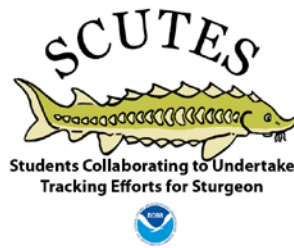


Topic/Lesson	Ecosystem in Danger
Objectives:	Students will be able to: <ul style="list-style-type: none"> • Identify that Atlantic sturgeon live in the ocean. • Explain several reasons why the ocean is in trouble and how we can help. • Create a concept map linking how humans, Atlantic sturgeon, and the ocean are connected.
Materials:	<ul style="list-style-type: none"> • Computer with internet • Concept map • Pencils or pens • Notebooks or paper • Instruction paper • Resource paper • Brainstorm paper- cluster map • Rubric • Dictionary
Vocabulary:	<ul style="list-style-type: none"> • Atlantic sturgeon • Pollution • Ecosystem • Concept map • Relationships • Debris • Brainstorming • Researching and taking notes
Procedures:	<ol style="list-style-type: none"> 1) Begin class by writing “Can you affect something or someone if you never see it?” 2) Let small groups have three minutes to discuss and come up with an answer or example. 3) All groups share their main ideas from their discussions, which may then lead into a larger class discussion. 4) If students need some help formulating their discussions, give them an example. One example could be “A little girl lets her balloon go, and it floats up into the sky. The balloon eventually runs out of air and falls to the ground. A bird sees the shriveled up balloon on the ground and tries to eat it. Sadly, the bird chokes on the balloon and dies. Did that little girl affect the bird? Did the little girl ever meet or see the

	<p>bird? Can one living thing affect another living thing without ever seeing it or coming close to it?"</p> <ol style="list-style-type: none"> 5) Discuss that humans have the same power of affecting life in aquatic ecosystems, such as with Atlantic sturgeon. 6) Distribute the instruction page to students. Read it out loud together, discussing the assignment, steps, and resources to use. 7) Model creating a cluster map and a concept map for students to see. Leave the maps up for students to view during class time. 8) Partners begin working on assignment, using the instruction page and rubric as a guide. 9) Teacher walks around to assist students as needed. Assess the cooperative learning of the partners as part of their grade on the rubric. 10) When partners are finished, they must edit their work, fixing any spelling or grammar mistakes. They will then organize their materials in the correct order and prepare to present their maps to their classmates. 11) Partners present their maps and then pass in materials. 12) Pass out blank cluster and concept maps for homework assignment. 13) Teachers may create a bulletin board using concept maps after grading them.
<p>Accommodations/ Modifications:</p>	<ul style="list-style-type: none"> • Peer partnering • Scaffolding • Written multiple step instructions • Preferential seating • Repetition, oral cueing

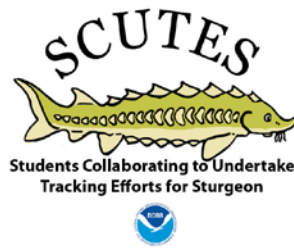


Ocean and Sturgeon Instructions

The ocean is a vast ecosystem, which contains billions of living organisms. Atlantic sturgeon are just one species that call the ocean their home. Humans affect the ocean and its marine life everyday through their behavior and actions. Some people do not even realize how much they are negatively affecting the ocean ecosystem.

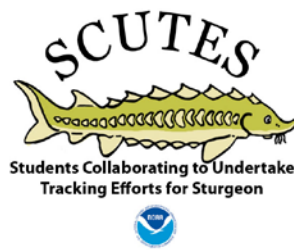
Work with your assigned partner to follow the instructions and guidelines to complete the assignment. Make sure to read the rubric carefully so you know what you will be graded on.

1. Fill in your brainstorming cluster maps. You must think of ten ideas.
2. Use the available Internet resources to determine why the ocean might be in danger. Search for facts, tips, and other important information. Take notes on the information you find. Include at least three important pieces of information from each site.
3. Using your notes, start working on your concept map. The “Concept Map Layout” sheet is to show you how to put the cluster maps together to create one map.
4. Make sure to show at least 15 relationships between humans, Atlantic sturgeon, and the ocean.
5. Edit your maps, fixing any spelling or grammar mistakes.
6. Prepare to present your cluster and concept maps to the class.
7. Organize your information in the following order; brainstorm cluster map, notes, and concept map.
8. **For Homework:** You will create a cluster and concept map that shows how we can help the ocean and how it will affect the ocean and Atlantic sturgeon.



