# How we use Isaac Physics

## Wednesday 5th March 2025

Nick Davies
Team leader, Physics
Wilmslow High School
ndavies@wilmslowhigh.com

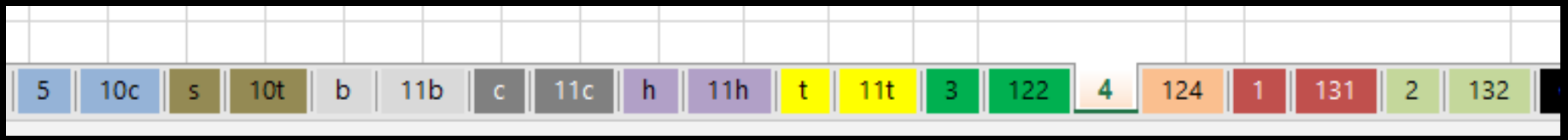
N Davies 2017

# Who uses it?

- A Level
  - Physics (75)
  - Chemistry (80)
  - Biology (80) – not yet
- GCSE Physics, (500)
- Year 8 & 9 Physics, (300)
  - GCSE quizzes with Y9 very useful
- Maths and GCSE Science use Sparx
- Some Physics students use Isaac Maths

# Mark book structure

- Each class has two worksheets in excel




- The first of each pair is the Isaac download worksheet
- The second is the main mark-book worksheet where all class and homework and tests (etc) are recorded

# The Isaac download worksheet

Cut & paste Isaac download

- Conditional formatting
- ?? ZDavies

| Assignments for 'ND Y10 2018-20 Curie' (14755) | | | | | | |
|---|---|---|---|---|---|---|
| Downloaded on Mon Jun 24 06:35:14 UTC 2019 | | | | | | |
| Generated by: Nick ZDavies | | | | | | |
| | | | | | | |
| | Due | | 10-Sep | 14-Sep | 19-Sep | 26-Sep |
| Last Nam | First Na | % Co | % Cor | % Cor | % Cor | % Cor |
| The Hun | Attila | 60 | 84 | 100 | 100 | 100 |
| Khan | Genghis | 83 | 88 | 95 | 100 | 100 |
| Smith | Tom | 95 | 100 | 0 | 100 | 100 |
| Smith | Dick | 100 | 100 | 100 | 12 | 100 |
| Smith | Harry | 99 | 100 | 100 | 100 | 100 |
| ZDavies | Nick | 95 | 92 | 91 | 100 | 100 |

# Isaac download worksheet structure

**General** analysis (formula driven)

**Topic** analysis (Formula driven)

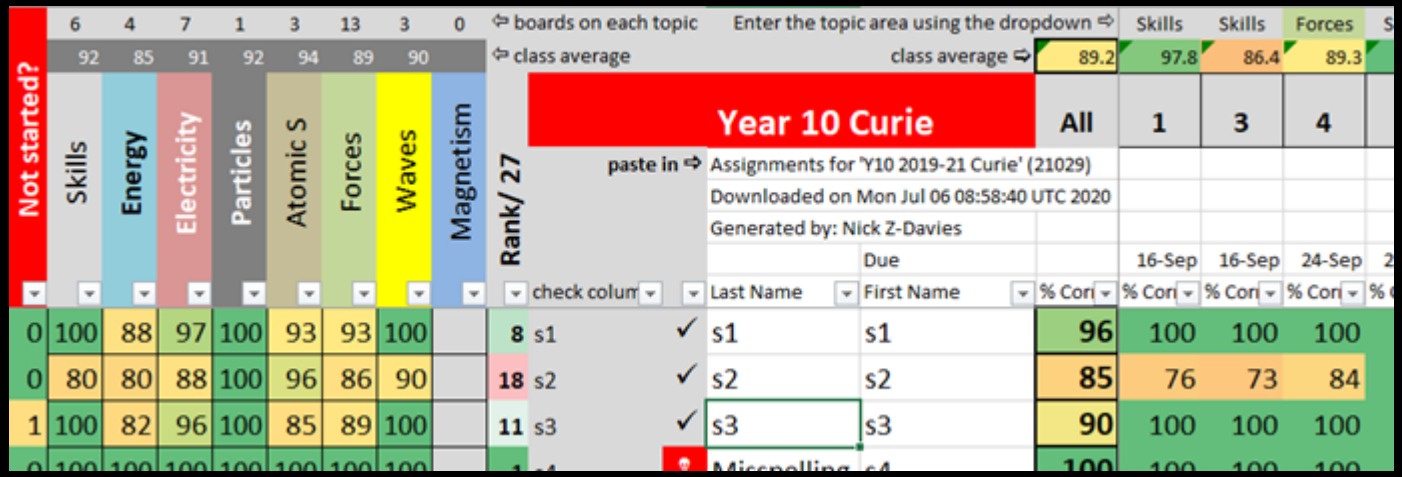
**Board** related information (formula driven from code tab)

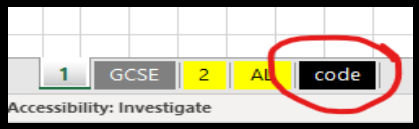
Unedited
Isaac Physics download

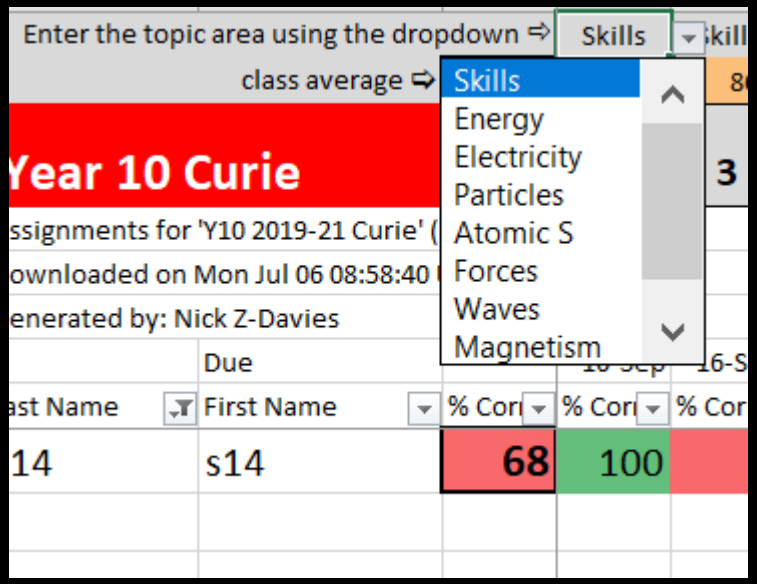
formulae analyse results by topic
Formulae feed information into my main worksheet
download order must match mark-book order

