**Chapter 9 Reading Guide**

**Vocabulary**

**Module 26**

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| 1. Aquifer | 2. Unconfined Aquifer | 3. Confined Aquifer | 4. Water Table |
| 5. Groundwater Recharge | 6. Spring | 7. Artesian Well | 8. Cone of Depression |
| 9. Saltwater Intrusion | 10. Floodplain | 11. Impermeable Surface |  |

**Module 27 & 28**

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| 1. Levee | 2. Dike | 3. Dam | 4. Reservoir |
| 5. Fish Ladder | 6. Aqueduct | 7. Desalination | 8. Distillation |
| 9. Reverse Osmosis | 10. Water Footprint | 11. Hydroponic Agriculture |  |

**Opening Story**

1. What can we learn from the conflict over salmon in the Klamath River, and the way it was resolved?

**Module 26**

1 .Where is most of Earth's total water found? Where is most of its accessible fresh water found?

2. Why do confined and unconfined aquifers recharge at different rates? Which is more sustainable to use for irrigation?

3. What negative consequences can occur if water from aquifers is overdrawn?

4. What is happening to the Ogallala aquifer in the United States?

5. How does saltwater intrusion occur?

6. How have rivers influence patterns of early human settlement? Why are they still important today?

7. What processes can lead to the formation of lakes and ponds?

8. How can droughts actually wind up causing floods once the rains return?

9. How can human activities contribute to droughts? When has this occurred before?

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**Module 27**

1. What are the advantages and disadvantages of building levees?
2. What are the primary purposes for building dams?
3. What are the drawbacks of constructing dams on a river?
4. How do dams alter the ecology of the rivers they block
5. What are the advantages and disadvantages of building aqueducts to supply water?
6. Why does the construction of dams, aqueducts, etc intensify conflicts over water ownership & usage rights?
7. What happened to the Aral Sea, and what can we learn from it?
8. What are the advantages and disadvantages of each of the two main desalination techniques?
9. Considering all the techniques discussed in this module, what advice would you give a developing country looking to increase its access to fresh water?
10. *Science Applied - What historical factors have led to CA's water wars, and how can we balance demands on our water?*

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**Module 28**

1. How does the water footprint vary for different types of countries?
2. Why is agriculture such a huge user of water?
3. Which irrigation practices are MOST efficient, and which ones are least-efficient?
4. What are the advantages and disadvantages to hydroponic agriculture?
5. What are the major industrial uses for water?
6. Which household activities have the biggest impact on water consumption?
7. Approximately how many people worldwide lack access to clean drinking water? What effects does it have on people?
8. Why is it harder to determine ownership of water than of many other resources?
9. What are the advantages and disadvantages of using market-pricing of water to allocate usage?
10. What types of steps are important for water conservation?
11. *Working Towards Sustainability - How can gray water be used to improve the sustainability of our water usage?*

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