Rubric

Area	Guidelines	Points
Participation and cooperative learning	<ul style="list-style-type: none"> • Partners followed all instructions. • Partners worked cooperatively. • Partners stayed focused and on task. 	25 pts
Cluster map (brainstorming) and notes	<ul style="list-style-type: none"> • Partners had ten or more ideas on the brainstorming cluster map. • Partners went to every resource site. • Partners took notes and listed at least 3 pieces of important information from every site. 	30 pts
Concept map	<ul style="list-style-type: none"> • Concept map shows at least 15 relationships between humans, Atlantic sturgeon, and the ocean. • Concept map is organized. • Concept map is edited and free of any mistakes. 	25 pts
Presentation	<ul style="list-style-type: none"> • Partners speak clearly and understandably when presenting. • Partners are able to explain what they learned to the class appropriately. • Both partners participate. 	20 pts



Website Resource Page

Here are the resources you will use to increase your understanding of the ocean. Visit each site. Find at least 3 interesting facts, ideas, or tips from each, and write about them in your notes.

<https://www.iucn.org/theme/ecosystem-management/our-work/red-list-ecosystems>

<https://www.nature.org/en-us/about-us/where-we-work/united-states/washington/stories-in-washington/estuaries-blue-carbon-capture/>

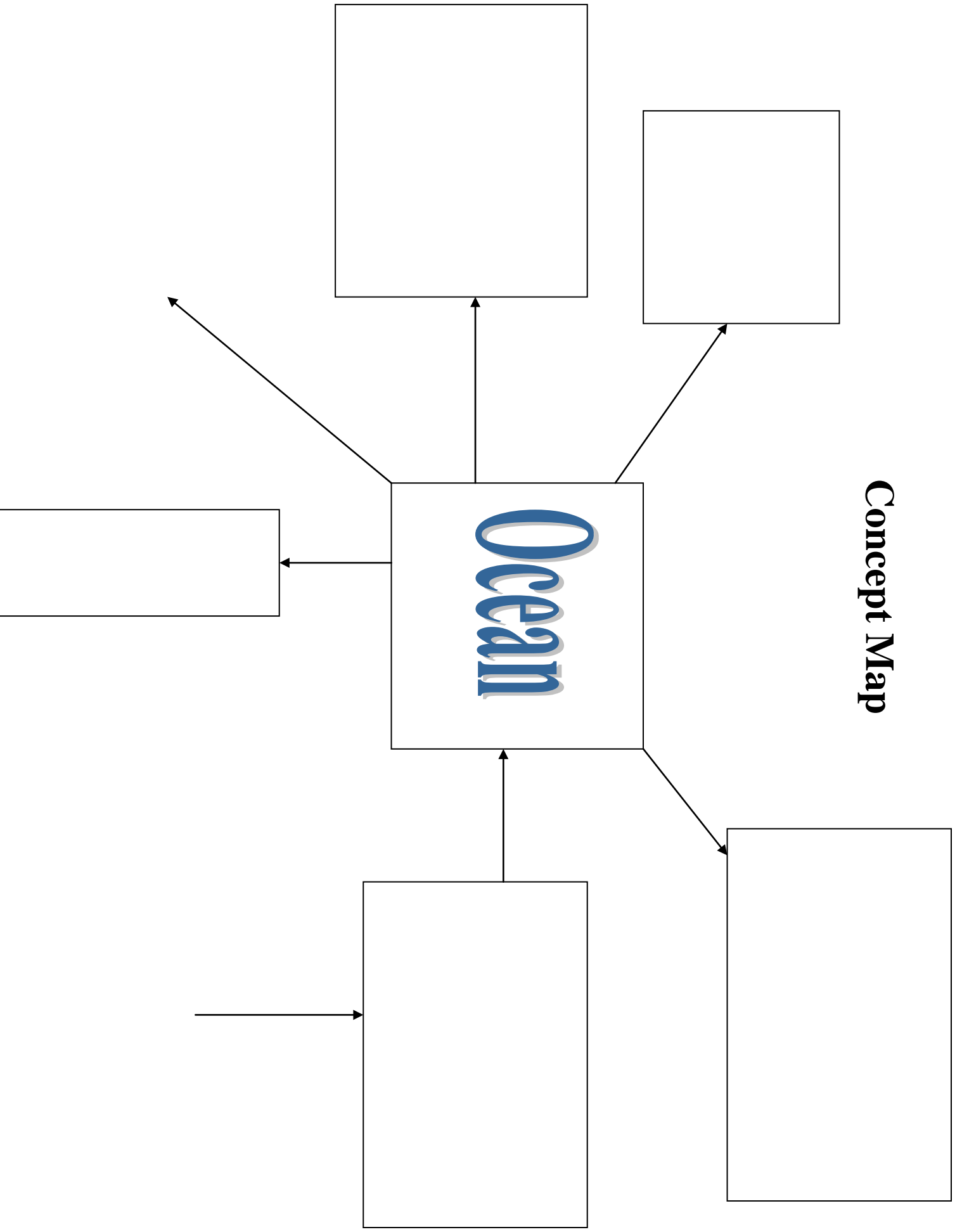
<http://dusk.geo.orst.edu/oceans/yoto.html>

