

Assessment Task Notification

RESPECT | RESPONSIBILITY | PERSONAL BEST

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Task Number: 3	Title: Research Assignment	
Year: 9	Due date: 14 Sep 23	Weighting: 25%

Syllabus Outcomes Assessed:

Syllabus Outcome	Description
SC5-5WS	Produces a plan to investigate identified questions, hypotheses, or problems, individually and collaboratively
SC5-9WS	Presents science ideas and evidence for a particular purpose and to a specific audience, using appropriate scientific language, conventions, and representations
SC4-1VA, SC5-1VA	Appreciates the importance of science in their lives and the role of scientific inquiry in increasing understanding of the world around them
SC5-16CW	Explains how models, theories and laws about matter have been refined as new scientific evidence becomes available
SC5-17CW	Discusses the importance of chemical reactions in the production of a range of substances, and the influence of society on the development of new materials

21st Century and Employment Related Skills:

<input checked="" type="checkbox"/>	Communication	<input checked="" type="checkbox"/>	Use of technology
<input checked="" type="checkbox"/>	Critical Thinking	<input type="checkbox"/>	Self-reflection and refinement
<input checked="" type="checkbox"/>	Creativity	<input type="checkbox"/>	Problem Solving
<input type="checkbox"/>	Collaboration	<input type="checkbox"/>	Initiative and Enterprise
<input checked="" type="checkbox"/>	Planning and Organising	<input type="checkbox"/>	Cross-Cultural Understanding

Task Description:

The knowledge and understanding strands specify the content for each stage and integrate content related to the understanding about the nature, development, use and influence of science with knowledge of scientific concepts, principles, models, theories and laws. Students develop their scientific understanding about the natural world and the unique nature of Science as a discipline through using and applying the processes of working scientifically. The Chemical World strand is concerned with understanding the composition and behaviour of matter. The key concepts developed in this strand are that the chemical and physical properties of substances are determined by their structure on an atomic scale and that substances change and new substances are produced in chemical reactions by rearranging atoms through atomic interactions and energy transfer.

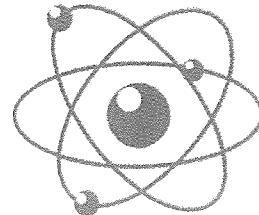
Assessment Criteria:

You will be assessed on your ability to: Think critically, process data and communicate understanding of the chemical world syllabus outcomes.

Method of Task Submission:

Answer the questions in the task and then complete a presentation of work that has been researched

Year 9 Chemistry Research Assessment Task



Outcomes:

SC5-5WS: Produces a plan to investigate identified questions, hypotheses, or problems, individually and collaboratively

SC5-9WS: Presents science ideas and evidence for a particular purpose and to a specific audience, using appropriate scientific language, conventions, and representations

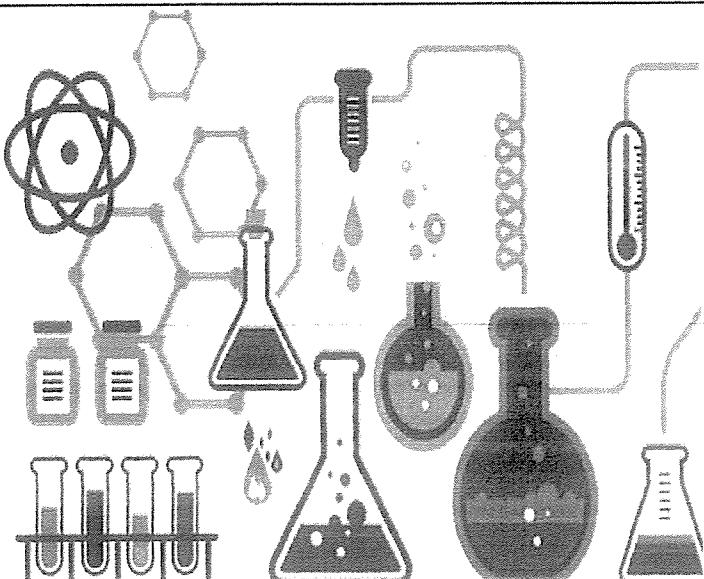
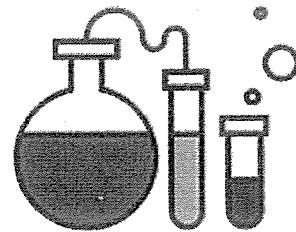
SC5-16CW: Explains how models, theories and laws about matter have been refined as new scientific evidence becomes available

SC5-17CW: Discusses the importance of chemical reactions in the production of a range of substances, and the influence of society on the development of new materials

Description of Activity: Students are to produce an information report on a researched element.

Procedure:

1. Students will choose an element from the periodic table to investigate.
2. Students will then be given two weeks to investigate their element and record all information they find on the '**Part 1' Research Sheet**'.
3. The information found in '**Part 1'** is then used to fill in the '**Part 2' Element Report**. This information sheet will form part of your "Class Element Information Presentation". Note: students must include a bibliography.
4. **Part 3:** Using the information found in Part 1 and Part 2 and create either PowerPoint presentation (minimum of 6 slides) OR a A4 sized pamphlet (with information back and front) describing your element. ALL the information found in Parts 1 and 2 **MUST be included** in your presentation/pamphlet.



