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Epic Natural and Anthropogenic Disasters (grade 9)

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Unit Title	<i>Epic Natural & Anthropogenic Disasters</i>	Course(s)	MYP Individuals and Societies Year 4
Designed by	Marisa Cavin	Time Frame	9 weeks

Stage 1- Desired Results

Statement of Inquiry: Physical location and human decisions affect the severity, impacts, and responses to natural and manmade disasters.

Key Concept: Time, Place and Space

Related Concepts: Management, Causality

Global Context: Fairness and Development; exploration: rights and responsibilities

Establish Goals - MYP I&S Year 5 Criterion:

Summatively Assessed:

Aii. demonstrate knowledge and understanding of subject-specific content and concepts through developed descriptions, explanations, and examples.

Bi. formulate a clear and focused research question and justify its relevance

Bii. formulate and follow an action plan to investigate a research questions\

Biii. use research methods to collect and record appropriate, varied and relevant information

Biv. evaluate the process and results of the investigation

Ci. communicate information and ideas effectively using an appropriate style for the audience and purpose

Cii. structure information and ideas in a way that is appropriate to the specified format

Ciii. document sources of information using a recognized convention

Dii. synthesize information to make valid, well-supported arguments

Diii. analyze and evaluate a range of sources/data in terms of origin and purpose, examining value and limitations.

Learner Profile Attributes of Focus:

Caring, Communicator

Transfer

Students will be able to independently use their learning to...

Critically analyze and evaluate sources of information and create a media product that brings awareness to underserved communities affected by disaster.

Meaning

UNDERSTANDINGS

Students will understand that...

Climate change is contributing to more severe natural disasters. Human responses to disasters contribute to the impact and severity of disasters. Preparation for disaster, including disaster management plans, can help decrease the severity and impact of natural disasters on communities. We care about what affects our communities, but we also have a responsibility to help those around the world with less power and privilege.

Essential Questions

Students will keep considering...

(factual) What are the ingredients of an epic disaster?
(conceptual) How do human decisions contribute to the severity, impacts, and responses to disasters?
Why do we care about some disasters more than others?
(debatable) Are natural disasters getting worse? Do human responses to disasters contribute to the impact and severity of disasters?

Acquisition

Students will know...

Terms for the unit: Flood, Floodway, overflow, dyke, droughts, desertification, reservoirs, dehydrating, tornado, air pressure, fujita scale, funnel cloud, blizzards, accumulation, doppler radar, drifting snow, sinkholes, carbonate rocks, evaporative rocks, water-filled captivity, hurricane, storm surge, typhoon, cumulonimbus, landslides and avalanches, debris, erosion, glide zone, volcano, lava, tectonic plate, pyroclastic flow, magma, earthquake, epicenter, fault, seismograph, tsunamis, subsidence, propagate, ripple effect, heatwave, heat stroke, heat stress

Types of Media formatting: article, opinion-editorial, documentary, TED talk, UN/NGO report, newscast report.

When studying natural disasters, students will use the following points of study: physical causes, contributing factors, terms, effects, typical

Students will be skilled at...

When analyzing sources, students will use CRAAP (currency, relevance, authority, accuracy, purpose) to organize their analysis.

When researching into different case studies, students will use a Research Journal (research question, justification, guiding questions, action plan, recording information, evaluation of research, and bibliography) to organize their inquiry.

Approaches to Learning (AtL)

Communication

- Using a variety of organizers for academic writing tasks.
- Organizing and depicting information logically.

Self-Management (Organization)

- Planning short- and long-term assignments; meeting deadlines.

Research (Information Literacy)

reactions, and real life examples.

When studying man-made (anthropogenic) disasters, students will use the following points of study: Time & Place; Severity & Impacts; Physical Geography Causes; Human Decision Causes; Management & Responses

- Creating references and citations, using footnotes/endnotes and constructing a bibliography according to recognised conventions.
- Identifying primary and secondary sources.

Thinking (Critical Thinking)

- Gathering and organizing relevant information to formulate an argument.
- Considering ideas from multiple perspectives.

