How we use Isaac Physics

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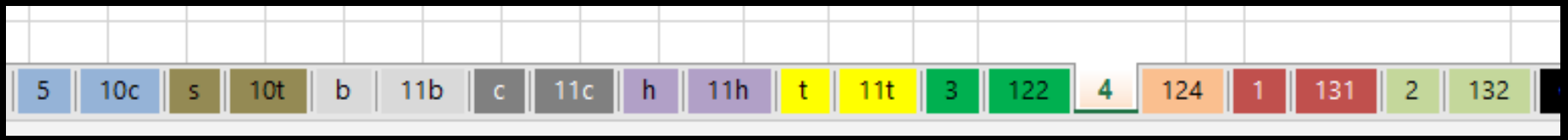
Who uses it?

- 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)

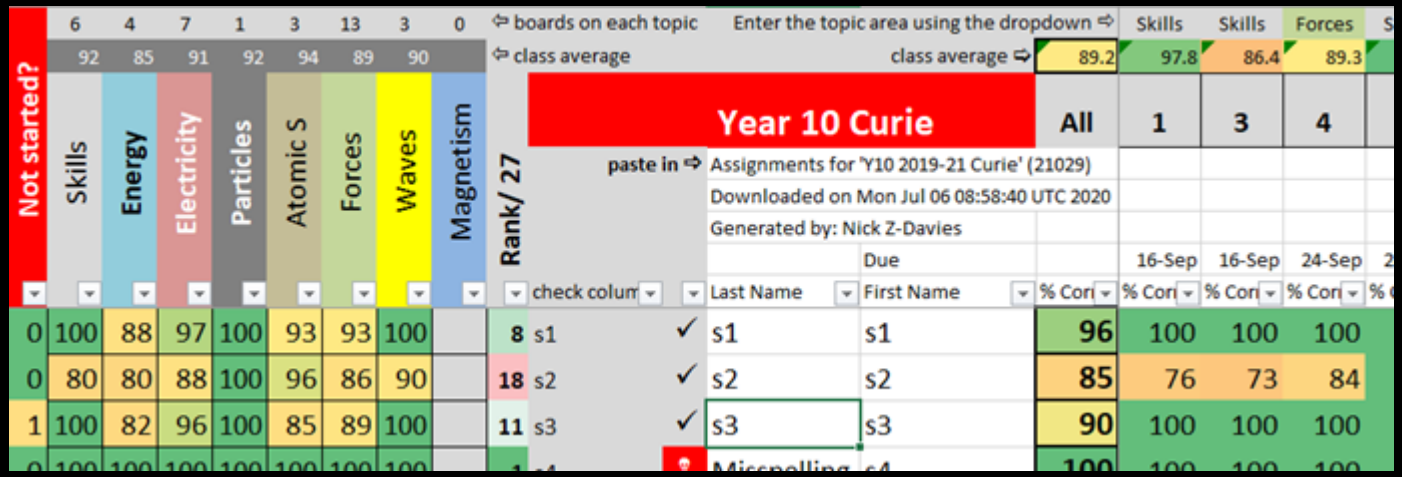
Board related information (formula driven from code tab)