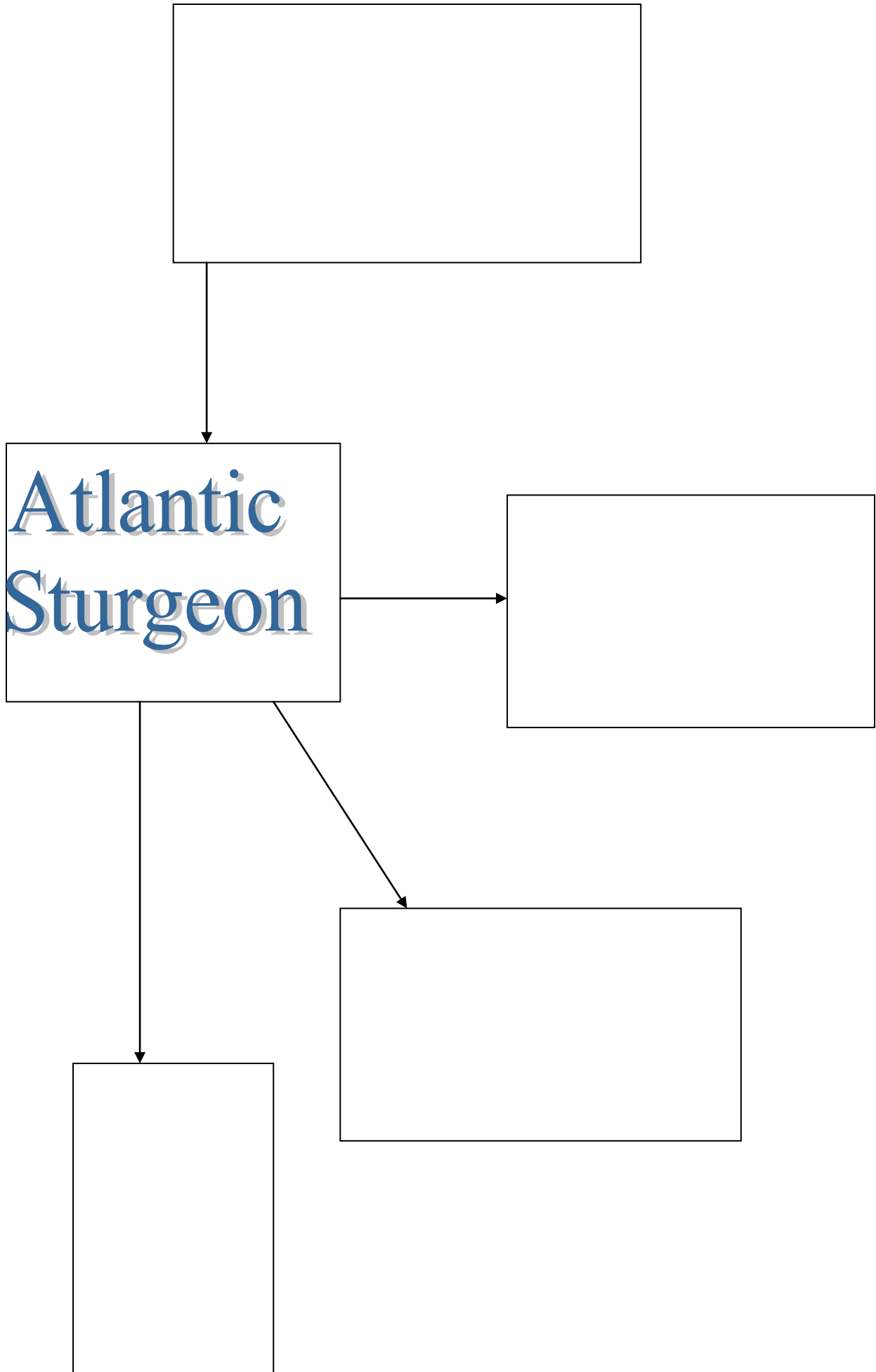
https://oceanservice.noaa.gov/education/tutorial_estuaries/welcome.html

