Gorokan High School

Assessment Task Notification

RESPECT | RESPONSIBILITY | PERSONAL BEST

Faculty: Science	Course: EES	Time allowed: 2 weeks
Teacher: Zak Watson		Email: zak.watson@education.nsw.gov.au
Task number: 1	Title: Geological Resources Case Study	
Year: 11	Due date: Friday 2nd of May	Weighting: 30%

Syllabus outcomes assessed:

EES11/12-3 – Conducts investigations to collect valid and reliable primary and secondary data and information.
EES11/12-4 – Selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media.
EES11/12-5 – Analyses and evaluates primary and secondary data and information.
EES11/12-6 – Solves scientific problems using primary and secondary data, critical thinking skills, and scientific processes.
EES11/12-7 – Communicates scientific understanding using suitable language and terminology for a specific audience or purpose.
EES11-8 – Describes the key features of the Earth's systems, including the geosphere, atmosphere, hydrosphere, and biosphere, and how they are interrelated.

21st Century and employment related skills:

☑	Communication	☐	Use of technology
☑	Critical Thinking	☐	Self-reflection and refinement
☐	Creativity	☑	Problem Solving
☐	Collaboration	☐	Initiative and Enterprise
☐	Planning and Organising	☐	Cross-Cultural Understanding

Task Description

Students are required to prepare a case study of **ONE non-renewable geological resource** found and extracted in (or from offshore) Australia to answer the following inquiry question:

How are non-renewable geological resources discovered and extracted?

Students will submit their case study in **two parts:**

1. **A Scientific Report**
2. **A PowerPoint Presentation**

Scientific Report Requirements

The report must:

- Be **1000 – 1500 words** (excluding bibliography and assessment of validity).
- Include **headings, subheadings, diagrams, information tables, and graphs.**
- Contain a **secondary-sources investigation** covering:
  - The **location** of the selected non-renewable resource in Australia.
  - The **economic importance** of Australia's non-renewable resources and the chosen resource.
  - An **assessment of direct sampling and remote sensing techniques** used to discover the resource (e.g., satellite images, aerial photographs, geophysical data).
  - The **extraction methods** used (e.g., open-pit mining, underground mining, offshore/onshore drilling).
  - The **importance of traditional quarrying and mining methods** for Aboriginal and Torres Strait Islander peoples.
- Include **in-text referencing, a bibliography, and an assessment of validity and reliability** for all sources.

The report must be **submitted electronically via email or Google Classroom by the due date.**

Presentation Requirements

Students will present their research findings to the class in a **3-4 minute oral presentation**, using:

- **Pictures, charts, graphs, and diagrams** to support key points.
- **Subheadings and key terms** to structure the information.
- A **clear and concise verbal explanation** of major points.
- **In-text referencing and a bibliography** (validity assessment **not required**).

The presentation must be **submitted electronically** by the due date and will be delivered in the **next available Earth and Environmental Science lesson.**

Method of Task Submission

Scientific Report Submission:

- Submit electronically **by the due date** via:
  - **Email to [Teacher's Email]** OR
  - **Upload to [Google Classroom/Other platform if applicable]**
- Accepted formats: **Google Docs (preferred), Microsoft Word, or PDF**
- **File Name Format:** `"FirstName_LastName_EES_Report"` (e.g., *Jane_Smith_EES_Report*)
- Ensure **in-text referencing, bibliography, and validity/reliability assessment** are included.

Presentation Submission:

- Submit electronically **by the due date** via:

    - **Email to [Teacher's Email]** OR
    - **Upload to [Google Classroom/Other platform if applicable]**
- Accepted formats: **Google Slides (preferred), Microsoft PowerPoint, or PDF**
- **File Name Format:** `"FirstName_LastName_EES_Presentation"` (e.g., *Jane_Smith_EES_Presentation*)
- Ensure **in-text referencing and a bibliography** are included (**validity assessment not required**).
- The presentation will be delivered in the **next Earth and Environmental Science lesson.**

