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

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

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) 6 propositions
- (2) 5 propositions
- (1) 4 or 3 propositions
- (0) 2 or 1 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
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) 6 or 5 propositions
(2) 4 or 3 propositions
(1) 2 or 1 propositions
(0) 0 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

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