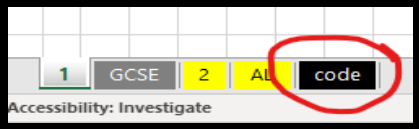
Unedited
Isaac Physics download

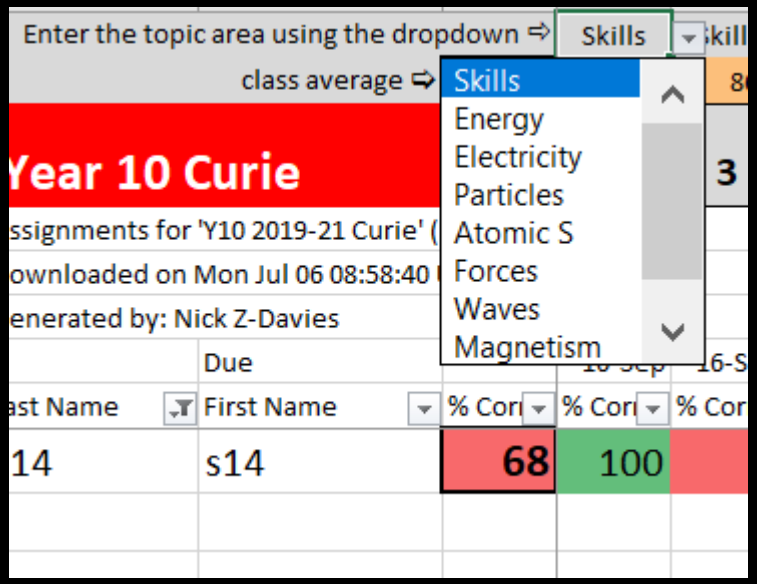
formulae analyse results by topic
Formulae feed information into my main worksheet
download order must match mark-book order

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

How does the Isaac download worksheet work?