Late Submissions: If an extension is required, students must inform the teacher **before the due date (Medical Certificate will be required).**

Year 11 EES Assessment 1 Marking Criteria 2025

Outcome *Report*	A	B	C	D	E
EES11/12-3 conducts investigations to collect valid and reliable primary and secondary data and information	• Bibliography contains only references cited in text and diagrams. • Cites a wide variety of valid sources in correct format. *5 marks*	• Bibliography contains references cited. • Cites a variety of valid sources in correct format. *4 marks*	• Cites a variety of sources in the correct format. *3 marks*	• Cites a variety of sources in incorrect or simple format. *2 marks*	• Little to no bibliography. *0-1 mark*
EES11/12-4 selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media	• Appropriate in-text referencing is used throughout the report. *5 marks*	• In-text referencing used throughout the report. *4 marks*	• In-text referencing is limited throughout the report. *3 marks*	• Draws upon background reading in the report. *2 marks*	• No in-text referencing used. *0-1 mark*
EES11/12-5 analyses and evaluates primary and secondary data and information	• An extensive *(deep and broad)* analysis of the economic importance of Australia's non-renewable resources in general and of the selected resource. • Critical analysis of validity and reliability of secondary sources. *10-9 marks*	• A thorough *(deep OR broad)* analysis of the economic importance of Australia's non-renewable resources in general and of the selected resource. • Evaluates validity and reliability of secondary sources. *8-7 marks*	• A sound analysis of the economic importance of Australia's non-renewable resources in general and of the selected resource. • Assesses validity and reliability of secondary sources. *6-5 marks*	• A basic analysis of the economic importance of Australia's non-renewable resources in general and of the selected resource. • Brief assessment of validity and reliability of secondary sources. *4-3 marks*	• Little to no information. *0-2 marks*
EES11/12-6 solves scientific problems using primary and secondary data, critical thinking skills and scientific processes	• An extensive *(deep and broad)* assessment of the appropriateness of direct sampling techniques and remote sensing techniques in discovering the resource. • All claims are effectively backed up with valid evidence. *10-9 marks*	• A thorough *(deep OR broad)* assessment of the appropriateness of direct sampling techniques and remote sensing techniques in discovering the resource. • Most claims backed up with valid evidence. *8-7 marks*	• A sound assessment of the appropriateness of direct sampling techniques and remote sensing techniques in discovering the resource. • Make some effort to back up claims with valid evidence. *6-5 marks*	• A basic assessment of the appropriateness of direct sampling techniques and remote sensing techniques in discovering the resource. • Evidence used to back up claims lack validity. *4-3 marks*	• Little to no information. *0-2 marks*

EES11/12-7 communicates scientific understanding using suitable language and terminology for a specific audience or purpose	• Well-written scientific report with continuity of thought/argument throughout text. • Use of appropriate scientific terminology and conventions. • Secondary sourced information is paraphrased and seamlessly incorporated into text. • Appropriate illustrations and diagrams are used to explain information. • Report wordcount within 10% of requirement. *10-9 marks*	• Well-written scientific report with some continuity of thought. • Use of scientific terminology and conventions. • Secondary sourced information is paraphrased in text of report. • Illustrations and diagrams are used to explain information. • Report wordcount lower than 10% of requirement. *8-7 marks*	• Structured scientific report. • Basic use of scientific terminology and/or conventions. • Secondary sourced information is used in text of report. • Illustrations and diagrams are used to explain information. • Report wordcount higher than 10% of requirement. *6-5 marks*	• Basic scientific report. • Basic use of terminology and/or conventions. • background information is included in the report. • An appropriate illustration is used in report. • Report wordcount significantly higher than requirement. *4-3 marks*	• Basic report. *2-0 marks*
EES11-8 describes the key features of the Earth's systems, including the geosphere, atmosphere, hydrosphere and biosphere and how they are interrelated	• Demonstrates an extensive *(deep and broad)* knowledge and understanding of: - locating and relating the non-renewable resources to its location in Australia. - the locations and extraction methods of the resource. - the importance and traditional quarrying and mining methods of the resource for Aboriginal and Torres Strait Islander people. *10-9 marks*	• Demonstrates a thorough *(deep OR broad)* knowledge and understanding of: - locating and relating the non-renewable resources to its location in Australia. - the locations and extraction methods of the resource. - the importance and traditional quarrying and mining methods of the resource for Aboriginal and Torres Strait Islander people. *8-7 marks*	• Demonstrates a sound knowledge and understanding of: - locating and relating the non-renewable resources to its location in Australia. - the locations and extraction methods of the resource. - the importance and traditional quarrying and mining methods of the resource for Aboriginal and Torres Strait Islander people. *6-5 marks*	• Demonstrates a basic knowledge and understanding of: - locating and relating the non-renewable resources to its location in Australia. - the locations and extraction methods of the resource. - the importance and traditional quarrying and mining methods of the resource for Aboriginal and Torres Strait Islander people. *4-3 marks*	• Little to no information. *2-0 marks*
Presentation					
EES11/12-7 communicates scientific understanding using suitable	• Effective communication through use of appropriate imagery and discussion.	• Communicates through use of imagery and discussion.	• Communicates through use of some imagery and more reliance on notes and texts.	• Communicates with over reliance on notes and texts.	• Limited communication skills demonstrated.

