teri school of advanced studies

Google Earth Education

LESSON TITLE	TIME [in minutes]

OVERVIEW [One sentence describing how teachers will use Google Earth to add engaging, real world connections to an inquiry based lesson.]
Teacher will use google earth to show the recent major disaster sites, with the help of google earth time lapse machine consequences of Manmade disasters also can be explained.

SUBJECT/TOPIC : Understanding Disasters.	**AGE LEVEL- 16 to 18 years**

Learning Objectives [Content specific learning objectives addressed in this lesson plan.]

Students will be able to :

- **Develop a concrete understanding of the risk of disasters and discuss on types of natural and manmade disasters**
- **Develop skills for preparedness before potential disasters and be able to prepare a disaster emergency kit and management strategies.**
- **Be equipped to avoid or to minimize damage during disasters following precautionary measures and systematic preparedness.**

Inquiry [The essential question that will guide the lesson.]

1. How can we be alert and prepared for a disaster?
2. How will you assume that your area may get affected by a disaster? What all preparedness you will take?
3. Do you think manmade disasters can be minimized? How?
4. **Discuss Natural disasters also have human influence.**
5. **Discuss on Recent disasters strike the entire earth and its effect on environment and human life.**

Materials Needed [List of all the materials and resources needed for the lesson.]

- PPT
- Google earth tools
- Text book Environmental Education (XI & XII)

(MHSBE)

Google earth:
https://earth.google.com/earth/rpc/cc/drive?state=%7B%22ids%22%3A%5B%2213r2hTO8eiOFe60geV1RirQVAe1hzaNgP%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%221080686996850672928 84%22%7D&usp=sharing

Google form:
https://forms.gle/jsj3z7SXU4xFYsMR9

Lesson Summary [Brief description of each part of the lesson.]

- Engage: Discussion on very recent disasters (natural and manmade) teacher with the help of ppt and text book will explain the topic.
- Explore: Students will research on the recent disasters and countries affected by these.
- Explain: Students will study about the major disasters took place in Maharashtra and analyse their causes and effect. What type of measures have been taken to protect the state in future.
- Revise: Google form, ppt
- Apply: Students will prepare projects on the topic.

Sustainable Development Goals [One or more Sustainable Development Goals addressed in this lesson.]

SDG- 3,4,12,13,15

Culminating Task/Assessment [One sentence describing how student mastery of learning objectives will be assessed.]

Students will make projects on :

- **Latur Earth quake (Maharashtra)**
- **Urban floods (Mumbai)**
- **Coastal floods (Assam, Bihar)**
- **Maharashtra 'Jalyukta Shivar Abhiyaan' a drought free state by 2019 (a success or failure)**
- **Amazon forest fire , impact on the earth.**
- **2020 Pandemic**

All the projects will be done by incorporating one or more than one google creations.

Textbook Chapter [How is this lesson plan related to the student's textbook? Which chapter and which lesson is covered here?]
Environmental Education, Sustainable use of natural resources.
(MHSBE)

Engage (5 minutes)

In the past twenty years, earthquakes, floods, tropical storms, droughts and other calamities have killed around three million people, inflicted injury, disease, homelessness, and misery on one billion pepole, and caused damage worth millions of rupees. Is it simply natural or anthropological influence cannot be denied.

Explore (25 minutes)

Students will take a virtual trip of voyager- '10,000 years of volcanoes', 'Volatile volcanoes', 'Hurricane Irma from above', 'Hurricane Harvey from above'. Earth engine – Changes in coastal areas,

Explain (20 minutes)

Hypothesis : (Disasters destroy decades of human effort and investments, thereby placing new demands on society for reconstruction and rehabilitation)(Difference of Man made Disasters from Natural Disasters is they can be prevented)
The survey will be conducted by several groups.
Students share first "hypothesis" with small group or a partner. The results will be discussed.
Teachers facilitate whole group discussion in which students share their hypotheses and evidence. The result will be analysed .
Students test hypotheses and record findings (for science/math based inquiries). Based on the collected data,

Revise (10 minutes)

1. Students will make adjustments to their hypothesis based on information gained in discussion or test findings. Based on the result the the hypothesis will be justified. (approved or disproved)

Next, repeat the process with a second source of information.

Explore (25 minutes)

Continued:-
Hypothesis : (Disasters destroy decades of human effort and investments, thereby placing new demands on society for reconstruction and rehabilitation)(Difference of Man made Disasters from Natural Disasters is they can be prevented)

The survey will be conducted by several groups.
Students share first "hypothesis" with small group or a partner. The results will be discussed.
Teachers facilitate whole group discussion in which students share their hypotheses and evidence. The result will be analysed .
Students test hypotheses and record findings (for science/math based inquiries). Based on the collected data,

Explain (20 minutes)

Now, Students will work on the hypothesis and project topics.
Students will create a project on google earth locating the area they are covering during their research work, it may be local or global.

Revise (10 minutes)

1. Students will make adjustments to their hypothesis based on information gained in discussion or test findings.

(Option to repeat this process with additional sources of information, each time resulting in an updated hypothesis.)

Apply (80 minutes)

All the groups will present their work in a seminar.

Evaluate: Exemplar Response and/or Rubric

- Tools for assessing mastery of learning objectives to be used by teachers or students for self or peer assessment.

Additional Resources

- Links to texts or websites that relate to the topic and/or lesson.

Options for Differentiation

- Possible modifications, adaptations or extension activities specific to this lesson.

Credits

Written by Bornali Chakraborty and designed by TERI in collaboration with Google Earth Education
Sanjivani International School & Sanjivani Junior College