=IF(S14=R14,"ü","N")
Font = wingdings
Conditional formatting set

# How does the Isaac download worksheet work?



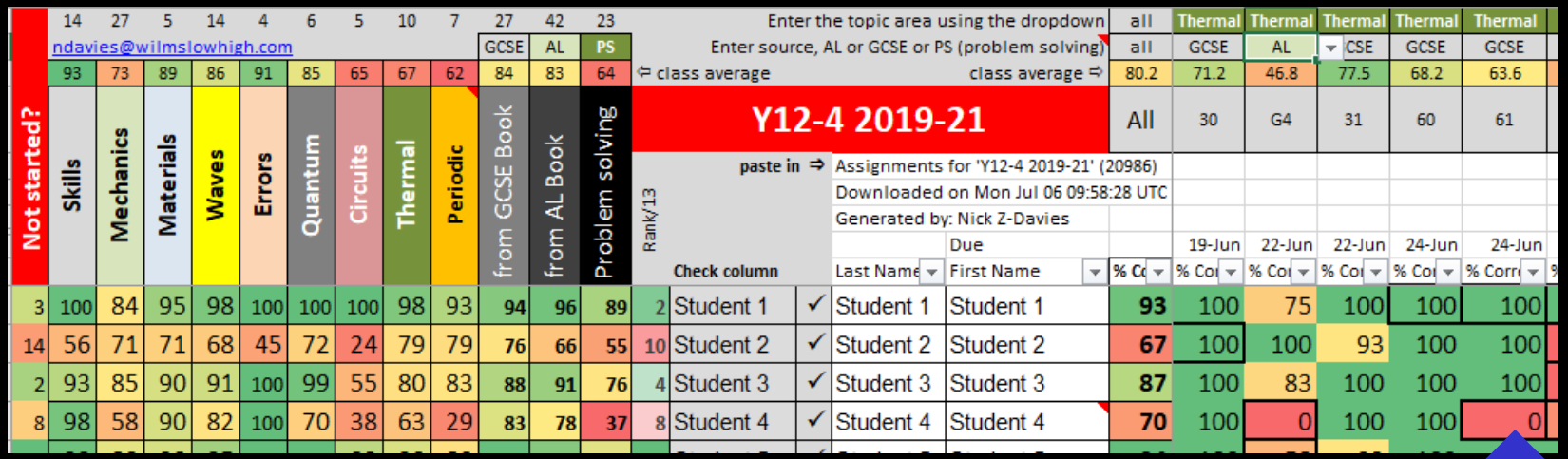




All the boards used are categorised on the code tab Or manually select categories from drop down lists and write your own ‘short name’, if it’s a new board.

Or, if feeling brave, edit the code tab to add and classify your own new board

# How does the Isaac download worksheet work?

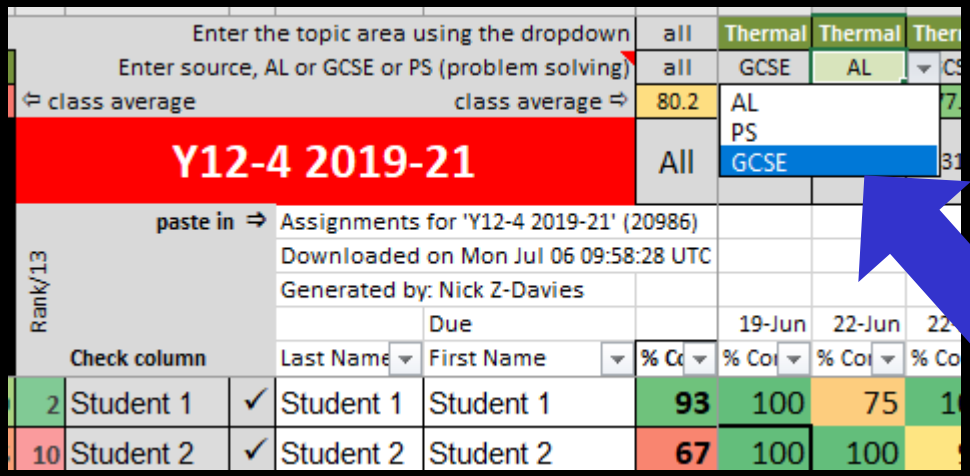


| Not started? | Skills | Mechanics | Materials | Waves | Errors | Quantum | Circuits | Thermal | Periodic | from GCSE Book | from AL Book | Problem solving | Rank/13 | Check column | | Last Name | First Name | % Co | Thermal | Thermal | Thermal | Thermal | Thermal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14 | 27 | 5 | 14 | 4 | 6 | 5 | 10 | 7 | 27 | 42 | 23 | | | | | | | | | | | |
| | ndavies@wilmslowhigh.com | | | | | | | | | GCSE | AL | PS | | | | | | | | | | | |
| | 93 | 73 | 89 | 86 | 91 | 85 | 65 | 67 | 62 | 84 | 83 | 64 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 100 | 84 | 95 | 98 | 100 | 100 | 100 | 98 | 93 | 94 | 96 | 89 | 2 | Student 1 | ✓ | Student 1 | Student 1 | 93 | 100 | 75 | 100 | 100 | 100 |
| 14 | 56 | 71 | 71 | 68 | 45 | 72 | 24 | 79 | 79 | 76 | 66 | 55 | 10 | Student 2 | ✓ | Student 2 | Student 2 | 67 | 100 | 100 | 93 | 100 | 100 |
| 2 | 93 | 85 | 90 | 91 | 100 | 99 | 55 | 80 | 83 | 88 | 91 | 76 | 4 | Student 3 | ✓ | Student 3 | Student 3 | 87 | 100 | 83 | 100 | 100 | 100 |
| 8 | 98 | 58 | 90 | 82 | 100 | 70 | 38 | 63 | 29 | 83 | 78 | 37 | 8 | Student 4 | ✓ | Student 4 | Student 4 | 70 | 100 | 0 | 100 | 100 | 0 |

Enter the topic area using the dropdown — all
Enter source, AL or GCSE or PS (problem solving) — all
⇦ class average — class average ⇨ — 80.2 — 71.2 — 46.8 — 77.5 — 68.2 — 63.6

