Wetlands MEL

Model Plausibility Ratings

Read the two models carefully and quietly. They each provide explanations for a specific scientific phenomenon.

Discuss with partners and eventually as a class to clarify each model.

On the bottom of the sheet, rate the models from 1-10 on how plausible (reasonable or probable of truth) you feel they are.

Model Plausibility Ratings

If you are pretty sure a model might be true, that means the plausibility is high—7, 8, or 9 on the scale.

If you are pretty sure a model is false, that means the plausibility is low—1, 2, or 3.

Model Plausibility Ratings: Wetlands and Land Use

Circle the plausibility of each model. [Make two circles. One for each model.]

|	Greatly implausible (or even impossible)									Highly Plausible
Model A	1	2	3	4	5	6	7	(8)	9	10
Model B	1	2	3	4	(5)	6	7	8	9	10

Model A: Wetlands provide ecosystem services that contribute to human welfare and help sustain the biosphere.

Model B: Wetlands are a nuisance to humans and provide little overall environmental benefit.

Model Plausibility Ratings: Wetlands and Land Use

What are some factors that you considered when determining the plausibility of the models?

Evidence Texts
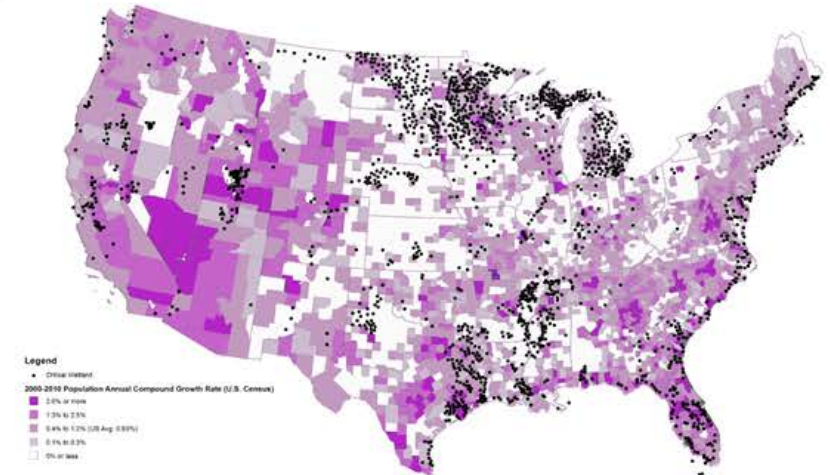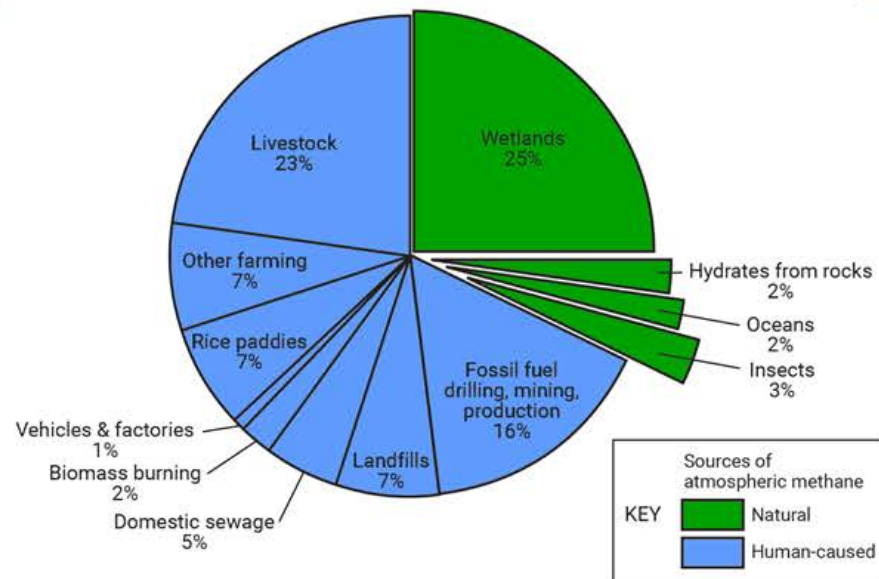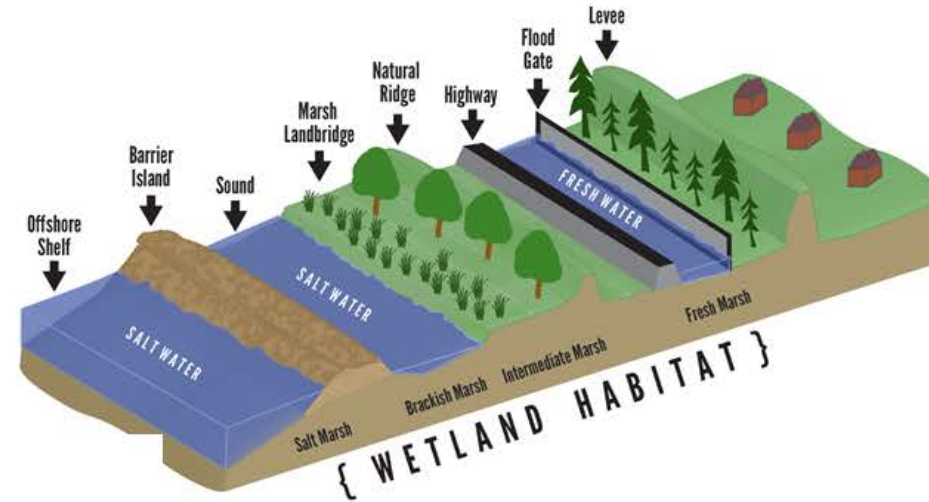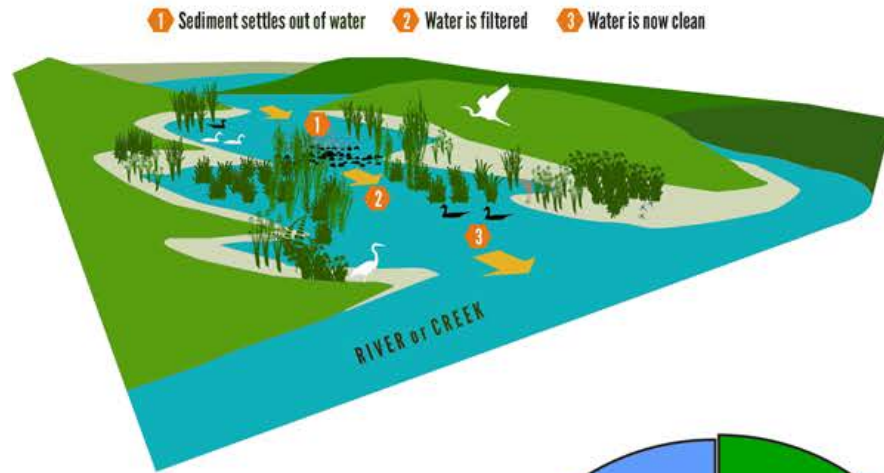
MEL Diagram: Wetlands and Land Use

