

## Concept maps

I find concept maps a good way to reflect on a topic, gain an overview, and produce a useful learning aid. Often students get bogged down by details, and forget the “large picture”. I hope concept mapping can help you to make meaningful connections.

Your final exam will include a concept map, in addition to a one-page essay. I find students have very varied writing skills. When grading essays it is often hard to decide if weird wording is a consequence of a student not having understood the concepts or because a student needs to work on his/her writing skills. In contrast, a concept map does neither depend on clarity of sentences nor on coherence of paragraphs. Instead, thoughtful arrangement and concise connections become obvious; and students can also make use of design aspects. Overall, I have found concept maps to provide a fair assessment of students’ understanding of material.

On the following pages are 3 sample concept maps from previous finals and how I marked them. The maps are about “mountains”, and although we have not covered this topic explicitly in class you will be able to follow them. Below is a revised marking guide, the one that will be used in your final exam.

### **/3 concepts (ideas):**

meaningful, specific, relevant

- (3) 5 concepts (or 2 extra propositions)
- (2) 4 concepts
- (1) 3 or 2 concepts
- (0) 1 concept

### **/5 propositions (links):**

accurate, brief, clear, have direction

- (5) 7 links
- (4) 6 links
- (3) 5 links
- (2) 4 links
- (1) 3 or 2 links
- (0) 1 or 0 links

### **/2 visual appearance:** 0.5 pts each for

- neat and legible
- balanced, organized, and focussed
- concepts boxed, propositions on arrows
- thoughtful arrangement

I urge you to work on your concept mapping skills. These are a few suggestions for topics:

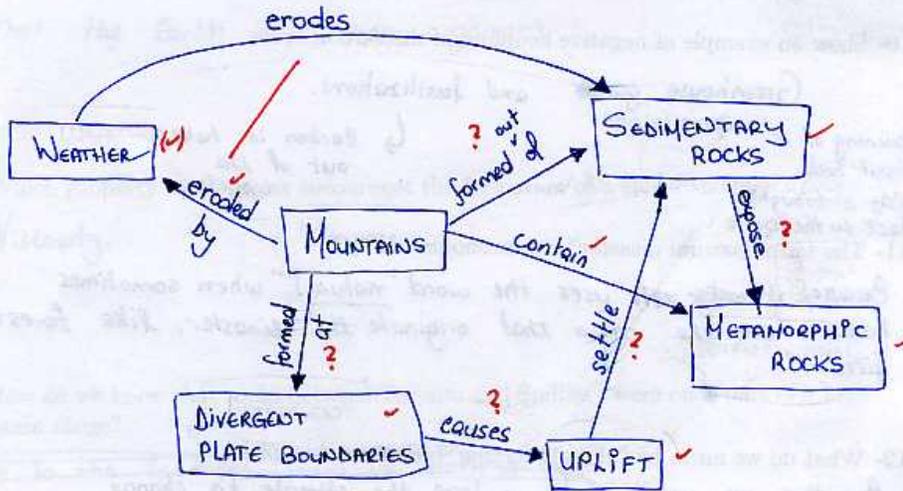
- water
- igneous rocks
- volcanoes
- glaciers
- fossils
- disasters
- evolution
- climate change
- divergent plate boundary

### 3 Concept map

6.5  
/10

topic: "Water in the Earth Sciences" or "Mountains"  
 You have encountered "water" or "mountains" in various lectures. Please prepare a concept map below that includes 5 concepts (other than "water" or "mountains") and 7 propositions. Concepts will come from at least three lectures. As key concepts I define the really important ones mentioned in class. You may take notes on the last page. 10 points total. Marking guide is as follows:

- |  |   |
|--|---|
| <p>3.5 /4 concepts: meaningful, specific, relevant</p> <ul style="list-style-type: none"> <li>(4) 5 concepts (or 2 extra propositions)</li> <li>(3) 4 concepts</li> <li>(2) 3 concepts</li> <li>(1) 2 concepts</li> <li>(0) 1 concept</li> </ul> | <p>1.5 /4 propositions: accurate, brief, clear, have direction</p> <ul style="list-style-type: none"> <li>(4) 7 propositions, evenly distributed</li> <li>(3) 7 or 6 propositions</li> <li>(2) 5 or 4 propositions</li> <li>(1) 3 or 2 propositions</li> <li>(0) 1 or 0 propositions</li> </ul> |
|--|---|
- 1.5 /2 visual appearance: 0.5 pts each for
- ✓ neat and legible
  - ✓ balanced, organized, and focussed
  - ✓ concepts circled or boxed, and propositions on arrows
  - thoughtful arrangement



