

# 5 hours in... Physics

Research shows that the most successful students (i.e. those that make the most progress and get the highest grades) are doing between 20 and 25 hours of independent study per week by the end of Year 13. That may seem a lot, but it's something that you would build up to over the course of your A-Levels. In Year 12, we're talking something more like 15 hours per week. This equates to roughly 5 hours of independent study per A-Level per subject.

Remember that your independent study is divided into three types – Consolidation, Reactive and Proactive.

## Consolidation

The evening following a Physics lesson, you should spend 12-15 minutes (24-30 minutes for a double) rereading your notes, writing the summary section at the bottom of your Cornell notes and making relevant flashcards e.g. for equations, definitions, facts you need to recall etc.

## Reactive

This is your 'homework'. Each of your Physics teachers should give you at least 1 hours' worth of homework each week. If they don't – ask them for some! If you find this takes more than 1 hour, that's fine, you can take this from the proactive phase (not from the consolidation phase though). Equally, if you find you finish your reactive work quickly, spend more time on your proactive work.

## Proactive

This is the section that will broaden and deepen your overall understanding of the subject you are studying. It will not necessarily involve work that has been set by your teacher, but instead it is about you doing the extra practice questions, reading articles, watching videos, TED talks etc. In Physics, this might contain some of the following:

- Complete a set of practice past paper questions – available on 365 or on the AQA website (**1 hour**)
- Use websites to complete and add to class notes (**30 minutes**)
- Use the specification checklist to evaluate your understanding (**10 mins**)
- Practice exam questions from your Physics textbook (**30 mins**)
- "Read, Cover, Write and Check" sections of Knowledge organisers (**30 mins**)
- Complete a section of questions on Isaac Physics (**30 minutes**)
- Read Physics review articles from LRC (**20 mins**)
- Watch a TED talk on a Physics topic (**20 mins**)
- Try a Physics Olympiad question, and analyse mark scheme (**20 mins**)

## Useful links

- **365**  
<https://becbd.sharepoint.com/BecLearners/Science/KS5/Physics/Shared%20Documents/Forms/AllItems.aspx?viewid=704190c3%2D1326%2D4feb%2D9a15%2D5349e9306a05&id=%2FBecLearners%2FScience%2FKS5%2FPhysics%2FShared%20Documents%2FPast%20paper%20questions>
- **AQA Past papers** <https://www.aqa.org.uk/find-past-papers-and-mark-schemes>
- **AQA specification** <https://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408>
- **Physics and maths tutor** <https://www.physicsandmathstutor.com/>
- **Physics Review** <https://tinyurl.com/beckfoot-alevel-magazines>
- **Isaac Physics** <https://isaacphysics.org/login>
- **TED Talks** <https://www.ted.com/topics/physics>
- **Physics Olympiad** <https://www.bpho.org.uk/past-papers/round-1>



# 5 hours in... Physics – your weekly review

Week beginning: \_\_\_\_\_

What have I been learning with Dr Hicklin? \_\_\_\_\_

What have I been learning with Mr Brown? \_\_\_\_\_

Consolidation (tick when complete)		Reactive 1	Reactive 2	Proactive 1	Proactive 2	Proactive 3
Lesson 1						
Lesson 2						
Lesson 3						
Lesson 4						
Lesson 5						
Time spent						

Total time spent on Independent Learning in Physics this week: \_\_\_\_\_

Areas that require further review

Things I need to ask my teachers

Checked by: \_\_\_\_\_ (teacher)



# 5 hours in... Physics – your weekly review (an example)

Week beginning: 16/03/2020

What have I been learning with Dr Hicklin?

Electricity - emf

What have I been learning with Mr Brown?

Mechanics – conservation of momentum

Consolidation (tick when complete)		Reactive 1	Reactive 2	Proactive 1	Proactive 2	Proactive 3
Lesson 1	✓	Complete electricity exam style questions sheets - JJH	Complete conservation of momentum calculation worksheet - TMF	Complete the materials multiple choice questions from 365	Read article on 'Will electric cars break the national grid?' Physics Review magazine, Volume 28, 2018-2019, Number 3, February 2019	Completed Isaac Physics problem solving questions on the topic of resistors
Lesson 2	✓					
Lesson 3	✓					
Lesson 4	✓					
Lesson 5	✓					
Time spent	1 hour	40 minutes	40 minutes	1 hour 20 minutes	30 minutes	50 minutes

Total time spent on Independent Learning in Physics this week: 5 hours

### Areas that require further review

- How to calculate emf
- How to experimentally determine emf

### Things I need to ask my teachers

- Do AQA have a method to determine the emf of a cell?
- How do you get to the correct answer for multiple choice questions 5, 8 and 15?

Checked by: \_\_\_\_\_ (teacher)