Assessed through the exams
- The best way to revise required practicals is to watch the videos on youtube walking you through them and then to complete exam questions and mark answers

Biology Paper 1

| Unit | Required Practical | Youtube | Bit |
|------|---|--|---------------------|
| 1 | Animal and plant cells - Using a light microscope | Video 1 Video 2 | Lin |
| 1 | Aseptic technique (Separate only) | Video 1 Video 2 | Lin |
| 1 | Osmosis | Video 1 Video 2 | Lin |
| 2 | Food tests | Video 1 Video 2 | Lin |