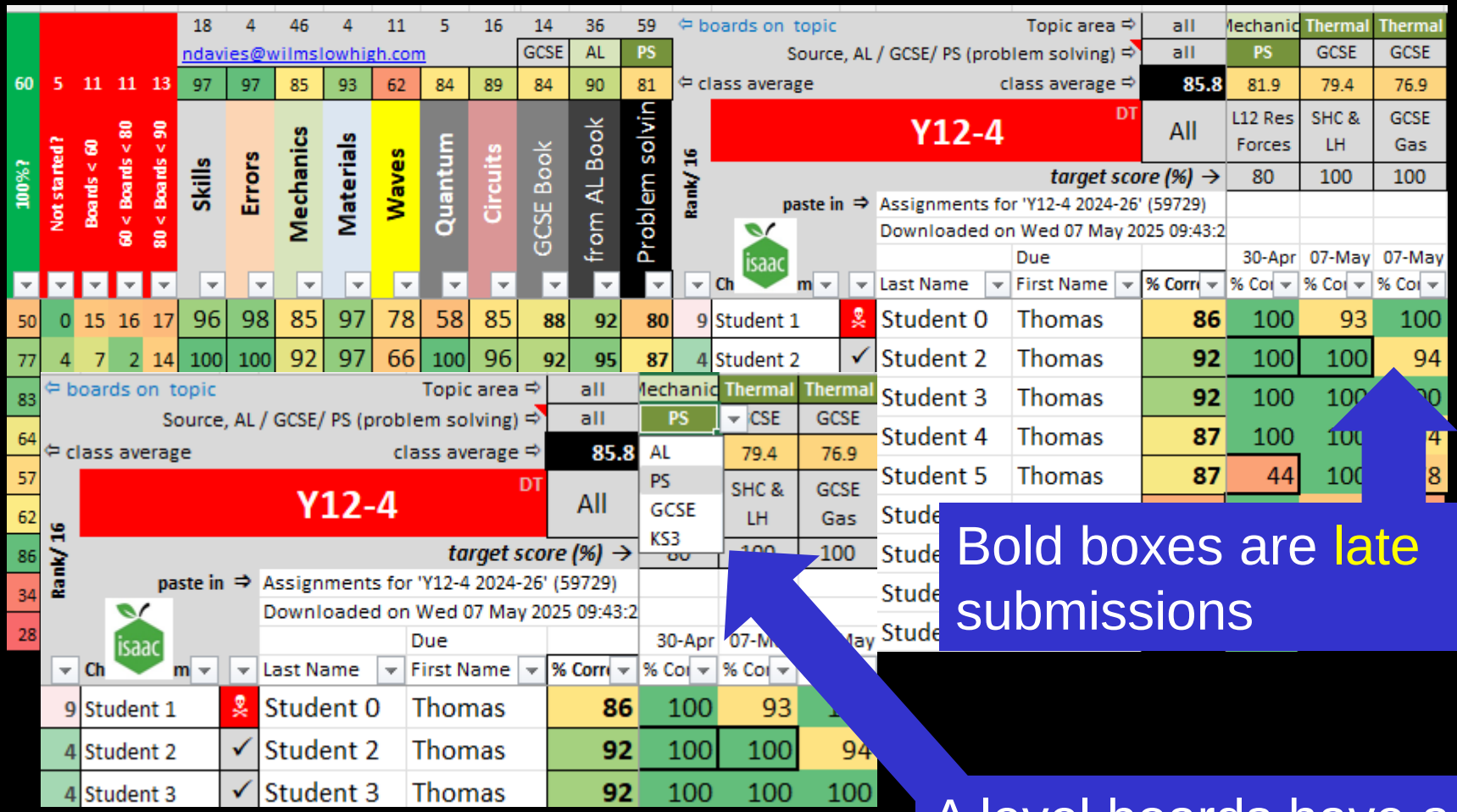




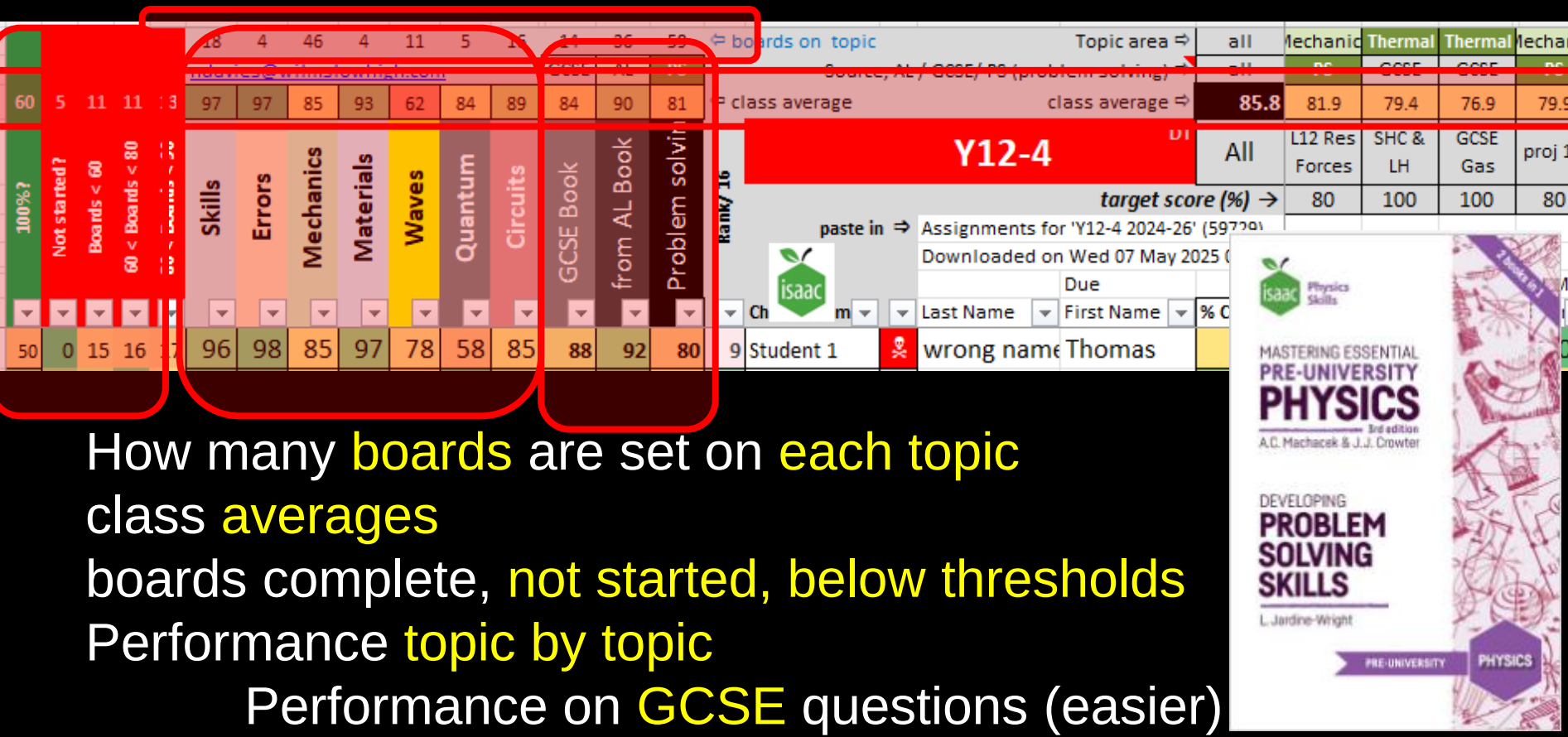
All the boards used are categorised on the code tab Or manually select categories from drop down lists and write your own ‘short name’, if it’s a new board.

