

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:

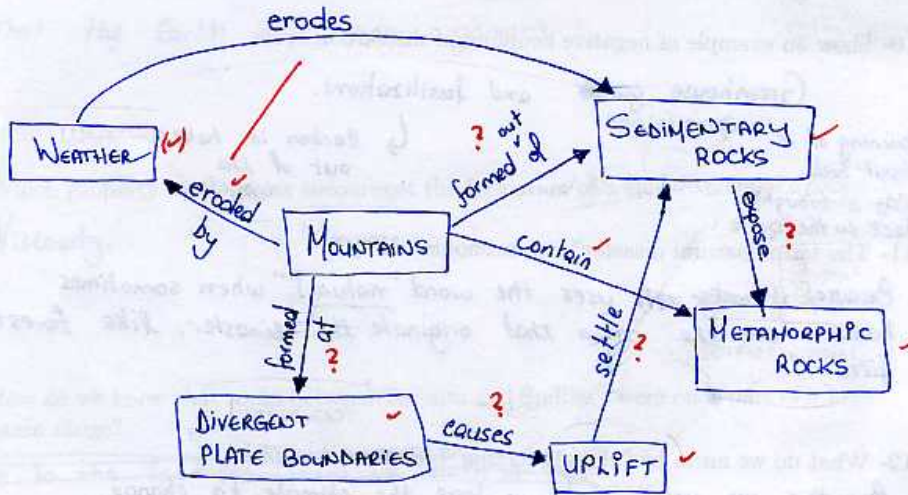
- water
- igneous rocks
- volcanoes
- glaciers
- fossils
- disasters
- evolution
- climate change
- divergent plate boundary

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:

- 3.5 /4 concepts: meaningful, specific, relevant
- (4) 5 concepts (or 2 extra propositions)
 - (3) 4 concepts
 - (2) 3 concepts
 - (1) 2 concepts
 - (0) 1 concept
- 1.5 /2 visual appearance: 0.5 pts each for
- ✓ neat and legible
 - ✓ balanced, organized, and focussed
- 1.5 /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
- ✓ concepts circled or boxed, and propositions on arrows
 - thoughtful arrangement



3 Concept map

7.5/10

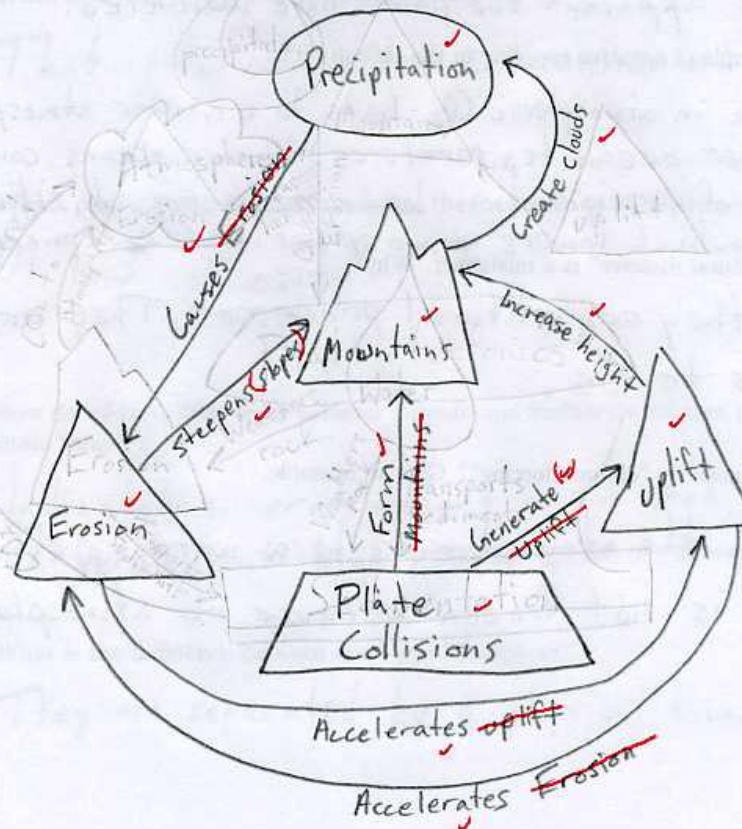
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- (4) 5 concepts (or 2 extra propositions)
 - (3) 4 concepts
 - (2) 3 concepts
 - (1) 2 concepts
 - (0) 1 concept

- 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"
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- | | |
|---|--|
| <p>4 /4 concepts: meaningful, specific, relevant</p> <ul style="list-style-type: none"> (4) 5 concepts (or 2 extra propositions) (3) 4 concepts (2) 3 concepts (1) 2 concepts (0) 1 concept | <p>3 /4 propositions: accurate, brief, clear, have direction</p> <ul style="list-style-type: none"> (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

