Date of entry:	25-10-22
What have you done on your project this week?	**AIM – design a virtual simulation of a PCR experiment** This week I worked on the primer design aspect of the simulation To test if students understand it, one part of the simulation will allow them to pick from several different primer sequences (they must choose the correct primers)
What have you found difficult? (How do you intend to ameliorate this? How can you grow? Can you create a bullet point for your CV from this?)	Finding the best DNA sequence to use for this simulation, and the correct/incorrect PCR primers, was difficult. In the end I thought I would choose the gene encoding the beta-lactamase, because students will find antibiotic resistance an important topic and so they will be able to see why it is important Designing the incorrect PCR primers was hard too – required understanding what some of the common mistakes students might make are, and why. Bullet point for CV: able to design educational tools that emphasise relevant real-life scenarios for students
What has been a success?	I found a way to make the simulated PCR turn red and beep with an error noise when the user selects the wrong primers. Found a paper by Wright and Newman that describes using PCR in an undergraduate lab (https://journals.asm.org/doi/10.1128/jmbe.v14i1.539) – think this will be useful as I finish making the virtual PCR simulation
What files/data have you produced? **(are they stored securely and labelled clearly?)**	▪ Sequence to amplify by PCR: ndm-blactamase (saved in "Documents/MyThesis/PCRsequences") ▪ PCR primers (correct and incorrect) described in a Word file called ndm-bla_primers (saved in "Documents/MyThesis/PCRsequences") ▪ Made images of DNA sequence with correct and incorrect PCR primers: jpegs saved in "Documents/MyThesis/PCRimages/" ▪ Updated simulation file (PCR.html) – saved in "Documents/MyThesis/PCRsimulation"
What is the objective for next week?	▪ Create graphics and text explanations of the PCR steps ▪ Find structures for DNA polymerase ▪ Edit thesis intro – incorporate suggestions from my supervisor and discuss the Wright

	and Newman paper (plus any other relevant papers I find)