NOAA: Energy from the Ocean
go to: http://www.montereyinstitute.org/noaa/

Name : _____

1: How can renewable power be generated by the ocean? **Explain wave energy.**

2: Why is wave energy not considered to be a reliable energy source? *Where would it be best?*

3: **Explain tidal energy.** *Why is this considered to be more predictable? What is the drawback of tidal power?*

4: What is **OTEC?** Explain. *Make sure to explain the thermal gradient. Where is the best place to place this?*

5: What are the **benefits** of OTEC plants?

6: What are the drawbacks of these renewable energy resources? **Explain a few.**

7: What are some of the **non-renewable energy sources** found in the ocean? ***Explain these.***

8: What are the environmental costs of off-shore petroleum exploration?

9: What is a **potential new energy source**? *Explain these.*

10: What are the drawbacks of using **methane hydrates** in the oceans?

Global Impact

1: *How much* of the world oil and gas production does offshore petroleum provide?

2: *How many years of energy* can **methane hydrate** deposits provide?

3: **DO: Methane Hydrates Activity**

Where are methane hydrates now found?

Describe the impact of an increase in average global temperature on sea level and on marine and terrestrial hydrates. *Explain any changes.*

How would the release of methane into the atmosphere *affect rising temperatures*?

Describe the impact of a decrease in average global temperature on sea level and on marine and terrestrial hydrates. *Explain any changes.*

How would the release of methane into the atmosphere *affect falling temperatures?*

Speculate on the role the formation and dissolution of methane hydrates may have played in the waxing and waning of the Ice Ages, specifically the slow advance then rapid retreat of continental glaciers.

What impact could methane hydrates play in the course of **global warming?**