**Y12-4 2019-21** — All — 30 — G4 — 31 — 60 — 61

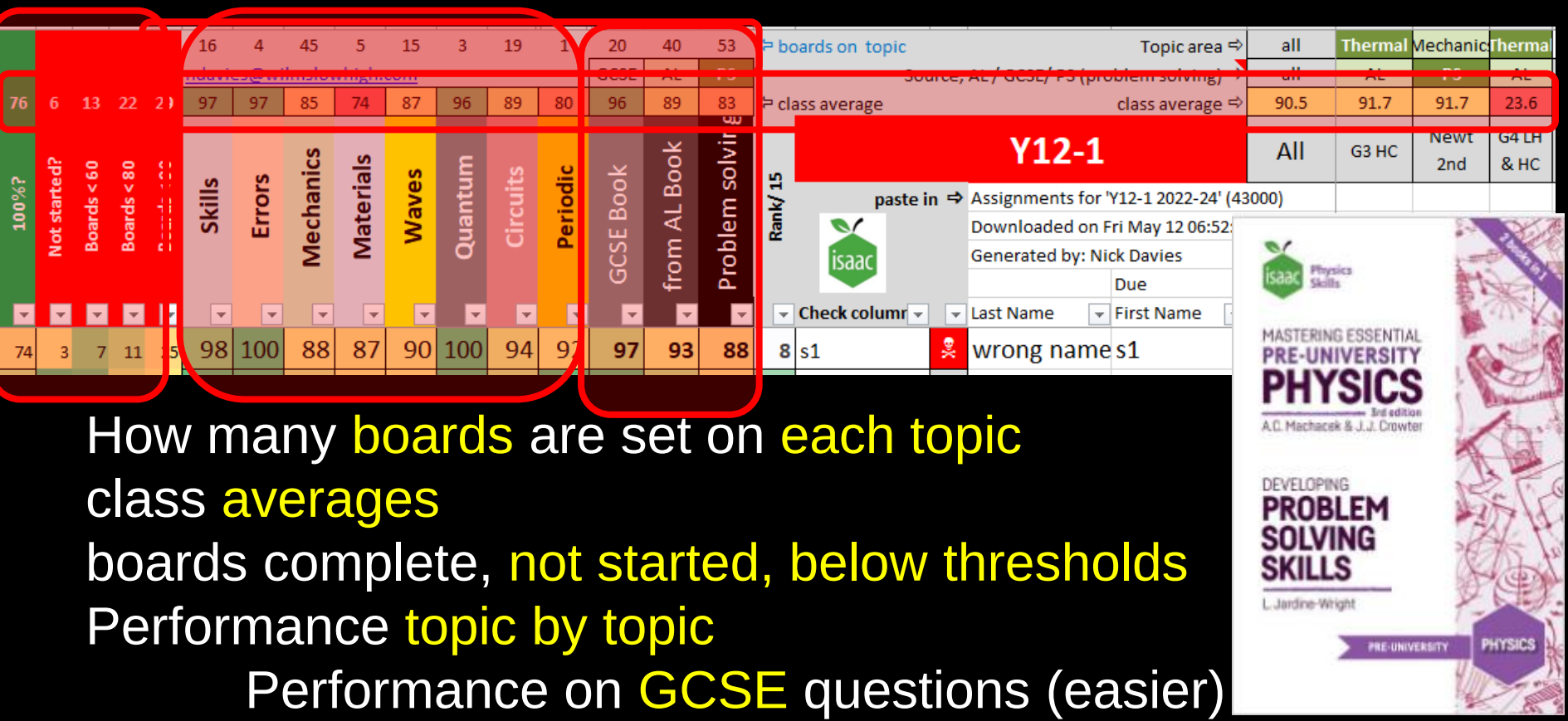
paste in ⇒ Assignments for 'Y12-4 2019-21' (20986)
Downloaded on Mon Jul 06 09:58:28 UTC
Generated by: Nick Z-Davies
Due — 19-Jun — 22-Jun — 22-Jun — 24-Jun — 24-Jun




Bold boxes are late submissions

A level boards have an second categorisation

# The ‘Isaac download worksheet’




How many boards are set on each topic

class averages

boards complete, not started, below thresholds

Performance topic by topic

- Performance on GCSE questions (easier)
- Performance on A Level skills questions (‘the’ book)
- Performance on problem solving questions (harder)

# Main mark-book worksheet

| | | |

# Main mark-book worksheet

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | 29-Apr | 06-Jun | | 12-Jun | 06-Jul | |
| | | | | | 66% | 5.8 | -9% | 73% | 6.7 | Shared with TC & CS | 1 | 89.0 | 89.6 | 1.2 | 23 | 72 | 47 |
| IP rank | HW not d | bds on 0 | bds <60 | Y10W.T | | | Inc | Dec19 mock | | 10 Curie 7F, 18M L24864 | Seneca | IP old | IP new | IP inc | SEN ECA old | SEN ECA new | diff |
| 13 | 3 | 0 | 1 | 30 | 83% | 7 | 1% | 86% | 8 | s19 | Yes | 90 | 90 | | 21 | 78 | 57 |
| 23 | 8 | 5 | 6 | 22 | 61% | 6 | -10% | 68% | 6 | s20 | No | 82 | 77 | -5 | | | 0 |
| 6 | 2 | 0 | 0 | 22 | 61% | 6 | -4% | 45% | 4 | s21 | Yes | 98 | 98 | | 46 | 114 | 68 |
| 21 | 1 | 0 | 0 | 21 | 58% | 5 | -11% | 68% | 6 | s22 | Yes | 81 | 82 | 1 | 12 | 73 | 61 |
| 18 | 4 | 2 | 2 | 15 | 42% | 4 | -33% | 86% | 8 | s23 | Yes | 88 | 89 | 1 | 34 | 107 | 73 |
| 17 | 8 | 0 | 0 | 21 | 58% | 5 | -6% | 77% | 7 | s24 | Yes | 86 | 85 | -1 | 0 | 0 | 0 |
| 16 | 1 | 2 | 2 | 24 | 67% | 6 | -7% | 57% | 5 | s25 | Yes | 91 | 92 | 1 | 34 | 65 | 31 |

| | | |
|---|---|---|
| 9 | 95% | 0 |
| 8 | 84% | 3 |
| 7 | 72% | 5 |
| 6 | 60% | 9 |

Rank within class

# Main mark-book worksheet

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | 29-Apr | 06-Jun | | 12-Jun | 06-Jul | |
| | | | | 66% | 5.8 | -9% | 73% | 6.7 | Shared with TC & CS | 1 | 89.0 | 89.6 | 1.2 | 23 | 72 | 47 |
| IP rank | HW not do | bds on 0 | bds <60 | Y10W.T | | Inc | Dec19 mock | | 10 Curie 7F, 18M *L24864* | Seneca | IP old | IP new | IP inc | SEN ECA old | SEN ECA new | diff |
| 13 | 3 | 0 | 1 | 30 | 83% | 7 | 1% | 86% | 8 | s19 | Yes | 90 | 90 | | 21 | 78 | 57 |
| 23 | 8 | 5 | 6 | 22 | 61% | 6 | -10% | 68% | 6 | s20 | No | 82 | 77 | -5 | | | 0 |
| 6 | 2 | 0 | 0 | 22 | 61% | 6 | -4% | 45% | 4 | s21 | Yes | 98 | 98 | | 46 | 114 | 68 |
| 21 | 1 | 0 | 0 | 21 | 58% | 5 | -11% | 68% | 6 | s22 | Yes | 81 | 82 | 1 | 12 | 73 | 61 |
| 18 | 4 | 2 | 2 | 15 | 42% | 4 | -33% | 86% | 8 | s23 | Yes | 88 | 89 | 1 | 34 | 107 | 73 |
| 17 | 8 | 0 | 0 | 21 | 58% | 5 | -6% | 77% | 7 | s24 | Yes | 86 | 85 | -1 | 0 | 0 | 0 |
| 16 | 1 | 2 | 2 | 24 | 67% | 6 | -7% | 57% | 5 | s25 | Yes | 91 | 92 | 1 | 34 | 65 | 31 |

| | | |
|---|---|---|
| 9 | 95% | 0 |
| 8 | 84% | 3 |
| 7 | 72% | 5 |
| 6 | 60% | 9 |

How many un-started boards does each student have?

Student #20 has 5 boards with zero progress.

and 6 boards < 60% (trilogy group)

# Main mark-book worksheet

| | | |

# Main mark-book worksheet

| Shared with TA | | 27-Jan | 27-Feb | 31 days |
|---|---|---|---|---|
| class average → | | 88.1 | 87.6 | -0.5 |
| **13-1 TH7DF3** | Target band | IP old | IP new | Inc |
| s2 | B-C | 79 | 72 | -7 |
| s3 | A | 100 | 99 | -1 |
| s4 | A | 94 | 93 | -1 |
| s5 | B-C | 80 | 92 | 12 |

⇦ Class average score

⇦ issue?

