FOOD AND ECOSYSTEMS

Instructions:

- Our food supply depends, in large part, on ecosystems—the organisms living in a place, their physical environment and all the interactions within.
- In the first column below, list parts or properties of ecosystems that are important to our food supply. Consider both biological (living) and physical (non-living) parts.
- In the second column, write down reasons why you think each part is important to our food supply. For example, soil is a part of ecosystems that helps provide plants with water, nutrients and root support.

OUR FOOD SUPPLY	
DEPENDS ON	
ECOSYSTEMS	
Parts or properties of ecosystems:	Why is this important to our food supply?
EXAMPLE: SOIL	PROVIDES PLANTS WITH WATER, NUTRIENTS AND ROOT SUPPORT

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Assessing problems

Instructions:

- Work as a group.
- Review your notes on the problems facing agriculture, listed below, and answer the questions that follow. Use additional paper as needed.

Some of the problems facing agriculture:

- Fertilizer impacts to aquatic ecosystems
- Pesticide impacts to ecosystems
- The treadmill effect
- Agricultural chemical impacts to health
- Pesticide impacts to wild biodiversity
- Monoculture impacts to wild biodiversity
- Domestic biodiversity loss
- Agricultural impacts to climate change
- Climate change impacts to agriculture

- Depletion of fertile soil
- Depletion of freshwater supplies
- Depletion of fossil fuels
- Depletion of mineral fertilizers
- Loss of farmland
- Loss of farmer equity
- Impacts of food animal production (*covered in a separate module*)

Questions:

1. Which of these challenges do you think is the most urgent? Why?

2. Which of these challenges do you think the easiest to address? Why?
3. Which of these challenges do you think is the most difficult to address? Why?
4. If you received funding to address any of the problems currently facing agriculture, which problem would you target? Why?

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ADDRESSING PROBLEMS

Instructions:

- Work as a group.
- Copy your assigned problem into the space below.
- Decide if your problem is a health, environmental, social or economic problem. It may be more than one of these. Write your response and explain your reasoning in the space below.
- Come up with a plan to address your problem and describe it in the space below. Imagine that you have the necessary budget to make your plan a reality. Your plan could involve farmers, corporations, consumers, politicians or any other people or organizations in the food system. It could involve trying to change industry practices, enacting government policies, changing consumer behaviors, educating people, developing new technologies or some combination of these or other interventions.
- Imagine what challenges might arise in implementing your plan. For example, if your plan involves restricting certain agricultural practices, will farmers be prepared to adopt alternatives? Who might object to your plan? Might there be any unintended consequences of enacting your plan? Write your response in the space below. Use additional paper as needed.

Questions:

5. Our problem (assigned by your teacher):		
6. Is this a health, environmental, social and/or economic problem? How?		
7. Our plan to address this problem:		
8. What challenges might arise? How would you address those challenges?		

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