- **Students Remember to;**
- In **Part 2** you must use sentences to describe the Element you have researched.
- **ALL** the information in **Part 1** must be included in **Part 2**. (There is a model for you to follow attached.)
- You can make your own version of **Part 2 (Element Report)** as long as **ALL** the information shown in the model is included.
- **Your assessment is due:**

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| <ol style="list-style-type: none">1. Element Name2. The symbol for the element is3. What is the atomic number of this element?4. Is the element a metal, non-metal or semi-metal?5. What does the element look like at room temperature (20° C) (e.g. is it a gas, liquid, solid? What is its colour? Any other features?)6. What are the element's; i) Melting Point?
ii) Boiling Point?7. How is the element found in nature? (by itself, in an ore, in the sea, etc)8. When was the element discovered? Who discovered it?9. How did the element get this name and symbol?10. Write down two interesting properties of (or facts about) the element. | <ol style="list-style-type: none">11. Is this element found in Australia? If so, where? (Can use a map to show where it is found).12. Where is it found in the world? (Can use a map to show where it is found).13. Can this element be dangerous to life on Earth?14. Draw the configuration of the nucleus and the electron shells of this element.15. Is this element used today in society? For example is it used in industry, communication, medicine etc. Explain how the element is used and its purpose – include its overall impact on society (or has had on society).16. List at LEAST two (2) annotated references used to obtain your information. |
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Additional Information:

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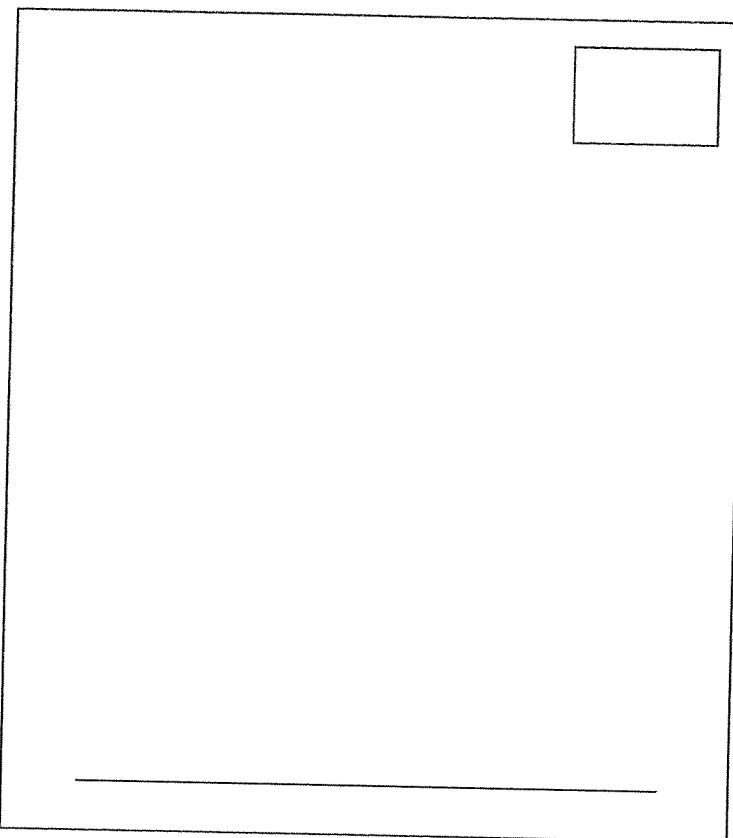
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Year 9 Research Task Marking Rubric

Table description: shaded rows are band descriptors from NESAA and non-shaded rows are the task descriptors

Outcomes and content		Grade A (10 Marks)	Grade B (8 Marks)	Grade C (6 Marks)	Grade D (4 Marks)	Grade E (2-0 Marks)	Total Marks: 40 marks
Critical Thinking Skills (20 marks) Research Component	Demonstrates extensive knowledge and understanding of content	Demonstrates thorough knowledge and understanding of content	Demonstrates sound knowledge and understanding of content	Demonstrates basic knowledge and understanding of content	Demonstrates limited knowledge and understanding of content	Demonstrates limited knowledge and understanding of content	
SC5-16CW Part 3 Power Point Presentation/ Pamphlet	Extensive evaluation of: - Student includes all information from part 1 & 2 (research sheet/element diagram) - Information demonstrates extensive knowledge and understanding of the chosen element - Student demonstrates extensive use of metalanguage and correct scientific concepts.	Thorough evaluation of: - Student includes most information from part 1 & 2 (research sheet/element diagram) - Information demonstrates thorough knowledge and understanding of the chosen element - Student demonstrates thorough use of metalanguage and correct scientific concepts.	Sound evaluation of: - Student includes some information from part 1 & 2 (research sheet/element diagram) - Information demonstrates sound knowledge and understanding of the chosen element - Student demonstrates sound use of metalanguage and correct scientific concepts.	Limited evaluation of: - Student includes minimal information from Part 1 & 2 (research sheet/element diagram) - Information demonstrates limited knowledge and understanding of the chosen element - Student demonstrates limited use of metalanguage and correct scientific concepts.	Basic evaluation of: - Student includes limited information from part 1 & 2 (research sheet/element diagram) - Information demonstrates limited knowledge and understanding of the chosen element - Student demonstrates limited use of metalanguage and correct scientific concepts.		
Outcomes and content	Grade A (5 Marks)	Grade B (4 Marks)	Grade C (3 Marks)	Grade D (2 Marks)	Grade E (1-0 Marks)		
SC5-16CW Part 2 Element Diagram	Extensive evaluation of: - Student includes all information	Thorough evaluation of: - Student includes most information	Sound evaluation of: - Student includes some information	Limited evaluation of: - Student includes minimal information	Basic evaluation of: - Student includes limited information from part 1 research sheet		