⇦ needs recognition

About once a month, I manually cut and paste the overall% scores for each student – and add the date

# Year 9 boards

| Key board | 9 | A Bold year indicator on the year group means that this is one of the 'key boards' to be set |
|---|---|---|

| Step Up to GCSE | GCSE Trilogy | Separates only | Quiz | Y7&8 board |
|---|---|---|---|---|

| Skills | | Energy | | Electricity | | Particles | | Mechanics | | Waves & Optics | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. units (Y9, Y10F) | 9 | Energy Stores | 9 | Potential and Circuits Notes | 9 | Density | 9 | Weight Notes | 9 | Waves Quiz a | 9 |
| 2 standard form F | 9 | Energy Stores Practice | 9 | Potential and Circuits A | 9 | Density practice | 9 | Weight A | 9 | | |
| 5 Var & constants | 9 | Work Done B KS3 | 9 | Potential and Circuits B | 9 | Density Expt | 9 | Weight B | 9 | | |
| 6 straight line graphs F | 9 | Work Done Practice | 9 | Potential and Circuits Practice A | 9 | Density Quiz a | 9 | Weight Practice A | 9 | | |
| 9-19 Large/small Nos | 9 | Work done Quiz A | 9 | Potential and Circuits Practice B | 9 | 9-30 Density | 9 | Weight Practice B | 9 | | |
| | | 9-24 Work Y9 | 9 | Current and Circuits Notes | 9 | 9-31 Floating | 9 | Weight Quiz A | 9 | | |
| | | 9-26 Power Y9 | 9 | Current and Circuits Gentle A | 9 | Pressure | 9 | 9-11 Weight & F-res | 9 | | |
| | | 9-27 Energy flow & eff | 9 | Current and Circuits B | 9 | Pressure practice | 9 | Calculating Speed Notes | 8 | | |
| | | Power & Energy Quiz A | 9 | Current and Circuits Practice A | 9 | 9-34 Pressure | 9 | Calculating Speed A | 8 | | |
| | | | | Current and Circuits Practice B | 9 | | | Calculating Speed B | 8 | | |
| | | | | 22 Q=It F | 9 | | | Calculating Speed Practice A | 8 | | |
| | | | | Q & I Quiz A | 9 | | | Calculating Speed Practice B | 8 | | |
| | | | | 9-18 Q=It 1 | 9 | | | 8 s, v, t F | 9 | | |
| | | | | 9-21 Resistance | 9 | | | 9-2 Units of distance | 9 | | |
| | | | | | | | | Speed Quiz A | 9 | | |
| | | | | | | | | Force and Motion B | 8 | | |
| | | | | too hard for GCSE | | | | Force and Motion Practice A | 8 | | |
| | | | | 9-18 Q= It 2 | 9 | | | Force and Motion Practice B | 8 | | |
| | | | | | | | | Force and Acceleration Notes | 8 | | |
| | | | | | | | | Force and Acceleration A | 8 | | |

I will never set all these boards! I pick and choose.

Not all GCSE boards are in this selection

# GCSE mixed ability classes

| Key board | 9 | A Bold year indicator means that this is one of the 'key boards' to be set - ***all teachers*** try to set these | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Step Up to GCSE | | GCSE Trilogy | | Separates only | | Quiz | | Y7&8 board | | Note some B Quizzes are omitted, they could be set as extension questio | | | | | | | | | | | | | |
| **Skills** | | **Energy** | | **Electricity** | | **Particles** | | **Atomic Structure** | | **Mechanics** | | **Waves & Optics** | | **Magnetism** | | | | | | | | | |
| 1. units (Y9, Y10F) | 9 | Work done Quiz A | 9 | 22 Q=It F | 9 | Density Quiz A | 9 | 51 atomic numbers F | 10 | Weight Quiz A | 9 | Waves Quiz A | 9 | F = BIL Quiz A | 11 | | | | | | | | |
| 5 Variables & constants | 9 | 9-24 Work | 9 | Q & I Quiz A | 9 | 9-30 Density | 9 | 52 rad. decay F | 10 | 9-11 Weight & F-res | 9 | 9-35 Frequency | 10 | | | | | | | | | | |
| 6 straight line graphs F | 9 | 9-26 Power | 9 | 9-18 Q=It 1 | 9 | 9-31 Floating | 9 | 53 half life F | 10 | 8 s, v, t F | 9 | 9-36 λ, v = fλ | 10 | | | | | | | | | | |
| 7 proportionality F | 10 | 9-27 Energy flow & eff | 9 | 9-17 V in circuits | 10 | 9-34 Pressure | 9 | Half life Quiz A | 10 | 9-2 Units of distance | 9 | 38 wave props F | 10 | | | | | | | | | | |
| 2 standard form F | 10 | Power & Energy Quiz A | 9 | 9-20 Current | 10 | SHC Quiz A | 10 | Half life Quiz B | 11 | Speed Quiz A | 9 | 38A add. wave F | 10 | | | | | | | | | | |
| Practical skills GCSE | 11 | Power & Energy Quiz B | 10 | 22A add. Q&I F | 10 | 9-29 Energy & Temp | 10 | | | 8A addl s, v, t F | 10 | Waves Quiz B | 10 | | | | | | | | | | |
| 9-19 Large/small Nos | 9 | GPE Quiz A | 11 | Q & I Quiz B | 10 | 30 thermal energy F | 10 | | | Weight Quiz B | 10 | 9-46.1 Waves SQ | 10 | | | | | | | | | | |
| | | GPE Quiz b | 11 | 23 circuit rules F | 10 | 30A add. Thermal F | 10 | | | 9-33 Springs | 10 | 9-46.2 Waves SQ | 11 | | | | | | | | | | |
| | | 9-25 GPE | 11 | Potential and Circuits Notes | 9 | 31 latent heat F | 10 | | | 37 springs F | 10 | 9-37 Echoes | 11 | | | | | | | | | | |
| | | 34 kinetic energy F | 11 | Potential and Circuits A | 9 | Latent heat Quiz A | 10 | | | Springs Quiz A | 10 | | | | | | | | | | | | |
| | | KE Quiz A | 11 | Potential and Circuits B | 9 | Density Quiz B | 11 | | | 10 s-t graphs F | 10 | | | | | | | | | | | | |
| | | 36 power & body F | 11 | Potential and Circuits Practice A | 9 | SHC Quiz B | 11 | | | 9-4 Velocity | 10 | | | | | | | | | | | | |
| | | 33 work PE, power F | 11 | Potential and Circuits Practice B | 9 | 59 Boyle's law F | 11 | | | 9-6 Calc velocities | 10 | | | | | | | | | | | | |
| | | EPE Quiz A | 11 | Current and Circuits Notes | 9 | | | | | 11 acceleration F | 10 | | | | | | | | | | | | |
| | | EPE Quiz B | 11 | Current and Circuits Gentle A | 9 | | | | | Acceleration quiz A | 10 | | | | | | | | | | | | |
| | | 9-40 Energy Calx 2 | 11 | 9-23 Sharing voltage | 10 | | | | | 12 v-t graphs F | 10 | | | | | | | | | | | | |
| | | | | Resistance Quiz A | 10 | | | | | 9-7 vt graphs | 10 | | | | | | | | | | | | |

I will never set all these boards! I pick and choose.

Boards with F suffix are the easier questions - an alternative to the quick boards available on the Isaac Physics website.
Boards are all hyper-linked in the spreadsheet.
I avoid setting B quizzes for mixed ability groups.