language and terminology for a specific audience or purpose	• Demonstrates extensive understanding *(deep and broad)* of features of chosen non-renewable geological resource. *10-9 marks*	• Demonstrates thorough *(deep OR broad)* understanding of impacts of chosen non-renewable geological resource. *8-7 marks*	• Demonstrates sound understanding of impacts of chosen non-renewable geological resource. *6-5 marks*	• Demonstrates basic understanding of impacts of chosen non-renewable geological resource. *4-3 marks*	• Basic presentation. *2-0 marks*
Skills = /50	K&U = /10	Total = /60			

Assessment Task: Understanding and Analyzing Scientific Research

Accessing Scientific Papers

To conduct thorough research for your assessment, you will need to access credible scientific papers. Follow these steps to find reliable sources:

1. Get a Library Card:
   Sign up for a library card to access free online resources.
   - State Library of NSW
   - National Library of Australia
2. Use Unpaywall:
   Install this browser extension to find free versions of papers that are normally behind paywalls.
   - Unpaywall
3. Google Scholar & PubMed:
   Use these databases to find scientific articles and research papers. They offer a large selection of reliable sources.

Reading Scientific Papers

When reading scientific papers, follow these steps to extract key information efficiently:

1. Start with the Title & Abstract:
   These sections summarize the paper's purpose, methods, and findings.
2. Examine the Headings/Subheadings:
   These will give you an overview of the paper's structure and main topics.
3. Apply the 3 C's to Evaluate the Paper:
   - Category: Is this paper a primary (original research) or secondary (review) source?
   - Context: Does it relate directly to your research question?
   - Clarity: Is the paper well-written and understandable, even if some terms are new?

If the paper seems relevant and clear, proceed with a detailed read.

Bibliography & In-Text Citations

You must cite all sources used in your assessment. Use the following formats for in-text citations and bibliography:

- In-Text Citations:
  For paraphrasing: (Field, 2005)
  For direct quotes: (Field, 2005, p. 14)

- Citing Web Pages:

  - With author: (Kraizer, 2011)
  - Without author: ("All things Nittany," 2006)
  - Without date: (APA, n.d.)

Evaluating Sources with the CRAAP Test

Use the CRAAP Test to assess whether a source is reliable and suitable for your research:

1. Currency: Is the information recent and relevant?
2. Relevance: Does the source directly answer your research question?
3. Authority: Who is the author? Are they an expert in the field?
4. Accuracy: Is the information supported by solid evidence and other reputable sources?
5. Purpose: Is the source intended to inform, persuade, or sell something? Make sure it's factual.

Note: Ensure all sources are cited correctly, and that your ideas are well-supported by evidence. Make sure your work is logically structured and clearly communicated to demonstrate a high level of scientific understanding and critical thinking.
