

**Human's Dependence on Earth's Mineral Resources**  
**Mining and Mining Impacts**  
**Post-Class Homework Assignment**

**Teachers Notes**

***Overall Assignment***

1. For homework after Unit 3, students read about the process of creating a can of soda, using a narrative that includes inputs from mining, energy, and transportation that are needed to produce the components of the can in addition to the liquid soda itself.\*
2. Students are then asked to create a concept map of the process.
  - If desired, the instructor can ask them to add in steps/pathways that are not included explicitly within the text but that must be occurring, including the processes/impacts of mining that were covered within this unit.
3. Students briefly discuss/present their impressions of the process at the beginning of the following class period. The instructor, perhaps as they casually finish and throw away (or recycle) a can of soda in front of the students, could ask the students to give their impressions about the process described in this reading and its general implications, as well as thoughts about our own lifestyles.

*Alternate Version:*

- If worked on during class time, students could work in groups (instead of individually) to complete the concept map, with discussion about their maps and their impressions at the end of the class period.

*\*The original assignment came from a book titled Natural Capitalism by Paul Hawken, Amory Lovins, and L. Hunter Lovins (1999), where the students were asked to read from page 49 from the sentence "A striking case study" to the middle of page 51 just before the section "How Much Waste Is There?" If you have access to this portion of the book for your students, this would be the recommended segment for them to read instead of the summary included with this assignment.*

***Example of Assignment Wording and Rubric***

*To handout to the students:*

Using the reading describing the creation of a can of soda, create a concept map, with appropriate labels, for the process of producing a can of soda. Include all of the components and actions mentioned specifically within the description but also add factors that are implied beyond the description, including some of the aspects related to mining that we have been discussing, as well as other "invisible" factors (i.e., transport, fuel, etc.). Please be sure to be neat and write legibly.

Rubric for Grading Concept Map: 20 pts

Concepts from description represented in concept map? 5 pts

Connections between concepts present and logical? 5 pts

Extended to concepts beyond those described in this reading? 5 pts

Legible, complete, and with minimal spelling and grammar errors? 5 pts