Not all GCSE boards are in this selection

# GCSE Higher students

| Step Up to GCSE | | GCSE Trilogy | | Separates only | | Quiz | | Y7&8 board | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Skills** | | **Energy** | | **Electricity** | | **Particles** | | **Atomic Structure** | | **Mechanics** | | **Waves & Optics** | | **Magnetism** | | | |
| 1 units | 9 | Work done Quiz A | 9 | 22 Q=It | 9 | Density Quiz a | 9 | 51 atomic numbers | 10 | Weight Quiz a | 9 | Waves Quiz a | 9 | F = BIL Quiz A | 11 | | |
| 2 standard form | 9 | 9-24 Work | 9 | Q & I Quiz A | 9 | Density Quiz b | 9 | 52 rad. decay | 10 | Weight Quiz b | 9 | 9-35 T & f | 9 | F = BIL Quiz B | 11 | | |
| 5 Variables & constants | 9 | 9-26 Power | 9 | Q & I Quiz B | 9 | 9-30 Density | 9 | 53 half life | 10 | 9-11 Weight & F-res | 9 | 9-36 λ, v = fλ | 9 | 28 EM ind'n & gen (H) | S | | |
| 9-5 Re-arr equations | 9 | 9-27 E flow & eff | 9 | 9-18 Q=It 1 | 9 | 9-31 Floating | 9 | Half life Quiz A | 10 | 8 s, v, t | 9 | 38 wave props | 10 | 29 transformers | S | | |
| 1A add. units | 10 | Power & Energy Quiz A | 9 | 9-20 Current | 10 | 9-34 Pressure | 9 | Half life Quiz B | 10 | 9-2 Units of distance | 9 | 38A add. wave props | 10 | | | | |
| 6 straight line graphs | 10 | Power & Energy Quiz B | 10 | 9-17 V in circuits | 10 | SHC Quiz A | 10 | 55 fission reactor | S | Speed Quiz A | 9 | Waves Quiz B | 10 | | | | |
| 7 proportionality | 10 | work done Quiz B | 10 | 22A add. Q & I | 10 | 9-29 Energy & Temp | 10 | | | 9-28 moments | 9 | 9-46.1 Waves SQ | 10 | | | | |
| 7A add. proportionality | 10 | 33 work PE,power | 11 | 23 circuit rules | 10 | 30 thermal energy | 10 | | | 8A addl s, v, t (H) | 10 | 9-46.2 Waves SQ | 11 | | | | |
| Practical skills GCSE | 11 | GPE Quiz a | 11 | Series res. Quiz A | 10 | SHC Quiz B | 10 | | | Springs Quiz A | 10 | 9-37 Echoes | 11 | | | | |
| 3 rearr. equations | 11 | 9-25 GPE | 11 | 24 resistance | 10 | 30A add. Th. energy | 10 | | | 9-33 Springs | 10 | 39 reflection plane | S | | | | |
| 9-47 challenge Qs | 11 | GPE Quiz b | 11 | Resistance Quiz A | 10 | 31 latent heat | 10 | | | 37 springs | 10 | 45 seismic waves | S | | | | |
| 9-48 Dimens. Anal | 11 | 34 kinetic energy | 11 | 9-21 Resistance | 10 | Latent heat Quiz A | 10 | | | Springs Quiz B | 10 | 48 convex lenses | S | | | | |
| 9-20 Large/small Nos | 9 | KE Quiz a | 11 | 9-23 Sharing p.d. | 10 | Latent heat Quiz B | 11 | | | 10 s-t graphs | 10 | 49 concave lenses | S | | | | |
| | | KE Quiz B | 11 | 9-16 E=QV | 10 | 59 Boyle's law | 11 | | | 9-3 s-t graphs | 10 | | | | | | |
| | | EPE Quiz A | 11 | P = IV Quiz A | 11 | | | | | Acceleration quiz A | 10 | | | | | | |

I will never set all these boards! I pick and choose.

# Track each class - GCSE

| Step Up to GCSE | | Y9-11 Trilogy | | Separates only | | Quiz | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Skills** | | **Energy** | | **Electricity** | | **Particles** | | **Atomic Structure** | | **Mechanics** | | **Waves & Optics** | | **Magnetism** | |
| 1 units | 9 | Work done Quiz A | 9 | 22 Q=It | 9 | Density Quiz a | 9 | 51 atomic numbers | 10 | Weight Quiz a | 9 | Waves Quiz a | 9 | F = BIL Quiz A | 11 |
| 2 standard form | 9 | 9-24 Work | 9 | Q & I Quiz A | 9 | Density Quiz b | 9 | 52 rad. decay | 10 | Weight Quiz b | 9 | 9-35 T & f | 9 | F = BIL Quiz B | 11 |
| 5 Variables & constants | 9 | 9-26 Power | 9 | Q & I Quiz B | 9 | 9-30 Density | 9 | 53 half life | 10 | 9-11 Weight & F-res | 9 | 9-36 λ, v = fλ | 9 | 28 EM ind'n & gen (H) | S |
| 9-5 Re-arr equations | 9 | 9-27 E flow & eff | 9 | 9-19 Large/small Nos | 9 | 9-31 Floating | 9 | Half life Quiz A | 10 | 8 s, v, t | 9 | 38 wave props | 10 | 29 transformers | S |
| 1A add. units | 10 | Power & Energy Quiz A | 9 | 9-20 Current | 10 | 9-34 Pressure | 9 | Half life Quiz B | 10 | 9-2 Units of distance | 9 | 38A add. wave props | 10 | | |
| 6 straight line graphs | 10 | Power & Energy Quiz B | 10 | 9-17 V in circuits | 10 | SHC Quiz A | 10 | 55 fission reactor | S | Speed Quiz A | 9 | Waves Quiz B | 10 | | |
| 7 proportionality | 10 | 9-29 Energy & Temp | 10 | 22A add. Q & I | 10 | 30 thermal energy | 10 | | | 9-28 moments | 9 | 9-46.1 Waves SQ | 10 | | |
| 7A add. proportionality | 10 | work done Quiz B | 10 | 23 circuit rules | 10 | SHC Quiz B | 10 | | | 8A addl s, v, t (H) | 10 | 9-46.2 Waves SQ | 11 | | |
| Practical skills GCSE | 11 | 33 work PE,power | 11 | Series res. Quiz A | 10 | 30A add. Th. energy | 10 | | | 37 springs | 10 | 9-37 Echoes | 11 | | |
| 3 rearr. equations | 11 | GPE Quiz a | 11 | 24 resistance | 10 | 31 latent heat | 10 | | | Springs Quiz A | 10 | 39 reflection plane | S | | |
| 9-47 challenge Qs | 11 | 9-25 GPE | 11 | 9-21 Resistance | 10 | Latent heat Quiz A | 10 | | | Springs Quiz B | 10 | 45 seismic waves | S | | |
| 9-48 Dimens. Anal | 11 | GPE Quiz b | 11 | 9-23 Sharing p.d. | 10 | Latent heat Quiz B | 11 | | | 10 s-t graphs | 10 | 48 convex lenses | S | | |
| | | 34 kinetic energy | 11 | 9-18 Q=It 1 | 10 | 59 Boyle's law | 11 | | | 9-3 s-t graphs | 10 | 49 concave lenses | S | | |
| | | KE Quiz a | 11 | Resistance Quiz A | 10 | 17 pressure | S | | | 9-4 Velocity | 10 | | | | |
| | | KE Quiz B | 11 | 25 IV graphs | 11 | 17A Add Pressure | S | | | 9-6 Calc velocities | 10 | | | | |

