

Year 10 Environmental Science Assessment Task – Case Study Analysis and Presentation

Instructions

1. Choose one of the case studies provided on an environmental issue (or come up with one of your own).
2. You are to research information on your case study and produce a PowerPoint presentation which provides an explanation of the environmental issues and possible solutions.
3. You will need to collect your information in a data chart and provide different sources of information in a bibliography.

Presentation assessment

Your presentation must include slides for each of the following:

- A title and your name.
- Location of the issue. Where has it taken place? / when? / over what period of time?
- What are the environmental effects? What are the causes of the environmental effects?
- How are people affected by this? Local and general populations. Economics, ethics, health, politics.
- What has been done to manage the issue? (Current strategies).
- What strategies could be put into place which best benefit both the environment and people? (Future strategies). How sustainable are these strategies?

Perspectives required

The case study needs to include viewpoints from the following 7 perspectives:

- Ecological
 - Have living things been damaged? Has the balance of the natural ecosystem been altered?
- Economic
 - Will people's livelihoods be at risk? Will jobs be created? Will the economy be affected?
- Ethical/moral
 - Is it morally right or wrong? For example, who should pay for cleaning up, should the chemicals that are banned in developing countries continue to be sold, can the land be used again, should the nuclear reactor have been built there to begin with?
- Health related
 - Will this affect the health of people locally or globally?
- Political
 - What will the government, politicians or interest groups such as Greenpeace think of this?
- Scientific/technological
 - How is scientific knowledge and technology relevant?
- Social (not in my backyard)
 - What will the people who live there think?

Case Study Topics

Choose from one of the topics provided on the following pages **OR** provide one of your own (this must be approved before you start). A link has been provided for each topic to get you started.

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Marine parks http://www.abc.net.au/news/2017-09-17/australian-marine-parks-criticism-of-new-conservation-plan/8944594
Sustainable fish farming http://www.abc.net.au/news/2017-10-05/tas-oxygen-levels-remain-low-in-macquarie-harbour/9019434
Recycling plastics https://www.theguardian.com/sustainable-business/2017/may/22/recycling-in-australia-is-dead-in-the-water-three-companies-tackling-our-plastic-addiction
Plastic shopping bags https://www.theguardian.com/environment/2018/apr/26/bin-liners-to-takeaway-containers-ideas-to-solve-your-plastic-conundrums
Plastic straws http://www.abc.net.au/news/2018-04-25/the-problem-with-banning-plastic-straws/9689346
Salinity https://www.theguardian.com/sustainable-business/2014/aug/21/geological-survey-salinity-pure-water-shortage-chemical-runoff-agribusiness-watershed
Murray – Darling Basin https://www.theguardian.com/environment/2018/apr/05/ghost-water-poor-planning-and-theft-how-the-murray-darling-plan-fell-apart
Car exhausts https://www.theguardian.com/commentisfree/2017/jun/01/air-pollution-harm-humans-nature-wildflowers-car-exhaust-sparrows
Coal mining – Carmichael Mine https://www.theguardian.com/business/2017/aug/16/why-adanis-planned-carmichael-coalmine-matters-to-australia-and-the-world
Coal mining – Abbot Point port https://www.theguardian.com/business/2017/apr/10/abbot-point-coal-port-spill-causes-massive-contamination-of-queensland-wetland
Uranium mining in the Grand Canyon https://www.theguardian.com/environment/2017/jul/17/grand-canyon-uranium-mining-havasupai-tribe-water-source
Gold mining in Africa https://www.theguardian.com/environment/2013/sep/06/fairtrade-gold-africa-mining