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

How does the Isaac download worksheet work?



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

													Shared with TA		27-Jan	27-Feb	31 days	13-Sep	20-Sep
Not started?	Boards < 60	Boards < 80	Boards < 90	IP Rank	48%	D	65%	C	61%	C	57%	B	class average →		88.1	87.9	-0.1	87	98
					Dec 21 Mock		Jun 22 Mock		Jan 23 Mock		Apr 23 Mock		13-1 TH7DF3	Target band	IP old	IP new	Inc	IP23,24/25	
12	38	54	64	15	21%	U	39%	E	36%	E	71%	A	s2	B-C	79	78	-1	84	93
0	0	0	0	1	43%	D	59%	C	53%	D	31%	E	s3	A	100	99	-1	100	100
1	10	26	33	6	40%	E	53%	C	65%	C	42%	D	s4	A	94	93	-1	32	100

I add class code to class name.

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

IP rank	HW not dc	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
												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
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

I also like to know who is doing the minimum*.

* Threshold differs by class.

Student #20 has 6 boards with insufficient progress (threshold < 60%).

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

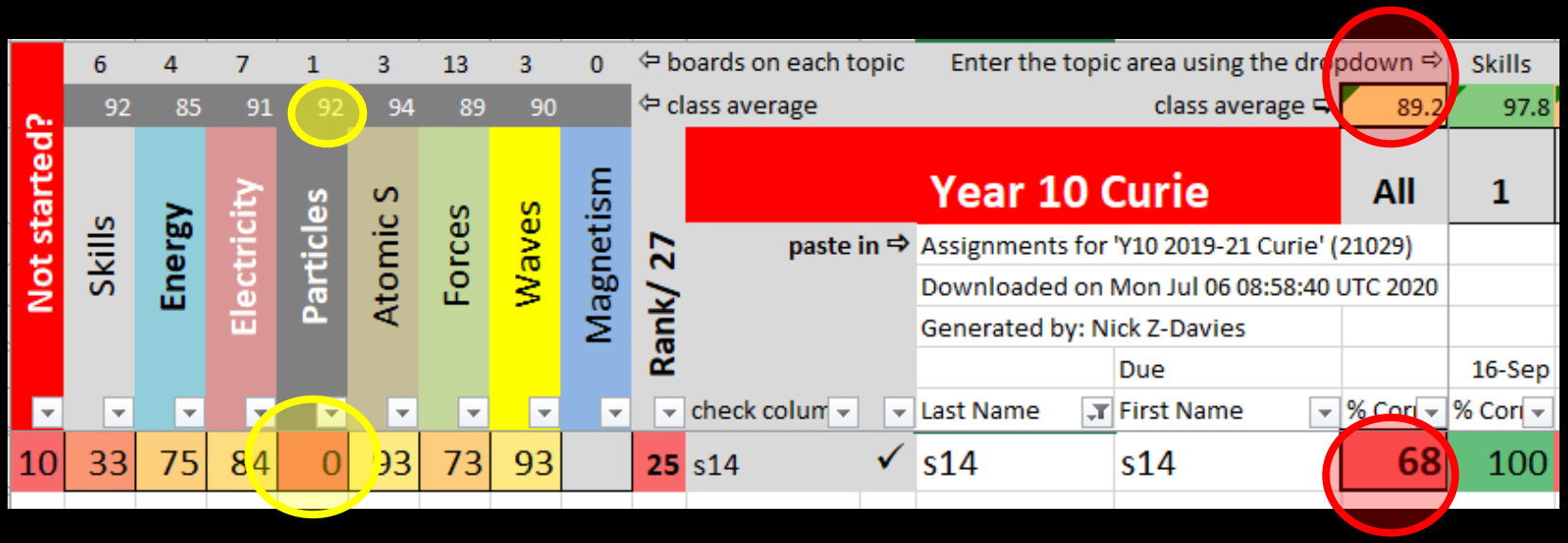
Parental contact (1)

