

In-class activity 11

Assemble Your Group

- Find your assigned group members, and sign in below.

Team member: _____

Team member: _____

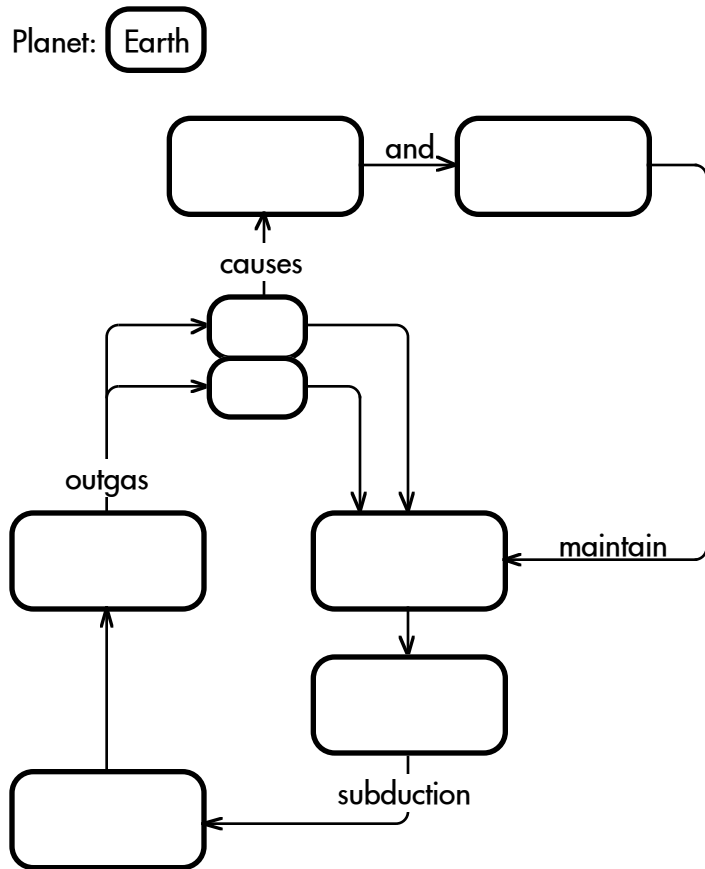
Team member: _____

Team member: _____

Planetary Cycles

- (Cf. Seeds and Backman, *ASTRO3*, Brooks/Cole Cengage Learning (2018), pp. 122-124, pp. 125-131.) On the following pages, fill in the atmosphere cycle charts for Earth, Venus, and Mars. Every one of the 26 rounded corner boxes should have an entry from the list below. Each term should only be used once, except where explicitly noted.

- Active volcanoes
- CO₂ (carbon dioxide) (3)
- Dead volcanoes
- Dormant volcanoes
- Escaped from atmosphere
- Dry, flexible crust
- H₂O (water vapor) (3)
- High temperatures
- Low temperatures
- Mantle (3)
- Medium greenhouse effect
- Moderate temperatures
- Oceans (2)
- Permafrost/polar caps
- Sedimentary rock/crustal plates
- Strong greenhouse effect
- Thick atmosphere
- Thick, immobile crust
- Weak greenhouse effect



Planetary What-If Scenarios

4. For the questions below, circle your answer and briefly explain your reasoning.

- (a) If Venus had originally formed farther from the sun, its atmosphere would now be

 the same as it is today.

Explanation:

- (b) If Mars had originally formed with more mass, its atmosphere would now be
 $\left[\begin{array}{l} \text{cooler than} \\ \text{the same as} \\ \text{warmer than} \end{array} \right]$ it is today.

Explanation: