

Name: _____

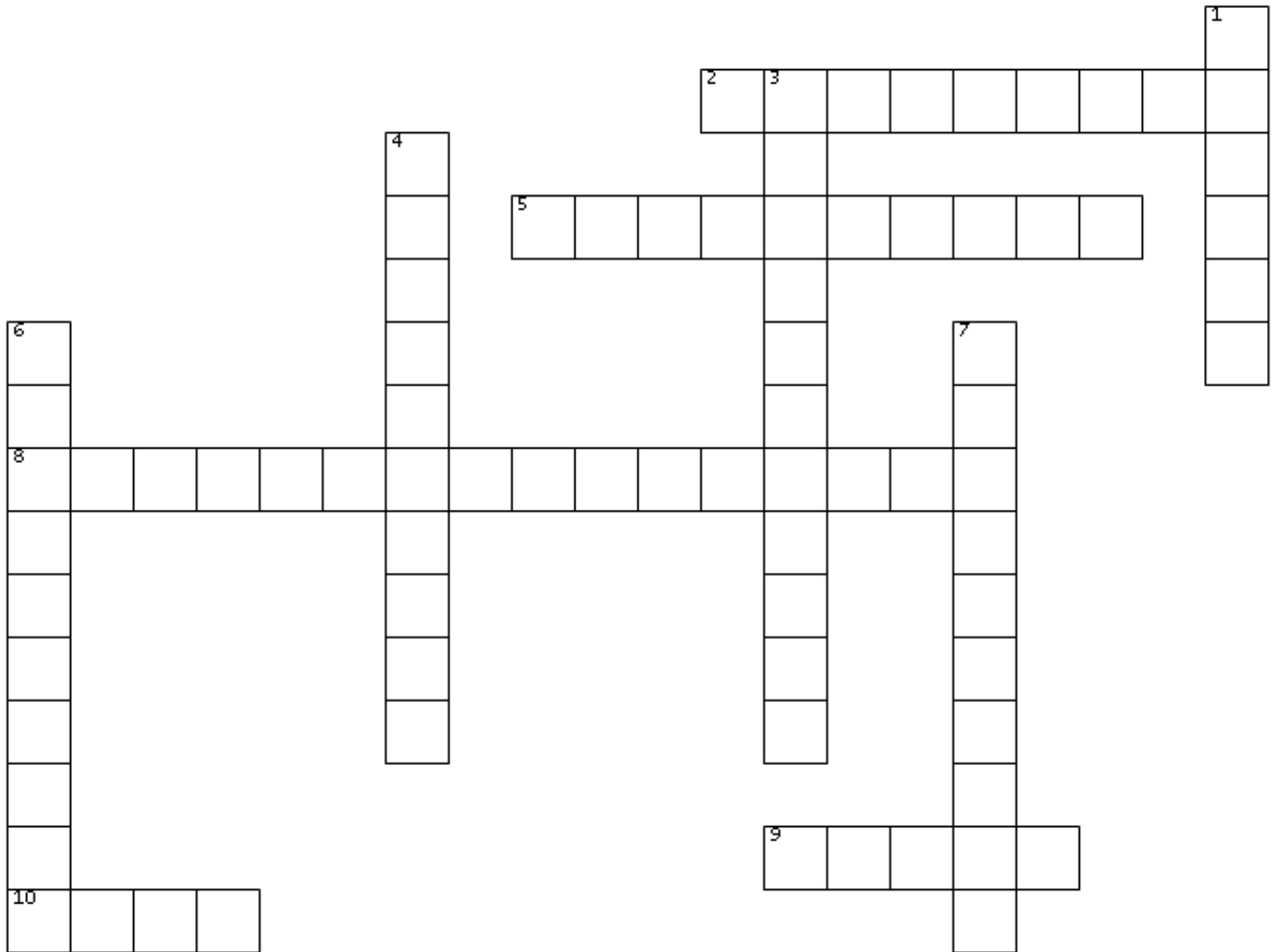
Water Use in Agriculture

Aligned to the following standards:

CS.03; CS.04; NRS.01; NRS.02; NRS.04; FFA.PL-A; FFA.PL-C; FFA.PL-F; FFA.PL-N; AG3; AG4; AG-NR1; AG-NR2; AG-NR4; CCSS.ELA.W.9-10.2; CCSS.ELA.W.9-10.7; CCSS.ELA.WHST.9.10.7; HS-ETS1-3; CRP.02; CRP.04; CRP.05; CRP.11;

Part 1

Directions: Use the clues below to solve the crossword puzzle containing various methods of crop irrigation and livestock watering.



ACROSS

2. Using hoses, pipes and pressurized heads to apply water to the soil from above
5. Uses pumps to transport water from a source (well, etc.) to a trough or tank
8. Often connected to a water source; automatically replenishes water level as animals drink
9. Also called surface irrigation, water is distributed over the soil surface, typically by gravity
10. This irrigation method delivers water directly to the plant roots.

DOWN

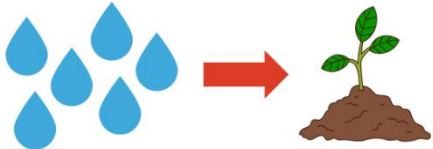
1. Open containers to provide a drinking source for livestock
3. Designed for animals to self-operate, often using a nose-paddle to get water
4. Can be used as a short-term or emergency water supply, particularly in remote areas
6. Water source at a higher elevation than the water trough, gravity used to deliver water
7. The supply of water to land or crops to help growth

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Part 2

Directions: Transfer the terms from Part 1 to the appropriate table below. Record the term and a simple definition and draw a picture representing the water delivery method. You may use the internet to research each of these methods if needed. Then answer the conclusion questions at the end.

Example:

Term	Definition	Picture
Irrigation	The process of providing plants with water in addition to or instead of natural rainfall to help them grow	

Crop Irrigation Methods

Term	Definition	Picture

Animal Watering Methods

Term	Definition	Picture

Name: _____

Animal Watering Methods (Continued)

Term	Definition	Picture

Conclusion Questions:

1. Why do you think there are such diverse methods of irrigating crops and watering animals? Why are so many different methods required?
2. What do you think goes into a farmer's or rancher's decision in choosing an irrigation or watering method?
3. Which methods seem like the most efficient to you? Why do you think so?
 - a. I think the most efficient irrigation method is _____ because ...
 - b. I think the most efficient animal watering method is _____ because ...

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Conserving Agricultural Water

Aligned to the following standards:
CS.03; CS.04; NRS.01; NRS.02; NRS.04; FFA.PL-A; FFA.PL-C;
FFA.PL-F; FFA.PL-N; AG3; AG4; AG-NRI; AG-NR2; AG-NR4;
CCSS.ELA.W.9-10.2; CCSS.ELA.W.9-10.7;
CCSS.ELA.WHST.9.10.7; HS-ETS1-3; CRP.02; CRP.04; CRP.05;

Directions: Use the table below to research your assigned water conservation strategy for your group. Then present your findings to your group and record their findings using the next table.

My Assigned Water Conservation Strategy

What is your water conservation strategy? <i>(Explain in two or three sentences.)</i>	
How does this strategy help conserve water in agriculture? <i>(Explain in two or three sentences.)</i>	
What are the benefits of this strategy for a farm or ranch? <i>(List three.)</i> 1. 2. 3.	What are the potential challenges of implementing this strategy? <i>(List three.)</i> 1. 2. 3.
How might climate or geography affect the effectiveness of this strategy? <i>(Explain in one or two sentences.)</i>	

Other Water Conservation Strategies

Water Conservation Strategy:	
How does this strategy help conserve water in agriculture?	
Benefits to a Farm or Ranch: 1. 2. 3.	Potential Challenges: 1. 2. 3.
How might climate or geography affect the effectiveness of this strategy?	

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Water Conservation Strategy:	
How does this strategy help conserve water in agriculture?	
Benefits to a Farm or Ranch: 1. 2. 3.	Potential Challenges: 1. 2. 3.
How might climate or geography affect the effectiveness of this strategy?	

Water Conservation Strategy:	
How does this strategy help conserve water in agriculture?	
Benefits to a Farm or Ranch: 1. 2. 3.	Potential Challenges: 1. 2. 3.
How might climate or geography affect the effectiveness of this strategy?	

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Water Conservation Strategy:	
How does this strategy help conserve water in agriculture?	
Benefits to a Farm or Ranch: 1. 2. 3.	Potential Challenges: 1. 2. 3.
How might climate or geography affect the effectiveness of this strategy?	

Conclusion Questions:

1. Which strategy do you think would be the easiest to implement on a local farm in our area?
2. What incentives do farmers have for adopting water conservation strategies?
3. How do you think technology could help improve water conservation efforts?