Allows me to keep a track of what I have set for classes

# Track each class – A Level

| out of spec | AL book | GCSE board | Quiz | PS boards | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Skills | Mechanics | Materials | Circuits | Waves | Particles/ quantum | Periodic M | Gases & thermal | Fields | Capacitors | Nuclear Physics | Astrop |
| A1 re-arranging equations | 9 displacement | Density | 22 Charge & Current | 38 wave props | D6 photoelectric effect | 18 moving in circle | G1 Kelvin scale of temperature | F5 newtonian gravity | I1 Charge and energy stored | 51 atomic numbers | Telescop |
| A2 derived and base SI units | 13 Fres & acc | 37 Springs | 23 circuit rules | 39 reflection plane mirrors | The Photoelectric effect | Radians and Geometry | 30A additional thermal energy | F6 Gravity & Orbits | I2 Capacitor networks | 52 radioactive decay | D1 Amp Inten As |
| A3 standard form and prefixes | 14 terminal V | B7 Springs | 24 resistance | 40 reflection concave | D7 quantum calculations | F3 units of rotary motion | 31 latent heat | Gravitational Fields L4 | I3 Discharge of a capacitor | 53 half life | Star cla |
| A4 converting units | 15 stopping | B6 stress, strain & Young's mod | 25 IV char | 42 refraction | Quantum Calculations | Circular mtn & ang vel ND | G3 Heat Capacity | Gravity and orbits | Charging capacitors | Half life Quiz B | Spectra qu |
| A5 Gradients & graph intercepts | 17 pressure | B9 Energy. Springs, mats | IV characteristics | Wave motion | D9 Energy levels | F4 centripetal acceleration | G4 Latent heat and heat cap | H1 uniform electric fields | Discharging a capacitor | J1 Nuclear equations | L7 S |
| A6 Equations of graph | B1 components of a vector | Materials 345 | 26 power | Electromagnetic spectrum | L2 Fundamental particles & inter. | Centripetal force | 59 Boyle's law | H2 E field near point charges | Capacitor ac | J2 Activity and decay | K1 red Hubbl |
| A7 area under a graph | B2 adding vectors | | 27 R & P | D3 path difference | L6 MRI & PET scanning | F7 oscillators | 60 pressure law | H3 speed of electron in E field | Capacitors in series & parallel | J3 Nuclear decay with time | Dopple (ha |
| A8 area under a graph II | Resolving vectors | | Electrical power | wave equation | | SHM time period | 61 Charles' law | Electrons in E field | | K2 Exponential extrapolation | L8 Histo univ |
| A9 Factor & % Changes | Adding Vectors ND v2 | | GCSE Hard Electricity | D4 interference | | SHM2 | 62 general gas law | Properties E fields | | J4 Energy in nuc. reactions | Stars a |

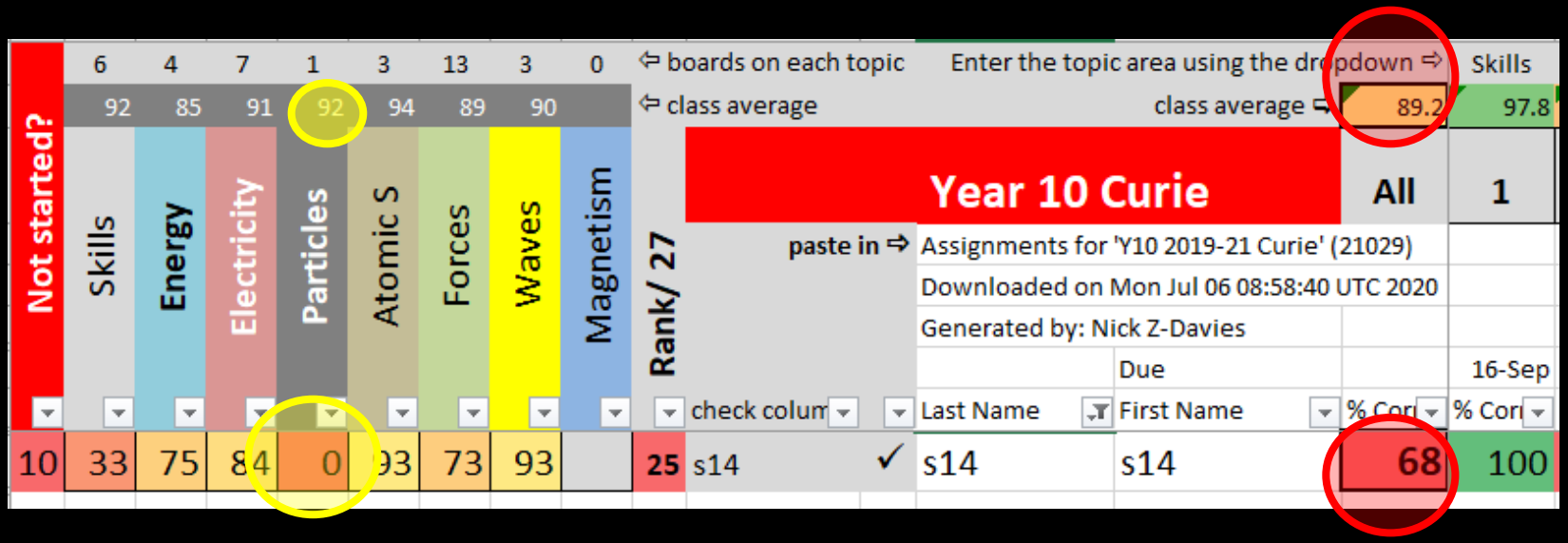
# Parental contact (1)

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 29-Apr | 06-Jun | | 12-Jun | 06-Jul | |
| | | | | | 66% | 5.8 | -9% | 105% | 6.5 | Shared with TC & CS | | 87.7 | 89.6 | 3.7 | 23 | 72 | 47 |
| IP rank | HW not done | bds on 0 | bds <60 | Y10W.T | | | Inc | Dec19 mock | | 10 Curie 7F, 18M *L24864* | | IP old | IP new | IP inc | SEN ECA old | SEN ECA new | diff |
| 25 | 6 | 4 | 4 | 22 | 61% | 6 | -24% | 61% | 6 | s14 | | 61 | 65 | 4 | 88 | 113 | 25 |
| | | | | 9 | 95% | 0 | | 9 | 2 | | | | | | | | |
| | | | | 8 | 84% | 3 | | 8 | 5 | | | | | | | | |
| | | | | 7 | 72% | 5 | | 7 | 7 | | | | | | | | |
| | | | | 6 | 60% | 9 | | 6 | 6 | | | | | | | | |
| | | | | 5 | 50% | 4 | | 5 | 4 | | | | | | | | |
| | | | | 4 | 40% | 2 | | 4 | 1 | | | | | | | | |
| | | | | 3 | 30% | 1 | | 3 | 0 | | | | | | | | |
| | | | | 2 | 20% | 0 | | 2 | 0 | | | | | | | | |
| | | | | 1 | 10% | 0 | | 1 | 0 | | | | | | | | |