Stage 2- Evidence

Code	Evaluation Criteria																												
M,T	Criteria Assessed: Aii, Bi, ii, iii, iv, Ci, ii, iii, Dii	<p>PERFORMANCE TASK(S): <i>Students will show that they understand by evidence of...</i></p> <p>Research Task (Summative): Create a media product that presents an underreported disaster (natural or manmade) within the last 30 years, and makes an argument for why those affected need awareness and funds to support their relief efforts. As a part of this task, students will use a research journal to record their inquiry. They will use a RAFT to choose aspects of their assignment, and will also have the choice to work individually, in pairs, or in groups of up to three students.</p> <table border="0" data-bbox="590 1120 1986 1364"> <thead> <tr> <th data-bbox="590 1120 966 1153">Roles</th> <th data-bbox="966 1120 1428 1153">Audience</th> <th data-bbox="1428 1120 1722 1153">Format</th> <th data-bbox="1722 1120 1986 1153">Topic</th> </tr> </thead> <tbody> <tr> <td data-bbox="590 1153 966 1185">Advocacy Group</td> <td data-bbox="966 1153 1428 1185">UN Human Rights Council</td> <td data-bbox="1428 1153 1722 1185">Documentary</td> <td data-bbox="1722 1153 1986 1185">[student</td> </tr> <tr> <td data-bbox="590 1185 966 1218">Journalist/Reporter</td> <td data-bbox="966 1185 1428 1218">High School Students</td> <td data-bbox="1428 1185 1722 1218">Newscast</td> <td data-bbox="1722 1185 1986 1218">choice of</td> </tr> <tr> <td data-bbox="590 1218 966 1250">TEDx Talk Presenter</td> <td data-bbox="966 1218 1428 1250">TV Audience</td> <td data-bbox="1428 1218 1722 1250">Article/Op-Ed</td> <td data-bbox="1722 1218 1986 1250">underreported</td> </tr> <tr> <td data-bbox="590 1250 966 1282">NGO (local, regional)</td> <td data-bbox="966 1250 1428 1282">Philanthropist Organization</td> <td data-bbox="1428 1250 1722 1282">UN/gov't report</td> <td data-bbox="1722 1250 1986 1282">disaster]</td> </tr> <tr> <td data-bbox="590 1282 966 1315"></td> <td data-bbox="966 1282 1428 1315">(potential private donorship)</td> <td data-bbox="1428 1282 1722 1315"></td> <td data-bbox="1722 1282 1986 1315"></td> </tr> </tbody> </table> <hr data-bbox="590 1364 1986 1372"/> <p>OTHER EVIDENCE: <i>Students will show they have achieved Stage 1 goals by...</i></p>				Roles	Audience	Format	Topic	Advocacy Group	UN Human Rights Council	Documentary	[student	Journalist/Reporter	High School Students	Newscast	choice of	TEDx Talk Presenter	TV Audience	Article/Op-Ed	underreported	NGO (local, regional)	Philanthropist Organization	UN/gov't report	disaster]		(potential private donorship)		
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M, T	Criteria Assessed: Diii, Ciii	Source Analysis (Summative) As a part of their research task (performance task), students will complete a source analysis on three of their main sources of information to ensure and verify the credibility of their information, as well as cite source information correctly using MLA formatting.
A, M	Criteria Assessed: Ai, ii	Content Quiz (Formative) As preparation for their summative task, students need to familiar with disasters terms and how those terms connect to the concepts of the unit. To test their knowledge, students will choose from a list of terms, and for five of them, explain in 3-4 sentences what the term means, which natural disaster it relates to, and an example when appropriate. Then, they will connect the statement of inquiry to two different types of natural disasters--explaining how the severity, impacts, and responses to two different types of natural disasters can be affected by physical location and human decisions.
A, M	Criteria Assessed: Ai, Ciii	Natural Disaster Fact-sheet (Formative) In table groups of 3-4, students will conduct an inquiry into different types of disasters. Each table group will have a different disaster and they will create an A4 fact-sheet that includes: physical causes, contributing factors, terms specific to the disaster, effects (short and long term), typical responses by communities/governments/media, and 2 real life examples of this disaster within the last 30 years. Once complete, students will present back to the class their factsheets, and share their work with others. All citations must be correctly formatted on their fact-sheet (must include a works cited).
A, M	Criteria Assessed: Dii, iii, iv	(Two) Media Formatives Students will receive a total of four different types of media (newscast, documentary, article/op-ed, and a UN or Government Report) on disasters. The media will present information on a disaster, the severity, impact, and responses to that disasters, and multiple perspectives on the success or failure of the responses to the disaster (argument-based). Students will review two types of media at a time, interpret the different perspectives and their implications, and respond to them by synthesizing information to make valid, well-supported arguments. They will also complete a source analysis for each of the media sources.
A, M	Criteria Assessed: Bi, ii, iii, iv, Ci, ii, iii	Man-made Disaster Case Study (Formative) In pairs, students will choose an anthropogenic disaster from the past 30 years to study in depth. They will inquire into a disaster, and how physical location and human decisions contributed to the severity, impacts, and responses to the disaster.