### 3 Concept map

7.5/10

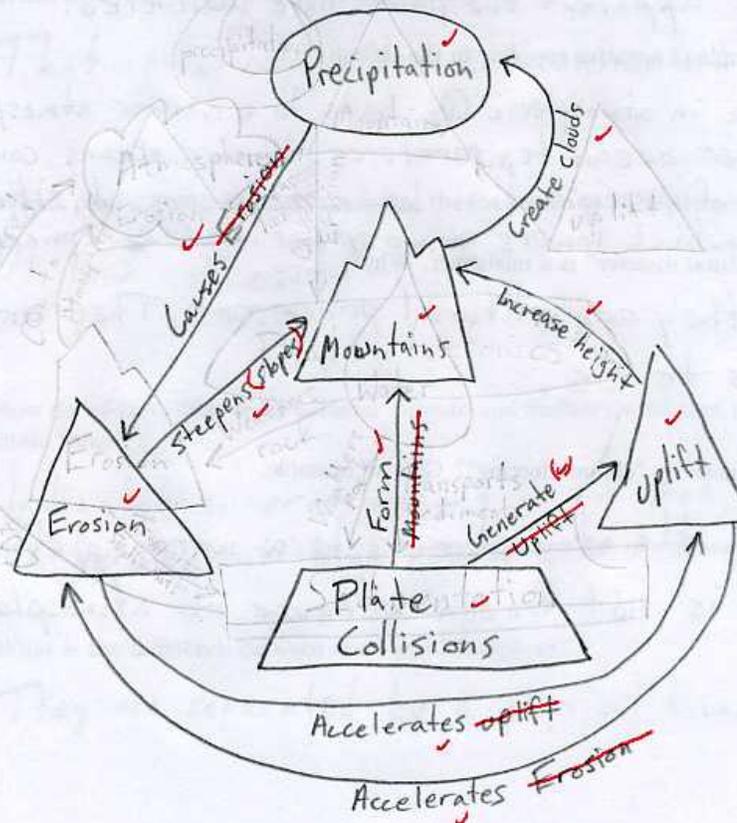
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- 3** /4 concepts: meaningful, specific, relevant
- (4) 5 concepts (or 2 extra propositions)
  - (3) 4 concepts
  - (2) 3 concepts
  - (1) 2 concepts
  - (0) 1 concept

- 3** /4 propositions: accurate, brief, clear, have direction
- (4) 7 propositions, evenly distributed
  - (3) 7 or 6 propositions
  - (2) 5 or 4 propositions
  - (1) 3 or 2 propositions
  - (0) 1 or 0 propositions

- 1.5** /2 visual appearance: 0.5 pts each for
- ✓ neat and legible
  - ✓ balanced, organized, and focussed

- ✓ concepts circled or boxed, and propositions on arrows
- ⊙ thoughtful arrangement



### 3 Concept map

9/10

topic: "Water in the Earth Sciences" or "Mountains"

You have encountered "water" or "mountains" in various lectures. Please prepare a concept map below that includes 5 concepts (other than "water" or "mountains") and 7 propositions. Concepts will come from at least three lectures. As key concepts I define the really important ones mentioned in class. You may take notes on the last page. 10 points total.

Marking guide is as follows:

4 /4 concepts: meaningful, specific, relevant

(4) 5 concepts (or 2 extra propositions)

(3) 4 concepts

(2) 3 concepts

(1) 2 concepts

(0) 1 concept

3 /4 propositions: accurate, brief, clear, have direction

(4) 7 propositions, evenly distributed

(3) 7 or 6 propositions

(2) 5 or 4 propositions

(1) 3 or 2 propositions

(0) 1 or 0 propositions

2 /2 visual appearance: 0.5 pts each for

✓ neat and legible

✓ balanced, organized, and focussed

✓ concepts circled or boxed, and propositions on arrows

✓ thoughtful arrangement