Main mark-book worksheet

# Parental contact (2)

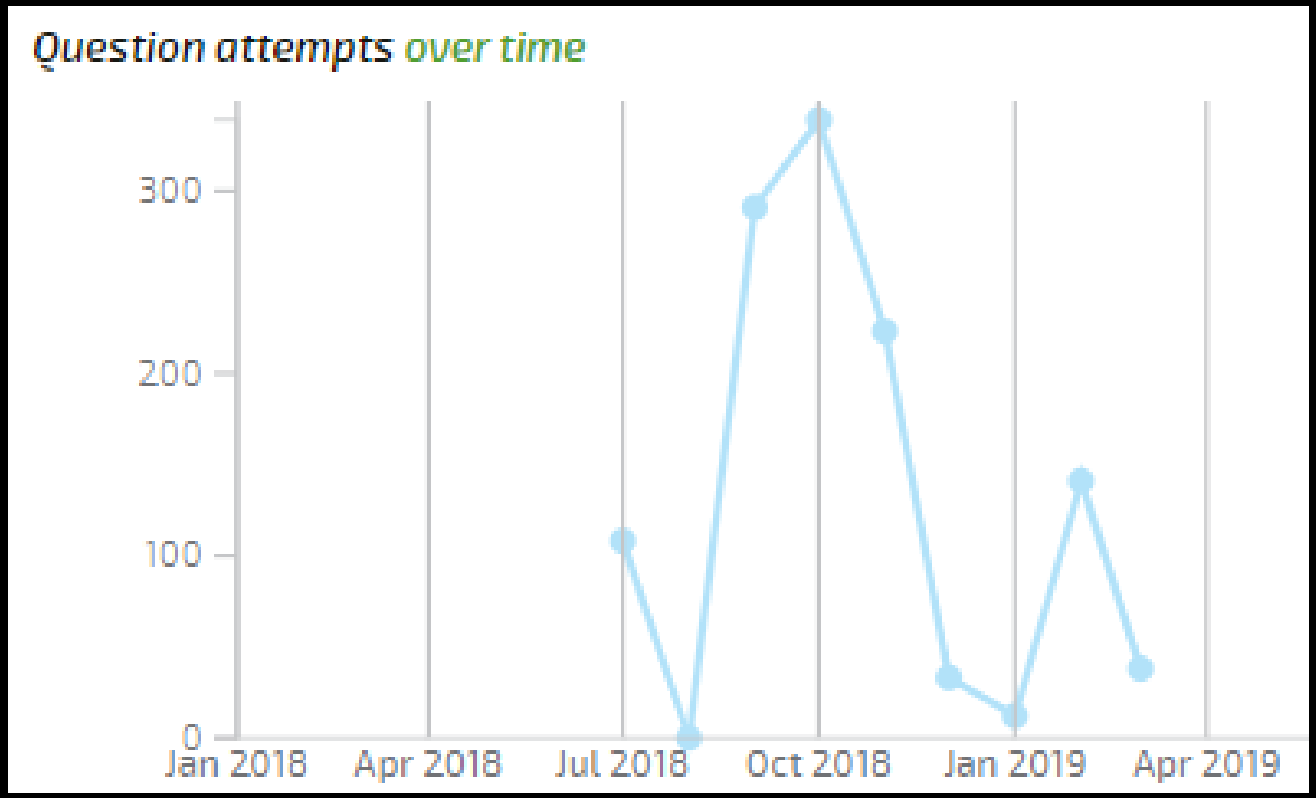
## if more detailed information needed




1. Compare student's overall% (All) with class average
2. Compare student's Particle% with class average

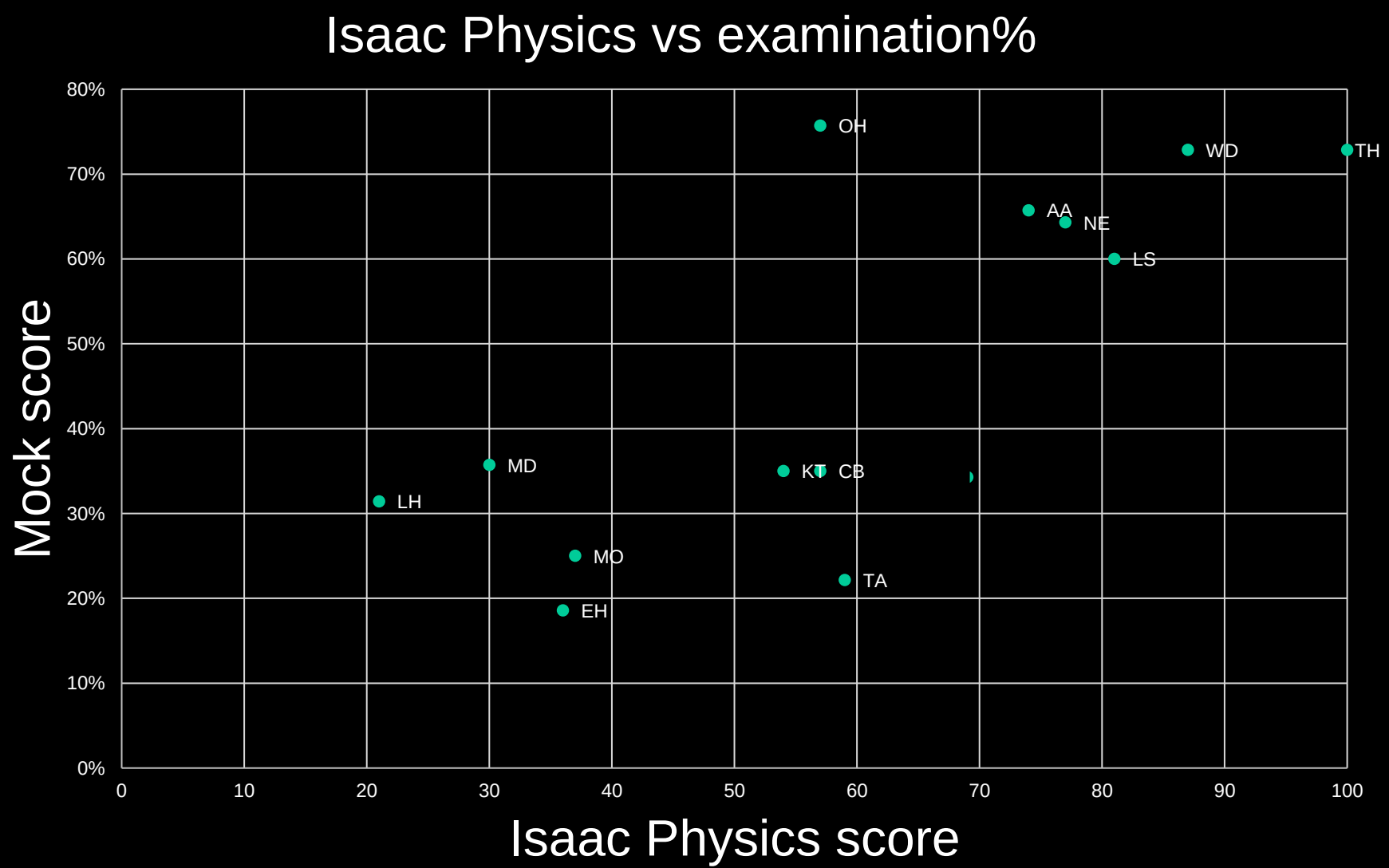
Isaac Download worksheet

# Trend analysis



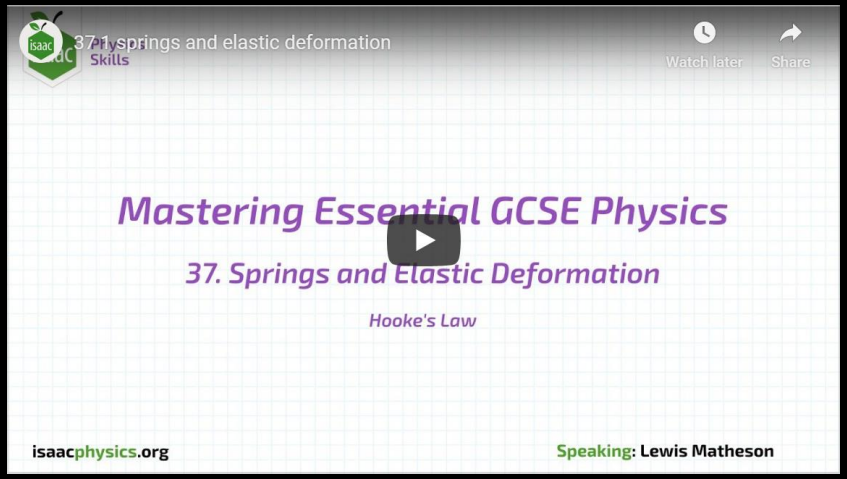

Go to *Manage Groups* on Isaac, select relevant *class* and then click on the student's name and scroll down.

# Graphs for leadership

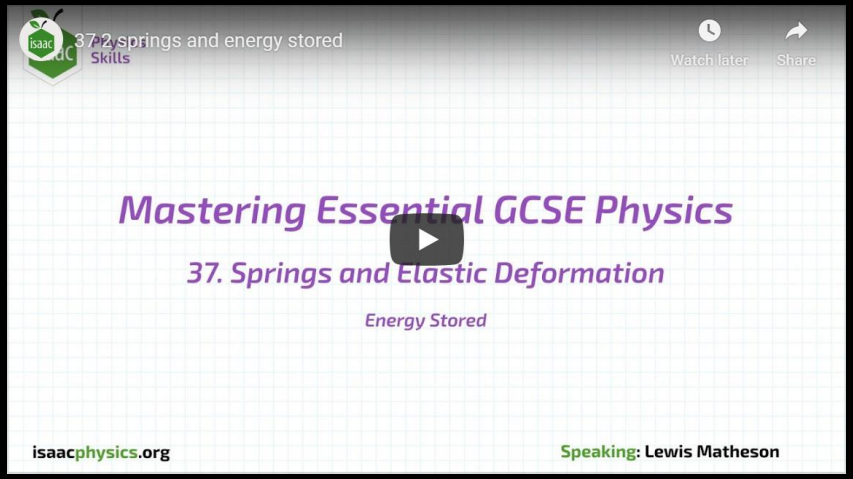


# Relevant Isaac Physics questions

- 37 springs

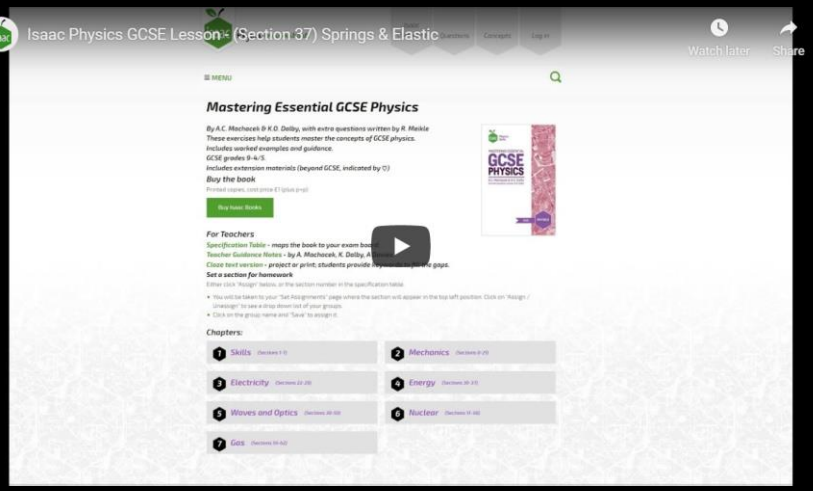



(3:07)




(2:15)

Isaac Physics is fully integrated into how we teach Physics here.




(Tutorial 27:13)

# My view of

- ✓ Helps my understanding of students' strengths & weaknesses
- ✓ Saves huge amount of time,
- ✓ I re-invest this time into formative assessment etc.
- ✓ Harder for students to copy work (in registration)
- ✓ Improves my subject knowledge
- ✓ Isaac Physics at WHS:
  - ✓ Physics - fully integrated
  - ✓ Chemistry – A level Physical chemistry only
    - ✓ Organic is not 'AQA' enough (tbc)
  - ✓ Maths – only really used by Physics dept.
- ✓ Useful for spaced learning.

# (minor) Issues with

- ☹ Start with numeric boards
  - ☹ Must demonstrate equation editor to class first.
  - ☹ Equation editor on ‘phones is challenging
- ☹ Don’t set boards you can’t do!
- ☹ Many students, initially, did not like it.
  - ☹ Parents wrote, asking to go back to paper.
    - ☹ IP is hard to copy in morning registration.