from part 1 research sheet	from part 1 research sheet	from part 1 research sheet	part 1 research sheet	
- Information demonstrates extensive knowledge and understanding of the chosen element	- Information demonstrates thorough knowledge and understanding of the chosen element	- Information demonstrates sound knowledge and understanding of the chosen element	- Information demonstrates basic knowledge and understanding of the chosen element	- Information demonstrates basic knowledge and limited use of metalanguage and correct scientific concepts.
- Student demonstrates extensive use of metalanguage and correct scientific concepts.	- Student demonstrates thorough use of metalanguage and correct scientific concepts.	- Student demonstrates sound use of metalanguage and correct scientific concepts.	- Student demonstrates basic use of metalanguage and correct scientific concepts.	- Student answers minimal information from part 1 research sheet

**SC5-17CW
Part 1
Research Sheet**

Processing data (20 marks) Working Scientifically Skills	Effectively gathers, selects, organises and processes first-hand and secondary sourced data and information to evaluate issues and inform creative solutions using appropriate digital technologies	Gathers and selects first-hand and secondary sourced data and information to identify issues and participate in problem-solving using appropriate digital technologies	Uses first-hand and secondary sourced data and information, and appropriate digital technologies, to assist in the problem-solving process	Uses information provided and, with assistance, participates in problem-solving activities
	Outcomes and content	Grade A (5 Marks)	Grade B (4 Marks)	Grade C (3 Marks)
SC5-5WS Internet Use/References	Demonstrates an extensive understanding and analysis of:	Demonstrates a thorough understanding and analysis of:	Demonstrates sound understanding and analysis of:	Demonstrates a basic understanding and analysis of:
	- relevant secondary sources (at least 5) from a variety of different sources	- relevant secondary sources (at least 4) from a variety of different sources	- relevant secondary sources (at least 3) from a variety of different sources	- relevant secondary sources (at least 2) from a variety of different sources
	- presents extensive relevant evidence-based information about the chosen element	- presents thorough relevant evidence-based information about the chosen element	- presents sound relevant evidence-based information about the chosen element	- presents basic relevant evidence-based information about the chosen element
	- includes all relevant references of secondary sources	- includes most relevant references of secondary sources	- includes some relevant references of secondary sources	- includes basic relevant references of secondary sources
Communication (20 marks) 9WS	Communicates comprehensive understanding of scientific ideas, and related evidence for a particular purpose and audience	Communicates well-developed understanding of scientific ideas to an audience using scientific units and language conventions	Communicates sound understanding of scientific ideas to an audience	With guidance, communicates elementary scientific information to an audience

	using scientific units, language conventions and text types			
SC5-9WS Presentation/Information	<ul style="list-style-type: none"> - presents information with a clear structure and presentation format followed logically and succinct content, supported by comprehensive and valid evidence and concise content extensive use of scientific language throughout report - presents information with a thorough structure and presentation format followed logically and mostly succinct content, supported by well-developed and valid evidence and concise content thorough use of scientific language throughout report - presents information with a sound structure and presentation format mostly followed mostly logical and succinct content, supported by sound and mostly valid evidence and relevant content - presents information with a basic structure and presentation format attempted to be followed basic and some content included, supported by non-valid evidence and non-concise content - presents information with a limited structure and presentation format attempted not followed limited and or no content included, supported by non-valid evidence and non-concise content - presents information with a limited use of scientific language throughout report 	<ul style="list-style-type: none"> - presents information with a sound structure and presentation format mostly followed - mostly logical and succinct content, supported by sound and mostly valid evidence and relevant content - sound use of scientific language throughout report 	<ul style="list-style-type: none"> - presents information with a sound structure and presentation format mostly followed - mostly logical and succinct content, supported by sound and mostly valid evidence and relevant content - sound use of scientific language throughout report 	<ul style="list-style-type: none"> - presents information with a basic structure and presentation format attempted to be followed basic and some content included, supported by non-valid evidence and non-concise content - limited use of scientific language throughout report

Question	Outcome	Mark
Part 3 PowerPoint Presentation/Pamphlet	SC5-17CW	/10
Part 2 Element Diagram	SC5-16CW	/5
Part 1 Research Sheet	SC5-16CW	/5
Internet/References	SC5-5WS	/5
Presentation/Information	SC5-9WS	/5
	Total:	/30

