**9.6**

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| **Transition year****2010-2011** |
| ***Science and Research*** |
| **Teacher:** Lynda Jordan |
| **Time allocation:** 1 period a week |
| **Aims:*** To provide an introduction to current research in Physics

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| **Objectives:*** Learn about the discoveries and inventions made by the Irish people from the past to date.
* Learn about Ireland’s only Nobel Prize in Science.
* Learn about CERN, its research, particle accelerators, its operation and structure.
* Discuss and be introduced to particle physics, dark matter, anti matter and the enormity of the universe.
* Learn about the birth of the universe and the Big Bang theory.
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| **Content:*** The course involves discussions on Irish research and inventions. Non-nationals are encouraged to educate us on research and inventions from their countries too.
* Earnest Walton shared in Ireland’s only Nobel Prize for Science. Who was he? His studies are explored with a reference to the chemistry and physics involved.
* CERN is a facility which is completely devoted to scientific research. It is a non profit organisation. The course involves a study of this facility and how it operates and how it is funded.
* The Big Bang secrets – what happened during the first second after the universe was born? Dark matter - scientist do not know what this is even though 80% of the matter in the universe is composed of it. Antimatter – what is it? Where did it go?? What is mass?? Where did it come from??
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| **Specific Teaching and learning methodologies:*** Open discussion, videos, handouts and pictures. Students will give talks and presentations, have a formal debate.
* Learners participate in classroom setting using listening, visual, oral skill to gain knowledge and awareness
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| **Interdisciplinary Links:*** The course covers areas in physics, particle physics, chemistry, atomic theory, history, astronomy, presentation skills and debating.
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| **Resources:*** Books and numerous internet resources. The CERN website.
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| **Modes and techniques of assessments:*** Student ends up with a working circuit
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| **Evaluation:*** Written assessment, project submission and debate.
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