

APES Project:
BIOGEOCHEMICAL CYCLES or 10% RULE – 60 points

Assigned: _____ **Due date:** _____

Each group will be assigned a topic to illustrate in some meaningful way.

This will be done by a random drawing.

The following topics will be assigned:

1. **Carbon**
 2. **Nitrogen**
 3. **Phosphorus**
 4. **Sulfur**
 5. **Hydrologic**
 6. **10% rule**
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Each group will choose one or more methods of presentation:

1. Video enactment
2. Game: board game, card game, etc.
3. Dance
4. Skit
5. Song
6. Poem
7. Interview with the atoms, molecules, and/or ions involved
8. 3-D work of art - sculpture, mobile, diorama etc.
9. Interactive web site
10. PowerPoint presentation
11. Other (subject to approval)

Groups must commit to presentation method(s) ahead of time. Once a group signs up for presentation methods, they cannot be changed.

For each cycle, the presentation must include:

1. chemical reactions involved
 2. inorganic and organic reservoirs for the element
 3. pathway of movement
 4. impact of human intervention on the cycle
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IMPORTANT NOTES:

- Each presentation should take no less than 10 minutes and no more than 15 minutes. Grading will be based on accuracy, completeness, creativity, learning value, quality of presentation. See rubrics for details.
- Each group must print and hand in one copy of the proper scoring rubric when the project is presented.
- This assignment will be worth 60 points, and all members of the group will receive the same grade.