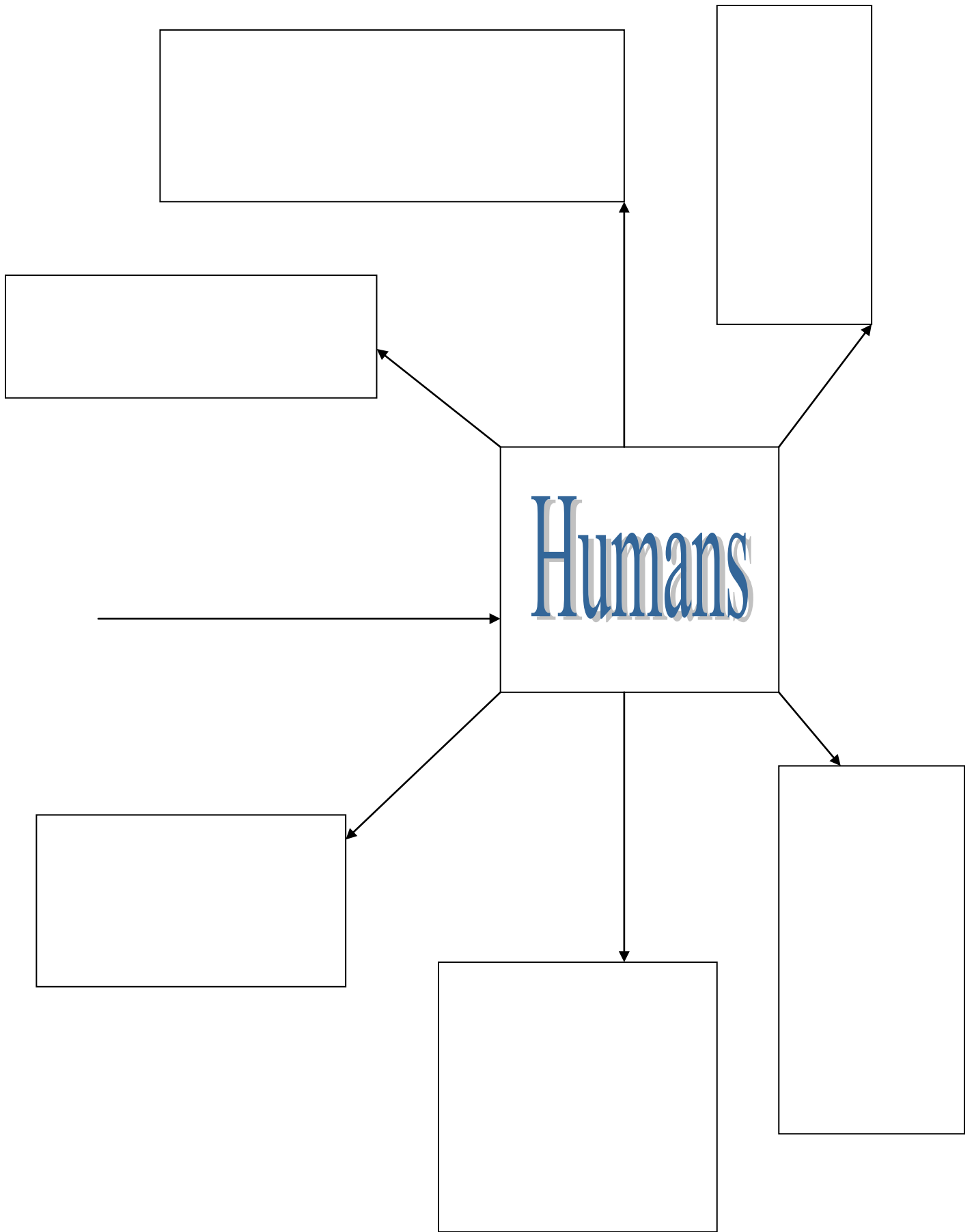
<http://www.wired.com/science/discoveries/news/2004/06/63699>

