Faculty of Education

Assessment Task Cover Sheet

Unit Co-ord./Lecturer	Yang Yang	**OFFICE USE ONLY** Assessment received:
Tutor:(if applicable)		
Student ID	078395	
Student Name	Emma Stubbs	
Unit Code	EMT608	
Unit Name	Digital Technologies	
Assessment Task Title/Number	AT1b: Unit Plan for Term Teaching.	
Word Count	1000 (Excluding, references, appendices and table-headings)	

I declare that all material in this assessment task is my own work except where there is clear acknowledgement or reference to the work of others **and** I have complied and agreed to the University statement on Plagiarism and Academic Integrity on the University website at www.utas.edu.au/plagiarism *

Signed E.Stubbs Date 2/09/2016

*By submitting this assessment task and cover sheet electronically, in whatever form, you are deemed to have made the declaration set out above.

Assessor's feedback:

Assessor: ***Yang Yang***

This lesson sequence takes place within an advanced year eight science classroom.

This lesson sequence aims to develop students understanding of sources of energy both renewable and non-renewable with a particular focus of presenting information as a 21st century learner. Following this lesson sequence, students are not only developing scientific knowledge but also the cross-curricula priority of developing ICT skills. The curriculum content descriptor that this sequence focuses on energy appears in different forms, including movement, heat and potential energy, and energy transformations and transfers cause change within systems (ACSSU155).

Following this lesson sequence, students will develop a sound understanding of energy and electricity, while also developing a deeper understanding of digital technologies. At the conclusion of this lesson sequence, students will be assessed against the marking rubric (Appendix4) to see whether they have achieved the relevant achievement standard.

1	Introducing Electricity
Overview of Week	Week one focuses on introducing the concept of electricity. It will focus on developing an understanding of electricity and how it works, building on student's prior knowledge of types of energy and energy transformation and transfers. Students are also developing their energy vocabulary. Students will investigate electricity through You-Tube videos and online research. Teacher to guide student through their development of understanding.
Resources	Smart-board and access to computer room.
Curriculum Links	Year 8 Physical Science: Energy appears in different forms, including movement, heat and potential energy, and energy transformations and transfers cause change within systems (ACSSU155)

2	Making Circuits
Overview of Week	Students will be developing their own knowledge and understanding of electricity by constructing a number of different circuits. They will be required to explain and demonstrate the concepts they have developed during week 1. Student will have to visually represent what they are constructing using digital technologies (Appendix1)
Resources	Battery packs, connecting wires, light globes, switches Access to computer room.
Curriculum Links	(ACSSU155)

3	How does Electricity get to you Home?
Overview of Week	This week will focus on how electricity gets into the home and builds on the understanding from weeks 1 and 2. Students are to research current methods of electricity generation in Australia and how it travels into the home. By the end of this week students will have a thorough understanding of how power is generated and travels to homes. Students will work through the interactive Science by Doing resource and develop their own flow chart of how electricity travels – indicating where Energy transformations and transfers are occurring.
Resources	Science by Doing interactive resource, https://www.sciencebydoing.edu.au/ Access to computer room.
Curriculum Links	(ACSSU155)

4	Current sources of Energy – Non-Renewables
Overview of Week	Week 4 begins to lead towards the assessment piece for this unit. Building on the preceding weeks' learning students are to begin a research task on non-renewable energy sources. Students are to use a fill-in sheet to guide their research. Students need to complete the worksheet questions (Appendix2) referencing a number of different websites to ensure accurate information is presented.

Resources	Access to computer room. Work Sheet (Appendix2)
Curriculum Links	Year 7- 8 Digital Technologies: Acquire data from a range of sources and evaluate authenticity, accuracy and timeliness (ACTDIP025)

5	Introducing Google Docs
Overview of Week	Week 5 is concerned with setting up their accounts and getting used to sharing information and collaborating in an online space Students will work through the tutorial and create their own Google accounts and then form pairs to test collaboration functions through Google Docs and to experiment with Google Drive.
Resources	Creating a Google Account, https://accounts.google.com/signup Tutorial on Google Docs, https://www.youtube.com/watch?v=CeFJvXhFJd8 Collaboration on Google Docs, https://www.youtube.com/watch?v=i0P-i9gD--c Access to computer room.
Curriculum Links	Year 7- 8 Digital Technologies: Plan and manage projects that create and communicate ideas and information collaboratively online, taking safety and social contexts into account (ACTDIP032) Year 8 Physical Science: Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures (ACSHE226)

6	Cyber-safety – Concerns for Sharing Online
Overview of Week	Week 6 focuses on developing students' safe online practices. Students are to investigate issues that may arise from using an online space to share information. Students will be asked to focus on an aspect of online safety, for example privacy settings on social media or posting videos on You-tube accounts, and complete a think-pair-share activity. This research will then be collated and presented as a Power-point to other grades to increase cyber-safety awareness in other students.
Resources	Smart-board.
Curriculum Links	Year 7- 8 Digital Technologies: (ACTDIP032)

