Task 2: Research presentation

Due date: Tuesday Week 1 term 4

Weighting: 10% of Semester grade

You will pick a research project related to any unit of work we have completed in Physics unit 1 & 2 so far. You will then present a 5 minute PowerPoint presentation to the class, followed by 3 minutes of questions. This is an *individual* presentation. We will use class time and home study to research our chosen topics, and create a PowerPoint presentation.

Students will present their talks in week 1, term 4. The order of talks will be randomised. Every student must upload their presentation to the submission box on *Connect* by Tuesday week 1. Late submissions will be subject to the school’s assessment policy.

**Topics**

Below are some suggested topics to present. If you would like to choose something different, this is fine, but please run it by me first.

Heat and heat efficiency:

* What does a thermally efficient house look like?
* How does a refrigerator work?
* Outline of Solar Thermal Electricity Generation in Australia.

Nuclear Physics and safety:

* How does the Australian OPAL reactor work?
* What went wrong at Chernobyl?
* What are the pros and cons of a Thorium (LFTR) reactor?

Efficient Power and safety:

* How does an RCD work?
* Home electrical outlets – how are they wired in the house and how can they be overloaded?
* How does a small remote solar electricity supply work on a farm?

Car safety:

* How do seat belts work? How effective are they and how do they save lives?
* Why are modern car crumple and survival zones highly effective?
* How do airbags work and how effective are they?

**Structure**

Your presentation should cover the following points:

* **Introduction:** What will you talk about? Why did you choose to talk about it?
* **Content:** The main part of the talk. Tell us what you have learnt in your research. How is this related to work we did this year?
* **Conclusion:** Why is this important to science and humanity? What does not make sense to you based on your current understanding? (Critical thinking)

**Links :**

3MT [mosquitos](https://www.youtube.com/watch?v=dh0pJdgY6Lc)

3MT UWA [CSI](https://www.youtube.com/watch?v=pvjPzsLIyGw)

TED talk [Shannon Agar](https://www.youtube.com/watch?v=Pgm65hYglpg)

#MT UWA [falling in love](https://www.youtube.com/watch?v=jBoh_veDsh8)