<https://oceanservice.noaa.gov/facts/marinedebris.html>

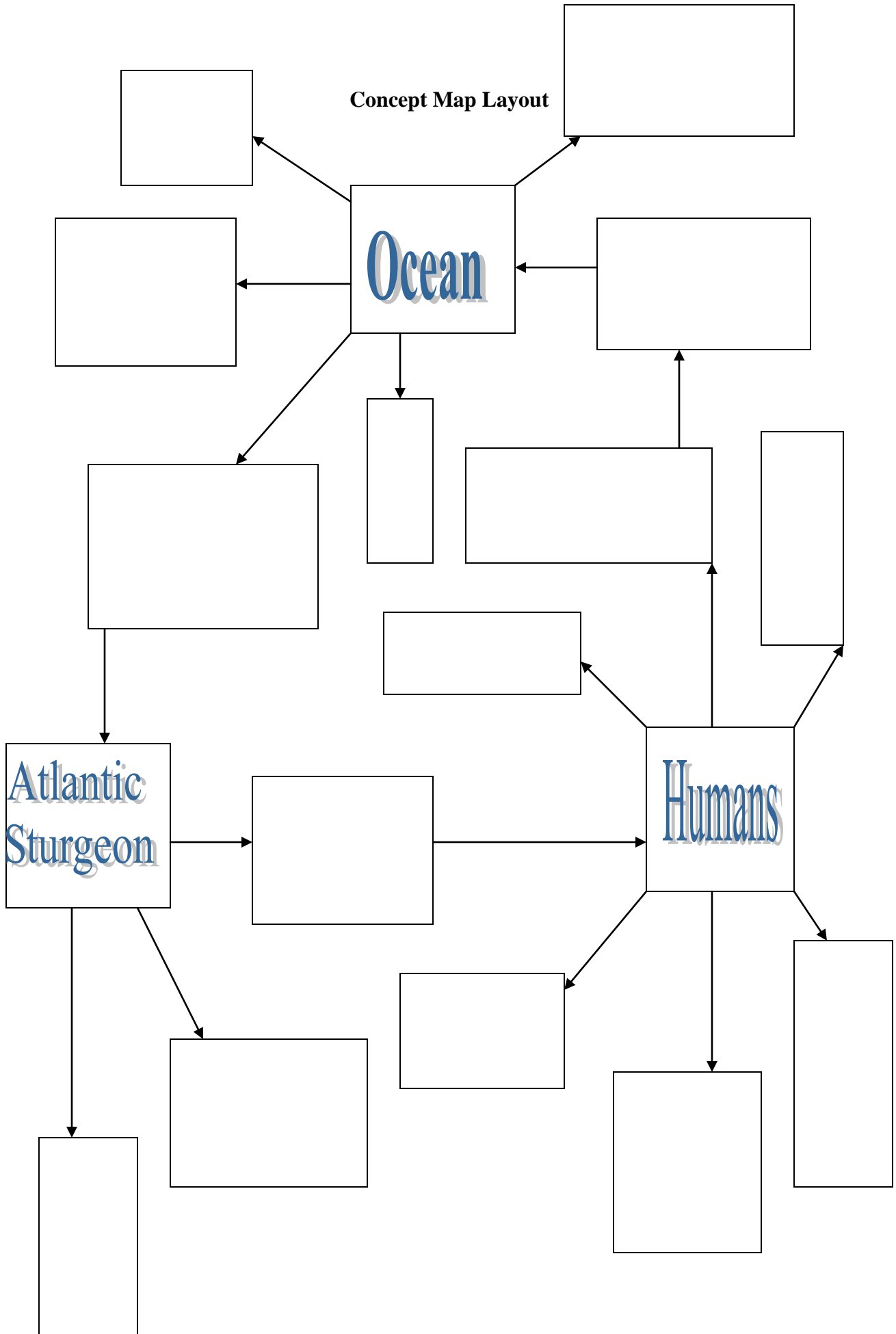
Concept Map

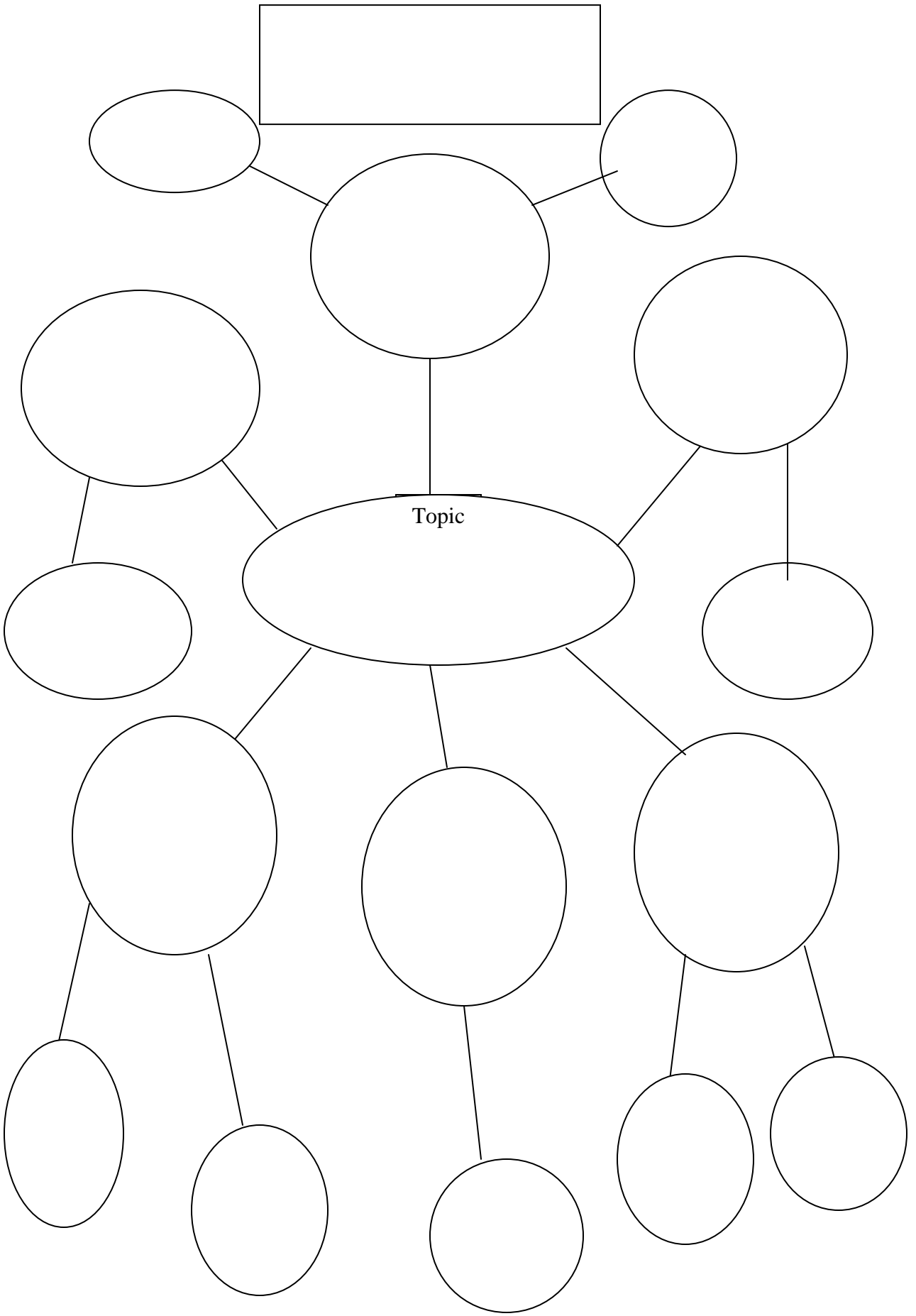