7-8	Researching Assessment Task – Drafting assessment through Google Docs
Overview of Week	Week seven begins with a refresh of concepts developed in week four, on our current forms of energy and the associated problems. In week seven students are to begin their Assessment Piece (Appendix3). In pairs, Students are to investigate a renewable source of energy, how it works, the advantages and disadvantages and to incorporate their knowledge developed of energy pathways and transformations developed earlier, which is designed to develop an understanding of renewable sources of energy. Students are to complete this assignment

	over week 7 and 8, drafting their research through Google Docs and sharing with the teachers. Using Google Docs is an excellent resource for both teachers and students, as it allows sharing of information between students outside of class-time and also allows the teacher to check on whether all students are contributing equally.
Resources	Access to computer room.
Curriculum Links	(ACTDIP032) Year 8 Physical Science: Communicate ideas, findings and evidence based solutions to problems using scientific language, and representations, using digital technologies as appropriate (ACSIS148)

9	Presenting findings through Digital Means.
Overview of Week	Students, having completed their research, are to create a digital presentation of their assessment tasks. Students are encouraged to investigate a Digital Technology to use in presenting to the class. Students may use online programs such as Scratch, Prezi, you-tube clip or design a website, or operating systems programs such as Power-point.
Resources	Access to computer room.
Curriculum Links	Year 7- 8 Digital Technologies: Design the user experience of a digital system, generating, evaluating and communicating alternative designs (ACTDIP028)

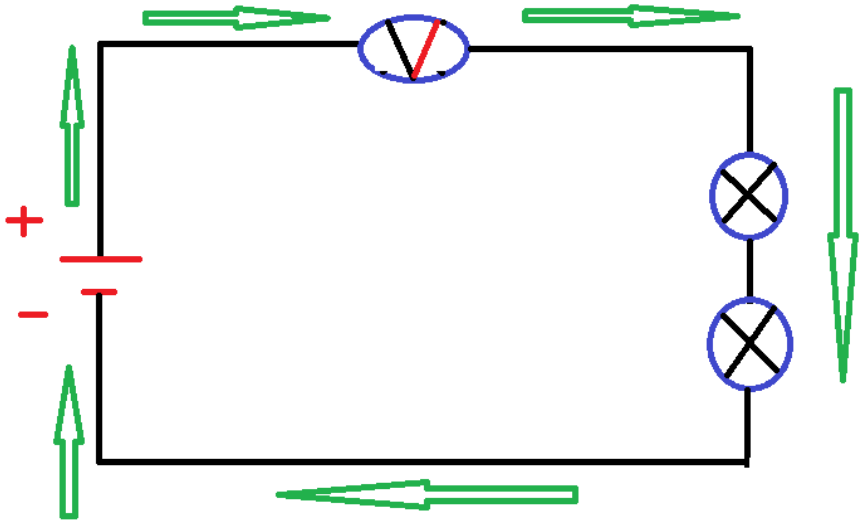
10	Presenting Assessment Task – Renewable Energy - through Digital Technologies
Overview of Week	The culmination of the unit the students will be asked to present their assessment piece for the unit through digital representation. Students will be encouraged to ask questions at the end of the presentation, both on the renewable energy source and the digital representation of the assessment piece to promote a collaborative learning environment. The teacher will assess the presentation and this will form the summative assessment for this unit to assess whether the relevant achievement standard has been reached (Appendix4)
Resources	Smart-board, Marking Rubric
Curriculum Links	(ACSSU155) (ACSIS148)

References:

Australian Curriculum Assessment and Reporting Authority. (2015, December 14). *The Australian Curriculum: Digital Technologies* (Version 8.1), Year 7-8 all curriculum elements, all curriculum dimensions Retrieved from http://www.australiancurriculum.edu.au/download/f10

Australian Curriculum Assessment and Reporting Authority. (2015, December 14). *The Australian Curriculum: Science* (Version 8.1), Year 8 all curriculum elements, all curriculum dimensions Retrieved from http://www.australiancurriculum.edu.au/download/f10

Appendix 1. Circuit Diagram.



Appendix 2. Non-renewables Worksheet.

Fossil Fuels

Name the four fossil fuels:

1.

2.

3.

4.

