

Breakout 2F

OPLs: Please edit this page when instructed by clicking the blue "Edit" tab above.(Do not use the yellow EDIT link)

1. OPL Cherilynn Morrow signing in here for Breakout Session 2: Group F WELCOME to Online Participants!

Participants of this session represent a diverse collection of education, science, and policy/societal expertise. The Essential Principles of the Climate Literacy Draft and those published for Ocean Literacy have been written on the walls, and in person participants are building on and referring to these in their introductory discussion.

Faciliator is Carol Knight of NOAA. In person participants of this group are:

Dilling (U. Colo. Center for Sci & Tech Policy), Tuddenham (College of Exploration), Pandya (UCAR - SOARS - minority undergraduate research), Ledley (TERC, research-education interface), McCaffrey (U. Colo. CIRES), Geary (Director of GLOBE), Meeson (NASA - Ocean science education), Pitman (K-12 educator, evaluator, Dade county Miami) , Henson (UCAR Office of Communication), LaDue (NSF)

2. Opening discussions have centered on the ideas of a. the Sun as an essential source of energy, b. the interconnectivity of all the spheres, and c. the interplay with humans and their impacts. We're focusing on science content but it is felt that the content we choose should be considered in light of how it can be related to society and what people might do as result of being literate about the atmosphere and climate.

3. Discussion is now in a brainstorming mode of possible Essential Principles (EP's) that will be revisited, filtered, and prioritized later on. So far these are:

a1. The Sun is the primary dirver of Earth's energy

b2. The Earth sytem is made up of many i nterconnected elements including the atmopshere, hydrosphere, geoshpere, biospehre (including humans)

c3. The amtosphere is a fundamental component of the Earth system

d4. The atmosphere is thin

e5. The greenhouse effect shapes the temperature structure of the atmsopshere

f6. The atmosphere makes Earth habitable

g7. The atmosphere is a single integrated system

h8. Everyone directly experiences the atmospshere

i9. The atmosphere and humans are inextricably interconnected

j10. The atmosphere has mass

4. Continued....Ideas for Essential Principles (EP's) and Fundamental Concepts (FC's)

k11. The atmosphere is a fluid that trasnport energy and matter around the Earth

l12. THe atmosphere is a buffer to outer space

m13. HUmans can change the atmosphere

n14. The atmosphere changes over time and space

o15. The atmopshere is dynamic

p16. Small changes in the atmosphere can have large impacts

q17. Plants use carbon in the atmopshere as a fundamental building block of life

5. Continued...Ideas for Essential Principles (EP's) and Fundamental Concepts (FC's)

r18. The atmosphere is a force in erosion and weathering

s19. Weather an dclimate ar different but inextricably connected

t20. The atmosphere is expericned by ALL humans

u21. The atmosphere is exchanging energy and matter with the other components of the Earth system

v22. Variations in weather over time make up climate

w23. Climate definitions - defined over a place, and defined over a period of time

6. Continued....Ideas for Essential Principles (EP's) and Fundamental Concepts (FC's)

x.24 There is one atmosphere that vares depending on location and on different time scales.

y25. Weather is contained within the atmosphere but influencedby other components of the Earth system.

z26. The Earth's atmosphere is unique within the solar system

Common confusions:

The differences between atmosphere, weather, and climate....

Misconception about how photosynthesis works....mass in log comes from the CO2 in the atmosphere (Minds of our Own video - follow up of Private Universe Project mentioned by Susan Buhr...example of an exchange between atmosphere and biosphere...

7. Nicole LaDue of the NSF has grouped the elements above in real time. These have been projected on the wall to cross correlate with the Recorders Notes which are consistent with the list above.

The question is how can this list of a-z ideas be binned into fewer categories of consideration.

ON LINE PARTICIPANTS - IF YOU HAVE IDEAS ABOUT GENERAL PRINCIPLES DERIVED FROM the ABOVE LIST - PLEASE WRITE US!!!! and tell us which of the lettered comments above are included in your idea for a general principle.

8. La Due has collapsed into smaller number of Big Ideas. Numbers after the BIG LETTERS (A, B, C....) correspond to letters of the alphabet above. **SO FAR, these are:**

A. The atmosphere (atm) is a single integrated system...everyone interacts with it...We all live in an ocean of air: 2,3,7,8,9,20

B. The atm is a fluid that transports heat and matter: water, particles...10,11,18,21

C. The atm is unique and makes Earth habitable: 4,5,6,12,17, 26

D. Humans change the atm, The atm changes over time: 5,9,13,14

E. The atm is dynamic - it changes at different rates, the composition changes, it varies from location to location, small change can have transformation effects: 4,11,14,15,16,18

F. Plants use content in the atm to build life: 17

G. There is exchange between the atm, hydrosphere, oceans, and biosphere. The atm is constantly exchanging energy and matter with other spheres: 5,10,11,17,18,21,25

H. There is an atm that varies depending on location and at different timescales. Weather and Climate are different but inextricably connected. 14, 15,19, 22, 23, 24, 25

I. The Sun is the source of all energy in the atm: 5

LET US KNOW IF YOU CONCUR!! WE ARE NOT BREAKING TO PREPARE PRESENTATION OF THESE RESULTS FOR THE AFTERNOON. I'LL REMAIN ON LINE FOR THE NEXT FEW MINUTES TO SEE IF THERE ARE ANY CONTRIBUTIONS FROM ON-LINE PARTICIPANTS ON THIS PROCESS.

9. Is anyone out there?

10. I have back filled the last names and affiliations of the members contributing to the group discussion above. This afternoon, this group's results will be reported in plenary and a consensus discussion will be held. Then the group will be prepped for discussions tomorrow about Fundamental Concepts beneath each consensus Essential Principle. If you have thoughts you'd like raised in the consensus discussion, please email me at cmorrow@seti.org*. Signing off now.*

Online Viewers: Please use the "Add Comments" button below to add your comments and suggestions.