Stage 3- Learning Plan

Code	Learning Events	Progress Monitoring
A	<p><i>Student success at transfer, meaning, and acquisition depends upon...</i></p> <p>Week 1 Pre-Assessment - Prior Knowledge Quiz: What do you know about disasters? In table teams, students will complete a prior knowledge quiz on disasters. The questions will get progressively more difficult, and then answers will be reviewed post-quiz as a whole class.</p>	<p>Throughout the unit, students will be given feedback on all formative and summative work by the teacher.</p> <ul style="list-style-type: none"> - prior knowledge check - group processing
M	<p>Discussion: What makes an event a disaster? Why do we know about some disasters but not others? Are some disasters more important than others?</p>	
A	<p>Introduction to Unit Overview: review of Statement of Inquiry, inquiry questions for the unit, learner profile attributes of focus, and Mother Tongue Glossary (list of unit vocabulary terms, with places for students to add more terms as they see fit throughout the unit of study, and they write their mother tongue word for the term along with definitions of the term in their own words; ongoing assignment).</p>	<p>Glossary will be updated and shared (with peers and teacher) throughout the unit to check for understanding</p>
A, M	<p><u>Natural Disaster Fact-sheet Formative (in table groups of 3-4 students)</u></p> <p>Week 2 Hook - Photographs of disasters When you read or hear news of large-scale suffering and devastation like this, how do</p>	<p>Written and oral formative feedback on the factsheet for all students</p>

A, M	<p>you react? Why? Why do you think some disasters get more coverage — and more attention and help from individuals — than others?</p> <p>Dive-in to Project Censored - Students will take a look at underreported disasters and the impact on modern decisions: https://goo.gl/MBBzbW (Lessons from 2017 Sonoma County Fires). Call back to add to: Why do you think some disasters get more coverage - and more attention and help from individuals - than others...and what can be the impact?</p>	Class discussion
A, M, T	<p><u>Media Formative - article and newscast (Dii, + source analysis Diii, Ciii), individual</u> After presenting back in groups, students compile the information into study guides for their upcoming Content Quiz (based on the factsheets)</p>	Individual formative feedback, as well as modeling
A	Content Quiz Formative	Quiz Check-In
A, M	<p>Week 3 Man-made Disaster Case Study (pairs) Formative</p>	Partner feedback, oral and written teacher feedback
A, M, T	<p>Week 4 <u>Media Formative - UN Report and Documentary (Dii, + source analysis Diii, Ciii), individual</u></p>	Second opportunity on media formative feedback, individual
A, M, T	<p>Week 5-7 Summative Research Task Introduction</p> <ul style="list-style-type: none"> - Research Journal - Source Analysis - Media Product Creation - Presentation 	Students will be working in their Research Journals on Google Docs (through Google Classroom). Teacher will give feedback on Research Question, Guided Questions, Formatting, and sources used throughout the research process.
M, T	<p>Week 8-9 Roundtable Debate (The class will be divided into two roundtable groups. They will be given these instructions: You are a member on the board of the World Bank. You have a budget of \$2 billion to donate to countries recovering from natural disasters. Review the media products from your group and take notes about each. After reviewing the media products, you need to decide how to allocate your budget. List what you think are the four most needy countries and how much money you will allocate to them, and briefly describe your reasons and causes you want the money used for. You must analyze the "costs" via human life, economics, environment, etc. Present your ideas back to the group, and as a group come to a final decision, with justification. The final decision and</p>	<p>Think, pair, share on notes on presenter's disasters</p> <p>Glossary check-in</p>

M	<p>justification will be presented and recommended to the whole class.)</p> <p>Individual Learner Profile Reflection (However you would like to respond (poem, letter to yourself, cartoon, piece of art, interview, storyboard, video, roleplay, song, etc), answer the following question and post it on your learner portfolio: Of all the disasters you heard about or studied this past unit, which do you think was the worst? Explain why.</p>	Reflection on key and related concepts
T	<p>On-going Service Project opportunity</p> <p>The class has the opportunity to connect this unit to local disaster preparedness. As a class or in small groups students will choose a natural disaster that could affect their local community, do some research, and put together a survival handout guide to distribute the community on how to prepare for and what to do during a natural disaster.</p>	

<p>Resources / Materials:</p> <ul style="list-style-type: none"> • http://www.ibmidatlantic.org/Global_contexts_definitions_explanations.pdf • https://qz.com/1068133/its-human-nature-to-care-more-about-disasters-closer-to-home-and-our-moral-duty-to-overcome-it/ • https://learning.blogs.nytimes.com/2010/08/30/how-do-you-react-to-news-of-natural-disasters/ • https://www.citylab.com/environment/2015/07/why-you-dont-really-care-about-the-next-big-one/398969/ • https://www.newstatesman.com/2017/08/hurricane-harvey-or-indian-floods-why-we-care-about-some-catastrophes-more-others • https://www.blacksaturdaymuseum.com/natural_disasters.pdf • https://www.youtube.com/watch?v=_or11wRt-10 • https://projectcensored.org/lessons-2017-sonoma-county-fires/

Anderson, Darryl, Adrian Baker, and Ana Cruz. *Epic Natural and Anthropogenic Disasters Unit*. 2012. MYP Unit Planner. KIS International School, Bangkok, Thailand.

Mission Bay High School UbD Unit Planner is from Wiggins, Grant and McTighe, Jay. *Understanding by Design Guide to Creating High-Quality Units*. Alexandria, VA: Association for Supervision and Curriculum Development. 2011.