												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)

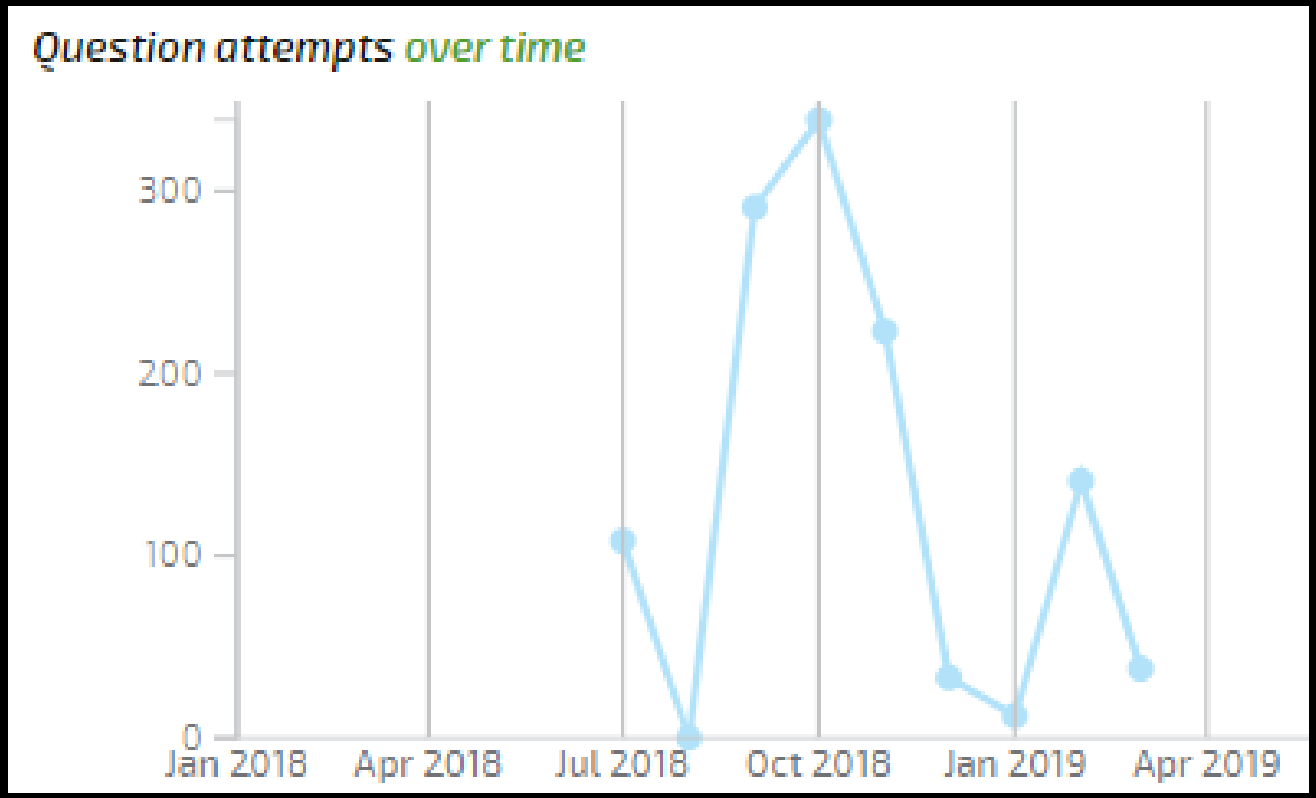
if more detailed information needed



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

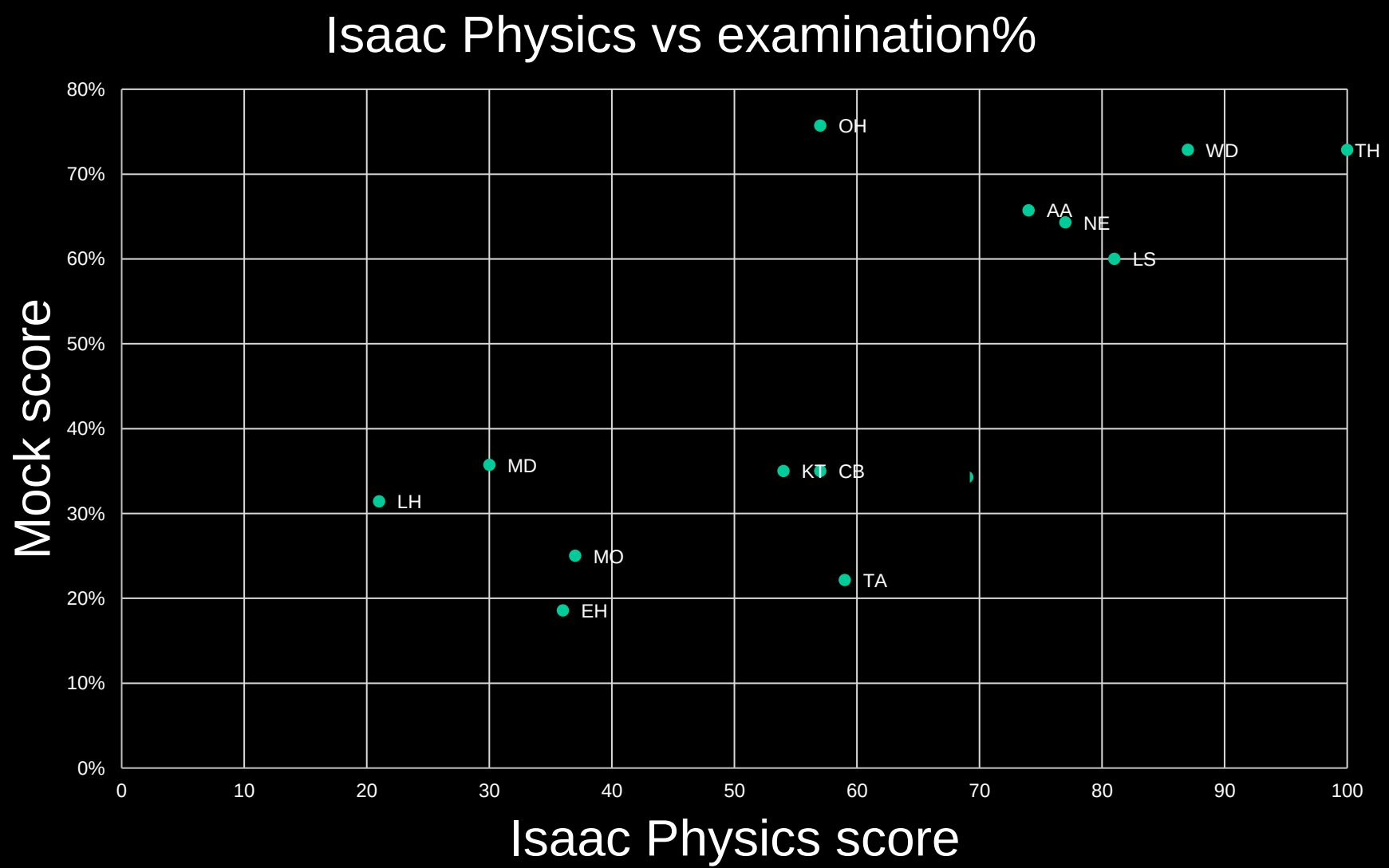
Isaac Download worksheet

Trend analysis



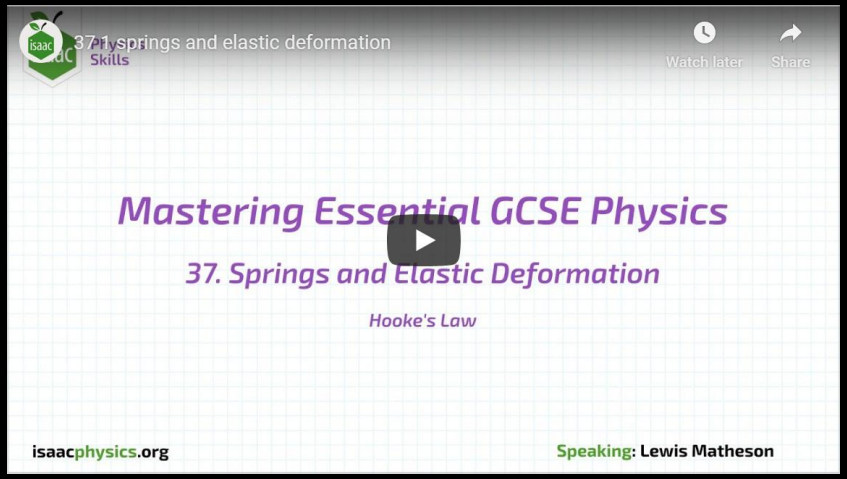
Go to *Manage Groups* on Isaac, select relevant *class* and then click on the student's name and scroll down.