Go through and carefully read each of the 4 lines of evidence. Think about each question as you read:

- Does the evidence support the model(s)?
- Does the evidence strongly support the model(s)?
- Does the evidence contradict the model(s)?
- Does the evidence have nothing to do with the model(s)?

Draw 2 arrows from each evidence box, one to each model (totaling 8 arrows).

Use the key to show how each evidence relates to the model.

Name: _____ Date: _____ Teacher: _____ Period: _____

If you worked with other students, their name(s): _____

Directions: Draw 2 arrows from each evidence box, one to each model. You will draw a total of 8 arrows.

Key:

→ The evidence **supports** the model

〜〜〜→ The evidence **STRONGLY supports** the model

—✗—→ The evidence **contradicts** the model (shows its wrong)

- - - → The evidence has **nothing to do with** the model

Evidence #1
Wetlands play a role in the global cycles of carbon, nitrogen, and sulfur. Wetlands change these nutrients into different forms necessary to continue their global cycles.

Model A
Wetlands provide ecosystem services that contribute to human welfare and help sustain the biosphere.

Evidence #3
Wetlands contribute 70 percent of global atmospheric methane from natural sources.

Evidence #2
Flooding is a natural occurrence in low-lying areas and wetlands are places where floodwaters can collect.

Model B
Wetlands are a nuisance to humans and provide little overall environmental benefit.

Evidence #4
Many wetlands are located in rapidly developing areas of the country.

Wetlands MEL Diagram (08/02/2015)   *Page 1 of 1*

Generating Explanations

The final task is for you to revisit the plausibility of each model, and then choose two of your strongest links to discuss. Select the two most interesting or important arrows in considering the plausibility of the models.

Justify your reasoning for choosing the links between the evidence and model in the space provided on the sheet. This task is very important so please explain thoroughly.