**Thalidomide**

Approximate timing: 50 minutes

Required resources: PowerPoint presentation (supplied), slide handout (optional), internet connection

This lesson will introduce students to the thalidomide tragedy, why it occurred, what the consequences were for its victims and the measures that have been taken to prevent similar events in future. It will also look at the drug discovery process.

The lesson supports:

* AQA GCSE Biology 4.3.1.9 Discovery and development of drugs
* OCR GCSE Gateway Science Biology A B6.3q
* OCR GCSE Twenty First Century Science Biology B B2.5 and B2.6

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| **Learning outcomes** |
| All students will: | Know why thalidomide was banned |
| Most students will: | Explain the challenges that the thalidomide impaired face |
| Some students will: | Analyse why the tragedy occurred  |
| Key word/s | Thalidomide, teratogenicity, placebo |

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| **Teaching notes** | **Student learning activities**  |
| **Starter** ( 5mins )Thalidomide was a drug for morning sickness. Mothers who took it often gave birth to babies with limb deformities in their arms and/or legs. The pharmaceutical companies involved denied culpability for a long time.The picture is of a sculpture by Mark Quinn of thalidomide artist Alison Lapper when it was on the 4th plinth of Trafalgar square | Slide 1Students copy down lesson objectivesStudents look at the sculpture and determine what is ‘wrong’ with the person in the photo. She has abnormally developed arms and legs typical of thalidomide babies.Students consider what problems that person may face |
| **Development** ( 10-15mins) Get students to share back their thoughtsGo over questions. Thalidomide is a morning sickness dug used in the 1960s. It produced teratogenic effects. They want compensation from the original German drug manufacturer.Pharmaceutical companies use cell cultures, computer modes, animal tests and human tests to assess safety. | Slide 2Students watch video and answer questions  |

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| **Main** (30-35 mins)Provide students with images in pairs or fours and ask them to either assess what the device was used for and how it helped. Can get students to feedback using a Think Pair Share technique. How would a thalidomide person need to change their kitchen to suit their needs.Slide 9 has answers to slide 8 boxes – may want to print slide 8 out for each student.Students read out slide 10 and attempt to answer question verbally.Slide 11 and 12 may be better suited as a homework. | Slides 3-6Students work in pairs or fours, each with an image of a device for the thalidomide impaired Students share their thoughts afterwards as each slide comes up.Slide 7Students Think for 1 minute about how to redesign a kitchen to meet the needs of a thalidomide impaired adult, then spend 1 minute sharing with their neighbor, then spend 1 min sharing with the class.Slide 8-9Students put boxes in slide 8 in order (may be best to print out). Slide 9 has answers.Students read text on slide 10 – get feedback and questions from them.Slide 11-12Students write a letter to the Pharmaceutical explaining why thalidomide should not be approved. |
| Plenary (5 mins)Plenary questions are linked to initial learning objectives.  | Slide 13Students answer question on slide 13 to assess learning. |
| Homework |  |