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Coral bleaching https://www.theguardian.com/environment/2016/jun/07/the-great-barrier-reef-a-catastrophe-laid-bare
Shark culling https://www.theguardian.com/environment/2015/sep/29/shark-culling-climate-change-research
Incinerating waste https://www.theguardian.com/sustainable-business/2016/jun/14/green-waste-distribution-methods-recycling-plastic-oil-epa
Coal seam gas https://www.theguardian.com/environment/2017/may/23/csg-last-stand-narrabri-farming-mining-fight
Great Pacific Garbage Patch https://www.theguardian.com/environment/2018/mar/22/great-pacific-garbage-patch-sprawling-with-far-more-debris-than-thought
Oil drilling https://www.theguardian.com/australia-news/2017/jul/20/more-locals-join-push-to-stop-oil-drilling-in-great-australian-bight
CFCs and ozone https://www.theguardian.com/environment/2018/may/16/mysterious-rise-in-banned-ozone-destroying-chemical-shocks-scientists
Diesel fuel and sulphur https://www.theguardian.com/environment/2016/oct/28/shipping-industry-agrees-to-cap-sulphur-emissions-by-2020
Murray River carp https://www.theguardian.com/australia-news/2016/jan/13/fishers-and-conservationists-urge-release-of-herpes-virus-to-kill-murray-river-carp
Water buffalo https://www.theguardian.com/australia-news/2017/mar/17/kakadu-aerial-cull-kills-more-than-6000-horses-buffalo-and-pigs

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Assessment Criteria	Not shown	1	2	3	4	5
Scientific inquiry skills: Addressed all questions		Identified few relevant questions and investigated using some research skills.	Identified some relevant questions and investigated using some research skills.	<i>Identified many relevant questions and investigated using appropriate research skills.</i>	Identified most relevant questions and investigated using appropriate research skills.	Identified all relevant questions and investigated using superior research skills.
Scientific inquiry skills: Planning and researching		Planning and research notes showing limited questioning and thinking.	Planning and research notes showing few logical questioning and thinking	Planning and research notes showing some logical questioning and thinking.	Planning and research notes completed mostly showing logical questioning and thinking.	Planning and research notes fully completed showing clear, logical questioning and thinking..
Scientific inquiry skills: Presentation		Images / written component showing minimal scientific accuracy	Images / written component showing limited scientific accuracy.	Images / written component showing some scientific accuracy.	Images / written component mostly scientifically accurate with fluency in design/speech, some errors and organised.	Images /written component creative and original, scientifically accurate with fluency in design/speech, minimal errors and highly organised.
Scientific inquiry skills:		Few perspectives addressed and limited scientific accuracy.	3 or 4 perspectives are addressed, and some questions answered with some scientific accuracy	5 or 6 perspectives are addressed, and some questions answered with scientific accuracy.	All 7 perspectives are addressed and most questions answered with scientific accuracy showing some synthesis of ideas.	All 7 perspectives are addressed and all questions answered with scientific accuracy showing synthesis of ideas.
Bibliography		Incorrect/no bibliography	Limited resources used with no variety listed in the bibliography.	Most source are documented in the bibliography. Minimal variety of resources used	All sources (information and graphics) are accurately documented in the bibliography. Some variety of resources used	All sources (information and graphics) are accurately documented in the bibliography. A wide variety of resources used.
Scientific inquiry: reflection		Limited/no reflection on the methods used to investigate questions but identified few improvements.	Limited reflection on the methods used to investigate questions, including evaluating the quality of the responses, but identified few improvements.	<i>Reflected on some methods used to investigate questions, including evaluating the quality of the responses, and identified some improvements.</i>	Reflected on most methods used to investigate questions, including evaluating the quality of the responses, and some identified improvements.	Reflected on all methods used to investigate questions, including evaluating the quality of the responses, and identified improvements.
Science understanding		Minimal/no ability to explain how human activity affects global systems.	Limited ability to explain how human activity affects global systems.	<i>Reasonable ability to explain how human activity affects global systems.</i>	Very good ability to explain how human activity affects global systems.	Superior ability to explain how human activity affects global systems.
Science as human endeavour		Minimal/no ability to discuss social and ethical issues that arise from environmental disasters.	Limited ability to discuss social and ethical issues that arise from environmental disasters.	<i>Mostly able to discuss social and ethical issues that arise from environmental disasters.</i>	Mostly able to discuss social and ethical issues that arise from environmental disasters.	Able to fully discuss social and ethical issues that arise from environmental disasters.