

Access to HE Diploma Assignment Brief Core Science (Form AP3)

Provider name:	Sunshine College
Access Diploma title:	Health Science
Unit title and code:	Core Science RA1/3/AA/06G
Assignment title and number, e.g. 1 of 1 or 1 of 2 etc:	3 of 3 The importance of energy and the nature and uses of nuclear radiation in the context of a scientific investigation.
Assessor name:	Jane Smith

Assignment briefing and mapping to unit:

Task 1

- Give** examples, with explanation, of different forms of energy found in the home. (AC 4.1)
- Explain** how the law of conservation of energy can be applied in everyday situations (AC 4.2)

Approximately 500 words

Task 2

Following the guidance which your tutor has given you:

- Construct** an hypothesis relating to the rate of cooling of hot water in disposable cups in a variety of shapes and sizes, with and without lids. (AC 6.1)
- Scientifically investigate** and measure this. (AC 4.4 and 6.2)
- Compile** a scientific report on your findings following the guidance your tutor will have given you. (AC 6.3)

Approximately 1000 words

Task 3

Prepare an academic poster, A3 size, to **evaluate** the role of the electromagnetic spectrum in modern life. In addition to the written word use images and equations to portray the importance, significance or value of different parts of the electromagnetic spectrum.

(AC 4.3) Approximately 500 words

Task 4

Prepare an induction pack for new employees at a laboratory which uses radioactive substances. You are to include the following

- an **explanation** of the nature and benefits of radioactivity in a variety of situations (AC 5.1 and 5.2)
- a **discussion** of the relevance and use of radioactive decay in scientific investigation (AC 5.3)
- a **discussion** of the safety issues involved in exposure to radiation. (AC 5.4)

Approximately 1000 words

Assignment hand out date:	
Assignment submission deadline date:	
Draft(s) permitted: Yes/No <i>If yes, include deadline date(s) for draft(s)</i>	No

Mapping to Unit This assignment covers the following learning outcomes & assessment criteria.
<p>LO 4 Understand the importance of energy AC 4.1 Give examples, with brief explanations, of different forms of energy AC 4.2 Explain how the law of conservation of energy can be applied to two simple situations AC 4.3 Evaluate the role of the electromagnetic spectrum in modern life AC 4.4 Scientifically investigate an example of energy transfer in either a physical or biological situation</p> <p>LO 5 Understand the nature and uses of nuclear radiation AC 5.1 Relate the atomic structure of atoms to the emission of alpha, beta and gamma rays AC 5.2 Explain how the different characteristics of alpha, beta and gamma rays can be usefully harnessed in a range of situations AC 5.3 Discuss the relevance of radioactive decay in scientific investigation AC 5.4 Discuss the issues involved in judging the risks of exposure to radiation</p> <p>LO 6 Use the scientific process AC 6.1 Construct a hypothesis relevant to observed phenomena AC 6.2 Plan and carry out a scientific investigation to test the hypothesis AC 6.3 Compile a scientific report following accepted procedure and in an accepted format</p>

Grading information for this assignment	
Grade descriptor:	7b and c Quality
The student, student's work or performance:	
For a pass:	Meet the assessment criteria to achieve the learning outcomes for the unit
For Merit:	<p>b puts forward arguments or ideas which are generally unambiguous, but which are in a minor way limited or incomplete</p> <p>c taken as a whole, demonstrates a very good response to the demands of the brief/assignment.</p> <p>Contextualisation:- your arguments and ideas must usually have only one interpretation or meaning and generally be convincing. There may, however, be some minor limitations or inconsistencies. You should ensure you given consideration to each address each aspect of the assessment criteria. The work should have a clear academic style but there may be some minor issues with the way ideas are expressed</p>
For distinction:	<p>b puts forward arguments or ideas which are consistently unambiguous and cogent.</p> <p>c taken as a whole, demonstrates an excellent response to the demands of the brief/assignment</p> <p>Contextualisation:-your arguments of ideas should be consistently</p>

	clear with only one interpretation or meaning and always convincing. The ideas expressed should be consistently clear. Correct terminology should be used throughout. There should be a consistent academic style throughout the work and adherence to the word count.
Additional Guidance notes	You must be careful to follow the rules for scientific report writing and the production of academic posters. If your arguments or ideas are to be unambiguous they should not have more than one interpretation or meaning and they should not be difficult to understand. To be cogent your explanation must be wholly convincing and compelling, with no doubt apparent.

Grade descriptor:	2a, c Application of knowledge
The student, student's work or performance:	
For a pass:	Meet the assessment criteria to achieve the learning outcomes for the unit
For Merit:	<p>a makes use of relevant</p> <ul style="list-style-type: none"> • ideas • facts • theories <p>and</p> <p>c very good levels of</p> <ul style="list-style-type: none"> • accuracy • insight • analysis <p>Contextualisation:- this means that you should demonstrate a very good understanding of the importance of energy, the nature and used of nuclear radiation and how to conduct a scientific investigation and produce a scientific report. Your discussion and explanations will include relevant ideas, facts and theories. You should take care to ensure that you do not use too much description which shows little of your ability to use information. You will apply the knowledge which you have acquired accurately with a very good level of insight and analysis. Some of the discussion and explanations will be limited and the application of the knowledge not totally clear.</p>
For distinction:	<p>a makes use of relevant</p> <ul style="list-style-type: none"> • Ideas • facts • theories <p>and</p> <p>c excellent levels of</p> <ul style="list-style-type: none"> • accuracy • insight • analysis <p>Contextualisation:- .this means that you should demonstrate an</p>

excellent understanding of the importance of energy, the nature and used of nuclear radiation and how to conduct a scientific investigation and produce a scientific report. Your discussion and explanations will include relevant ideas, facts and theories applied in the context of the assignment. You will apply the knowledge which you have acquired accurately with an excellent level of insight and analysis. Your discussion is totally relevant and consistently shows your ability to use information appropriately.

Declaration: I confirm that this assignment is my best attempt and all my own work and that it conforms to the course policy on plagiarism.

Print name:

Student signature:

Date:

Example Only