

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 / 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

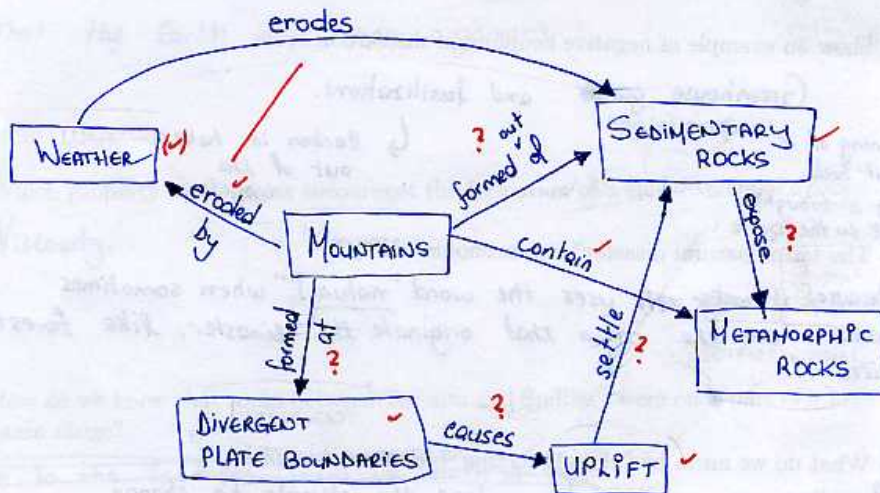
1.5 / 2 visual appearance: 0.5 pts each for

✓ neat and legible

✓ balanced, organized, and focussed

✓ concepts circled or boxed, and propositions on arrows

○ thoughtful arrangement



3 Concept map

7.5/10

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

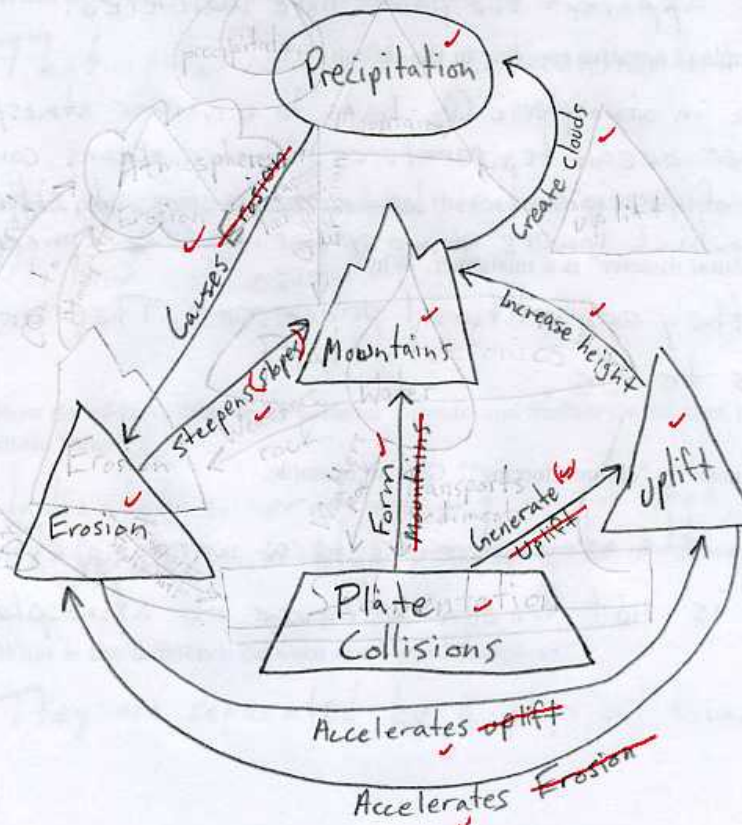
You have encountered "water" or "mountains" in various lectures. Please prepare a concept map below that includes 5 concepts (other than "water" or "mountains") and 7 propositions. Concepts will come from at least three lectures. As key concepts I define the really important ones mentioned in class.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

- 3 /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