Graphs for leadership

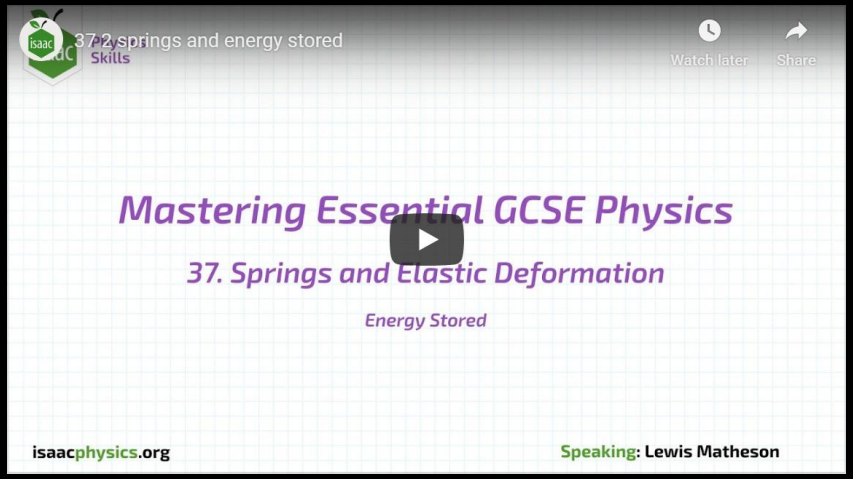


Relevant Isaac Physics questions

- 37 springs

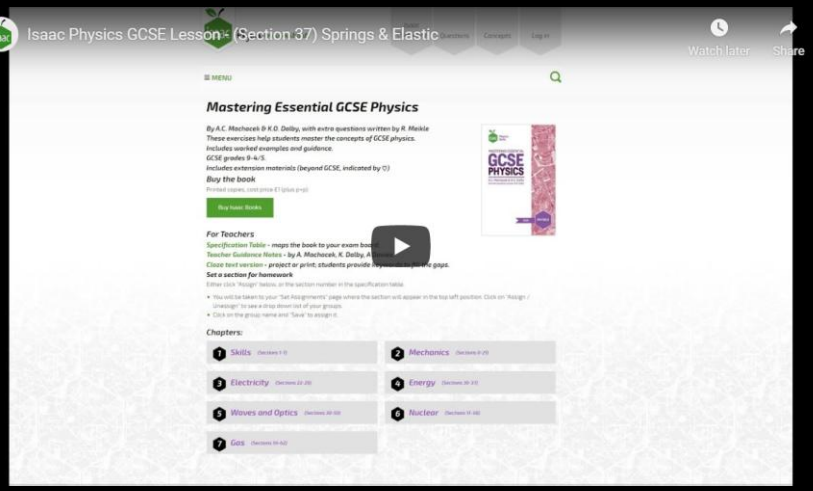


(3:07)



(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, ***(without it, I retire tomorrow)***
- ✓ 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
  - ✓ 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