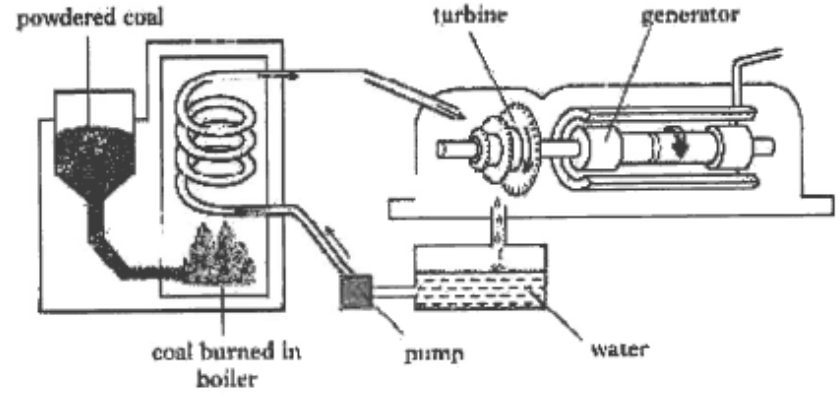
Fossil fuels are burned in power stations to produce electricity.

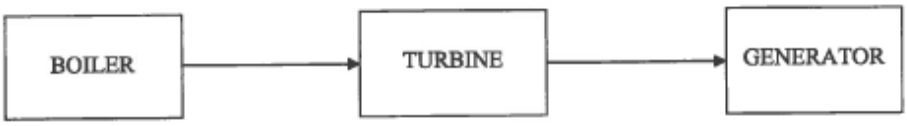
Name as many gases and substances as you can that are produced when fossil fuels are burned.

Burning fossil fuels are the causes of several environmental problems. In the table below, write the name of the gas/substance that causes the following environmental problems and if you can, explain what the problem involves.

Environmental Problem	What this Means?	Gas/Substance Causing this Effect
Greenhouse Effect		
Acid Rain		
Arctic Winter		

In power stations, fossil fuels are burned to produce electricity. At each stage of the process, describe what is happening and what energy change is taking place.





What is/are the problem(s) with relying on fossil fuels for providing us with energy?

Appendix 3. Renewables assignment sheet.

Renewable Energy Project:

In Pairs Choose a renewable energy source from the below list:

- Biomass
- Solar
- Wind
- Hydro-electric
- Geothermal
- Wave

In your pairs you are to research your chosen renewable energy and produce an engaging Digital representation of your findings. You may produce a You-Tube Clip, Website, Power-point, Scratch or Prezi to demonstrate your understanding.

Your assessment piece must include answers to the following questions:

1. How is electricity generated by your chosen renewable source of energy?
2. What sort of area does your chosen renewable source of energy have to be located in and why?
3. What are the advantages and disadvantages of your chosen renewable source of energy?
4. How much electricity does your chosen renewable source of energy produce?
5. How many sites are there in Australia that generate electricity by your chosen renewable source of energy?

Your assessment piece will be graded on your overall research, your use of digital technologies to present your assessment and your overall understanding of the learning outcome of this ten week unit of work.

Appendix 4. Renewables assignment marking rubric

	Below Standard	Approaching Standard	At Standard	Above Standard	Well Above Standard
Visual Appeal and use of Digital Technology	No real visual appeal, information cluttered within presentation making it very difficult to read. Many spelling and grammatical errors	Presentation difficult to read due to too much information or inappropriate use of graphics within presentation. Many spelling and grammatical errors	Satisfactory visual appeal, some parts of presentation difficult to read. Some spelling and grammatical errors.	Information presented in a clear way, visually appealing, minimal clutter within presentation. Minimal spelling and grammatical errors.	Information presented in a clear and engaging way, easy to read from the presentation. No errors in spelling or grammar.
Presentation Skills and Planning of Presentation	No eye contact with audience, difficult to understand due to volume of voice. No planning evident, miscommunication within group, all information read from slide.	Poor presentation skills, minimal eye contact with audience. Little evidence of planning with majority read of the presentation.	Satisfactory presentation for eye contact and volume of voice. Planning satisfactory with some reading directly from presentation.	Clear voice and good body language, eye contact with majority of audience. Good planning of presentation	Clear voice, excellent eye contact and body language. Well planned for and prepared for presentation
Content & Comprehension	Majority of assignment topic unanswered, significant information left out. No reference list provided and evidence of extensive copy and paste. No understanding demonstrated from presentation.	Partial answers of assignment topic provided. Some parts of content copied and pasted from the internet. No reference list. Limited understanding of topic presented, questions unanswered at the conclusion of presentation	All questions answered from assignment topic, with little or no additional information. Reference list supplied, with minimal references. Satisfactory understanding of topic, questions posed attempted with some errors	Good summary of assignment topic. All questions answered and some additional information provided. Reference list provided. Good understanding of topic presented, able to answer questions posed with minimal errors	Complete coverage of assignment topic. All questions answered plus additional information provided. References used and acknowledged. Excellent understanding of topic presented, able to answer all questions posed