

Grade 7 Natural Science Worksheet

Assessment Task: Earth Sciences: water ecosystems

Terrestrial and aquatic ecosystems

1. Define the following terms:

Ecosystem:

Terrestrial:

Aquatic:

Comparison:

Comparison table:

[10 marks]

2. Draw up a table of comparison in which you compare terrestrial and aquatic ecosystems with relation to the following features:

Presence/absence of food webs

What are the producers?

What are the consumers?

Presence of water

Stability of environment

Variability of environment

Density

Light

Oxygen content

Nutrient content

Temperature

Support structures in living organisms

Desiccation

[30 marks]

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3. Write two paragraphs, describing a terrestrial and an aquatic ecosystem with which you are familiar, or about which you have read. You should describe the biotic as well as the abiotic features which are relevant to these ecosystems.

[28 marks]

Rubric to assess paragraphs

Criteria	4	3	2	1
Presentation	Exceptionally neat in all respects.	On a neat sheet of paper, handwriting is neat.	Not very neat, could be improved greatly.	Scrappy sheet of paper, messy handwriting.
Ability to use correct grammar and spelling	No grammatical and spelling errors.	Very few grammatical and spelling errors.	A few grammatical and spelling errors.	Many grammatical and spelling errors.
Ideas logically organised in cohesive sentences	Sentences have excellent structure and ideas logical.	Sentences mostly logically structured and ordered.	Some attempt at structuring logical sentences.	Sentences not logically structured or ordered.
Content	No errors, 8 – 10 facts. x 2	1 error, 7 – 8 facts.	2 – 3 errors, 5 – 6 facts.	More than 4 errors, less than 5 facts.
Content answers the question	Complete and comprehensive answer. x 2	Good answer.	Fair answer, with limitations.	Poor answer, much missing.

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Suggested Solutions

Question number	Possible marks	Solution
1	10	<p>Ecosystem: Interaction between biotic (living) and abiotic (non-living) factors/things in a particular area. ✓✓</p> <p>Terrestrial: To do with solid ground/on land. ✓✓</p> <p>Aquatic: To do with water environments, can be fresh water or marine. ✓✓</p> <p>Comparison: To find out the differences and similarities between things. ✓✓</p> <p>Comparison table: To place the differences and similarities in a table/tabulation. ✓✓</p>
2	30	See table in Appendix of Assessment Tools for a suggestion of answers.
3	28	See rubric in Appendix of Assessment Tools. Use rubric to mark both paragraphs. The content aspects have been doubled to reflect the necessary input in terms of describing two ecosystems.

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Appendix of Assessment Tools

Rubric to assess paragraphs

Criteria	4	3	2	1
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Content	No errors, 8 – 10 facts. x 2	1 error, 7 – 8 facts.	2 – 3 errors, 5 – 6 facts.	More than 4 errors, less than 5 facts.
Content answers the question	Complete and comprehensive answer. x 2	Good answer.	Fair answer, with limitations.	Poor answer, much missing.

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Table to compare aquatic and terrestrial ecosystems

Criteria	Terrestrial ecosystem	Aquatic ecosystem
Presence/absence of food webs	Both ecosystems have food webs.	
What are the producers?	Green plants.	Algae/seaweeds and green plants in shallow waters.
What are the consumers?	Enormous variety of animals.	
Presence of water	Can be limited.	Never limited, although freshwater could be limited in marine ecosystems.
Stability of environment	Tends to be less stable than aquatic ecosystems.	Tends to be more stable than terrestrial ecosystems.
Variability of environment	Greater variability of water, temperature, etc.	Less variability of water, temperature, etc.
Density	Less dense.	Much more dense.
Light	Unlimited.	Limited depending on depth.
Oxygen content	Unlimited.	Limited.
Nutrient content	Usually unlimited, although some soils can be limiting.	Tends to be unlimited.
Temperature	Varies greatly.	Tends not to vary greatly.
Support structures in living organisms	Need to be extensive, especially in larger organisms.	Water acts as a support structure.
Desiccation	A serious limitation and problem.	Not a serious problem.