  - ☹ Don’t like lack of feedback about what is wrong.
  - ☹ Some struggle to understand that they need to learn to struggle!

# Exam analysis tool

Nothing to do with Isaac Physics*

| Enter maximum marks for question part ⇨ | | 85 | | | 37 | 25 | 23 | 31 | 3 | 11 | 11 | 20 | 9 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SET N° | Jan 2020 Y13 A level mock | Total | | Grade | Calc | Desc | Recall | Mech | Mat | elec | Part | Waves | Per | Multiple Choice | | Silly errors | SE% | % with no SE | grade no SE |
| 2 | Student X | 61 | 71.8% | B | 81% | 56% | 74% | 90% | 67% | 36% | 91% | 60% | 56% | 16 | 64% | 10 | 12% | 84% | A |
| | Cohort average | 49.7 | 58.5% | C | 66% | 44% | 63% | 63% | 68% | 39% | 71% | 55% | 56% | 16 | 65% | 8.8 | 10% | 71% | B |
| | | | | | B | D | B | B | B | D | B | C | C | | B | Add up silly errors | % SE | Add SE% to %score | |

**Recall** = things to LEARN
**Desc** = describe / explain
**Calc** = calculation questions

Mech = mechanics
Mat = materials
Elec = electricity
Part = Particles, quantum
Atom = atomic structure
Per = circular motion, SHM
Wave = Waves
Mag = magnetism
Space = Space physics
HSW = practicals

Grade distribution

| | |
|---|---|
| A* | 4 |
| A | 4 |
| B | 13 |
| C | 4 |
| D | 6 |
| E | 5 |
| U | 2 |

Grade Boundaries

| | |
|---|---|
| A* | 84% |
| A | 72.4% |
| B | 60% |
| C | 49% |
| D | 37% |
| E | 26% |
| U | 0% |

Grade distribution

| | |
|---|---|
| A* | 4 |
| A | 15 |
| B | 2 |
| C | 10 |
| D | 1 |
| E | 0 |
| U | 0 |

* Other than the fact that Isaac buys me the time to do this.

File template available email me: ndavies@wilmslowhigh.com