

CG13011
Ecology and Geography

Topic 1

Learning notes for in-person class:

In the activity requirements any kind of paper can be used: kraft, cardboard, bond. The students can use any kind of images or drawings to enhance its work, including old magazine scraps, images printed out from internet, photographs, etc.

Learning notes for online class:

In the activity, two different products can be delivered: a concept map and a comparative chart. They can be separate for the use of rubrics Concept Map and Comparative Chart.

Topic 2

Learning notes for in-person class:

- For this activity, it is suggested to work in groups with 3 or 4 people maximum.
- For the first section, it is suggested to work with a cardboard of flip chart; however, it can be requested as a printed or electronic work.
- The students (team) must look in a printed or online newspaper for an article about a geographical phenomenon to do the activity's first section.

Learning notes for online class:

- To do the first section of the activity, the student must look in printed or online newspapers for an article about a geographical phenomenon.

Topic 3

Learning notes for in-person class:

- In this field activity, encourage the student to observe the sky and the landscape around him/her. Remember that this part of the activity is individual and the rest is a team work. It is suggested to work in groups not larger than 4 persons.
- The logbook needs to be as a journal or diary and should be written in 1st person, since the student most play the role of an astronaut and describe all that he/she sees in space, and using the concepts reviewed in the topic. The logbook can be presented as a document, slide presentation, video recording or a combination of them.
- It is recommended to use the app **Solar Walk 3D Solar System Model** found in iOS gadgets or **Solar Walk** for android, in order to complement the explanation of this topic.

Learning notes for online class:

- In this field activity, encourage the student to observe closely the sky and landscape around him.
- The logbook needs to be as a journal or diary and should be written in 1st person, since the student most play the role of an astronaut and describe all that he/she sees in space, and using the concepts reviewed in the topic. The logbook can be presented as a document, slide presentation, video recording or a combination of them.

Topic 4

Learning notes for in-person class:

- It is recommended to work in 3-4 person groups for the suggested activity.
- The activity can be complemented doing research about other groups as Civil Protection, CIRES.
- For making the timeline the following materials can be used: tape, glue, sheets of paper, cardboard, magazines, in order to create the chronology effect.

Learning notes for online class:

- The activity can be complemented doing research about other groups as Civil Protection, CIRES.
- The activity can be requested as a PowerPoint presentation.

Additional resources for activity 4. Seismic Activity in Mexico

This site presents 12 lessons designed to educate students and teachers with little or no pre-existing knowledge of Earth and space sciences, so that they may protect themselves in the event of an earthquake. All lessons are optimized for scientific content, ease of implementation, appropriateness to the targeted grade levels (middle and high school) and cultural sensitivity.

<http://www.parsquake.org/#/lessons/>

This site, sponsored by Incorporated Research Institutions for Seismology, provides animations of the simple analog setup used in this BLOSSOMS video lesson. The animations demonstrate the concept of elastic rebound and how energy is stored and released.

http://www.iris.edu/hq/programs/education_and_outreach/animations

The MIT BLOSSOMS video lesson will be watch during class, where you will perform various video pauses in order for the students to do the activities that correspond to each section.

- You can learn more about MIT BLOSSOMS video lessons from:

<https://blossoms.mit.edu/about>

- MIT BLOSSOMS video lesson for topic 4:

http://blossoms.mit.edu/videos/files/english/can_earthquakes_be_predicted_0

- Download the Teacher's Guide from:

<http://blossoms.mit.edu/sites/default/files/video/guide/Teachers-Guide-Earthquake-Education.pdf>

- It is recommended for the teacher to watch from the minute 14:56 corresponding to the Teacher's Guide section.

Topic 5**Learning notes for in-person class:**

- For this activity, it is suggested to work in groups with 3 or 4 people maximum.
- The whole activity can be done on cardboards, flip charts or as a free presentation (*PowerPoint*, video, a play, etc.). The deliverable format is free.

Learning notes for online class:

- The student can choose any climate type.

Topic 6

Learning notes for in-person class:

- To perform the activity, as many sheets of construction paper as necessary can be used.
- They can use drawings, collages or schemes; the idea is to leave them to their imagination and make an excellent job.

Learning notes for online class:

- The use of the discussion forum is an important tool for the discussion of issues such as water conservation and to make sure the student understands the concepts.
- You can ask for replicas and conclusions in the discussion forum, as to complement the activity in it.

Topic 7**Learning notes for in-person class:**

- The activity is recommended for teams of three to four people.
- The regions that will be divided among the students can be the following: (Central America, North America, South America, Oceania, Europe, Asia, Africa, Mexico). Try to give very different regions to all the groups, so differences can be distinguished between developed, developing, emergent and least-developed countries.

Learning notes for online class:

- You can also ask your students to present the information as a document or presentation.
- It is suggested that the teacher assigns world regions to the students as to prevent cheating.

Topic 8**Learning notes for in-person class:**

- The activity is suggested to work in groups of three to four people
- Assigned different biomes to every group including desert, jungle, tundra and forest.

Learning notes for online class:

- For the album activity, the student can deliver the type of file they desire (PowerPoint, word, flash animation, or any other format).
- Different biomes must be presented to students for selection including jungle, tundra, forest and desert.

Topic 9**Learning notes for in-person class:**

- This activity is suggested to work in pairs for better implementation of field activities.
- You may request the field activity as homework and then work on the document, and calculation of the density in class.
- You can also perform this activity in the green areas on campus.

Learning notes for online class:

- This is a field activity, so it is suggested to request photographs as evidence of the activity, or the scanned field notes.

Topic 10**Learning notes for in-person class:**

- The activity is suggested for working in teams of two to three people.
- For the activity, biomes are assigned to different students so they do not choose the same.
- One disturbance is required for every team, but the activity can be done as giving one disturbance article or information to the whole group and research as a group.

Learning notes for online class:

- In the activity the student is asked to choose a biome, but may be assigned by the Professor.
- The activity asks to investigate a disturbance, but the event can be suggested for the whole group.

Topic 11**Learning notes for in-person class:**

- It is suggested to work with teams of 3-4 members.
- On the first part it is suggested to work with egg shell-cardboard to make the map but it can also be used poster board for the same purpose.
- On the second part it is suggested to work with a coarse cloth or craft paper, but you can work with a model as well.

Learning notes for online class:

- It is suggested to assign the biogeochemical cycles to students and not to leave that decision to them since they usually choose the water cycle.
- The objective for this video is to explain and understand the different biogeochemical cycles by making a relationship between them and the every-day life. If they happen to be too heavy files to send, you can suggest to send them to an institutional e-mail.

Topic 13**Learning notes for in-person class:**

- 3-member teams are suggested for this activity.
- The projection of the documentary: "An inconvenient truth" is suggested.

Learning notes for online class:

- The digital campaign could be made either with a Power Point slideshow or an interactive video.
- The projection of the documentary: "An inconvenient truth" is suggested.

Topic 14**Learning notes for in-person class:**

- It is suggested for this activity to work with two-member teams.
- This activity suggests a particular case, but other similar case can be used as well.
- A forum can be used for the discussion about the case.

Learning notes for online class:

- This activity suggests a particular case, but other similar case can be used as well.
- A forum can be used for the discussion about the case.

Topic 15**Learning notes for in-person class:**

- For this activity: it is suggested to work with 3-member teams.
- For the recycled art project: it can be a piece of art or a new and original product made out of waste materials that could be used.

Learning notes for online class:

- It is suggested to look for 4 environmental projects among Mexico and other countries, but you could suggest only Mexico or only the other countries, and the number of projects to investigate.