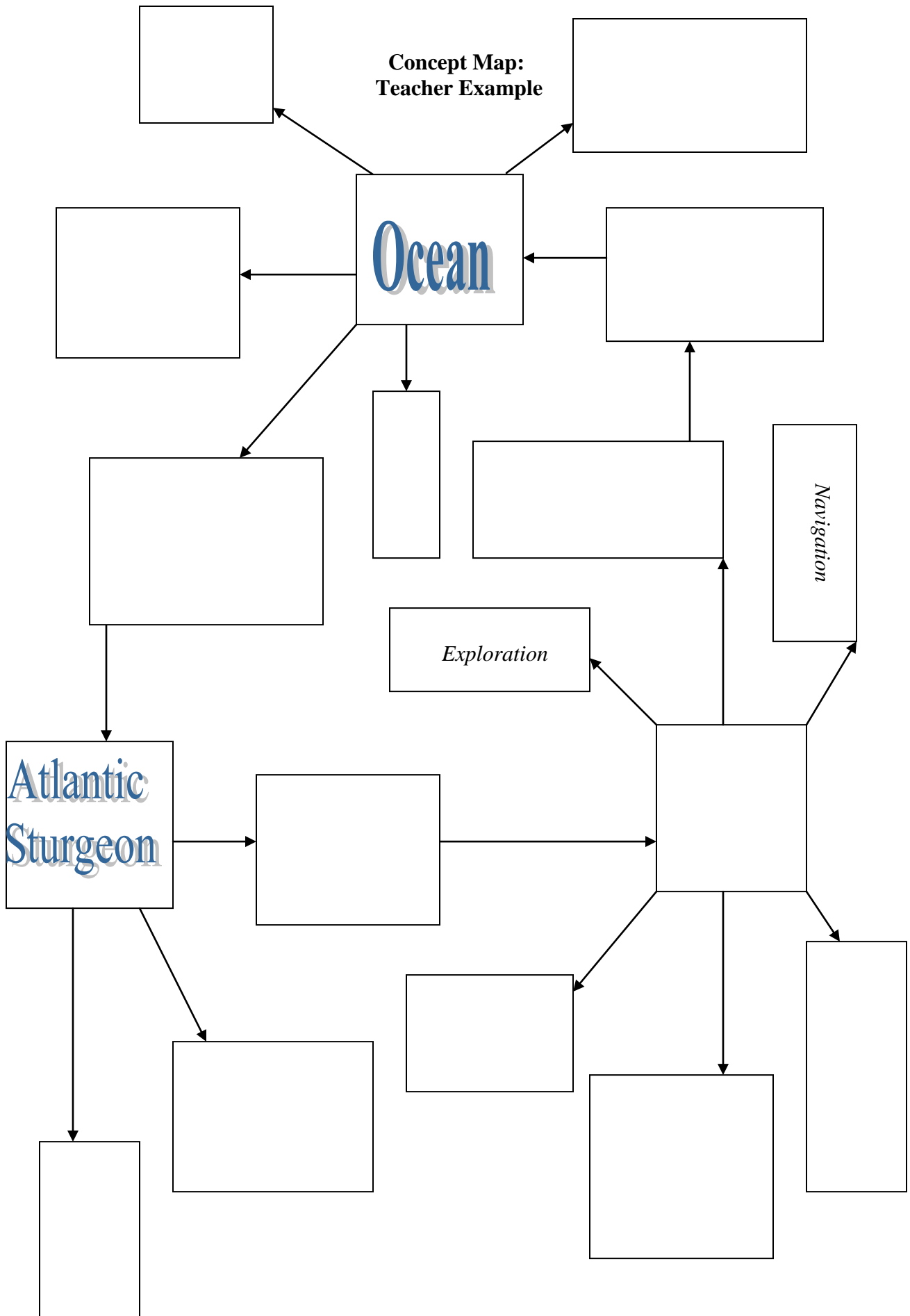


Concept Map Layout





**Concept Map:
Teacher Example**



**Brainstorming Cluster Map:
Teacher Example**

Write your topic in the center circle and details in the smaller ones. Add circles as needed.

