

KEY

Read the introduction screen, click OK, and complete the Tutorial for Stream Simulation 3. Click Next until you Exit Tutorial and then answer the following questions. You may turn the Tutorial Mode back on at any time to assist with explanations, as well as reference your Word Bank.

After exiting the Tutorial Mode, be sure the drop down in the top right corner of the screen says **Stream Depletion** and then answer the following questions.

1. Make sure the *slider* for **Well Location** is set to the left on the Far setting. Click the *button* for **Pump On**. How long does it take for the streamflow depletion and aquifer storage to cross in the percentage of groundwater pumping?
 - a. A few hours
 - b. A few days
 - c. A few years
 - d. None of these; they never interact
2. Make sure the *slider* for **Well Location** is set to the right on the Near setting. Click the *button* for **Pump On**. How does the streamflow depletion and aquifer storage compare to a pumping wellbeing far away from the stream?
 - a. Longer time
 - b. Shorter time
 - c. Time is the same
 - d. None of these
3. According to stream depletion simulation, what is connected in a hydrologically connected system?
 - a. Stream flow and precipitation
 - b. Surface water and groundwater
 - c. Surface water and runoff
 - d. None of these; nothing is connected

Use the drop-down arrow in the top right corner of the screen and select **Hydrologic Connectivity**. Read the introduction screen, click OK, then Turn On Tutorial Mode in the top right corner of the screen. After you complete Tutorial Mode, answer the following

4. Explain a 10/50 Area. Be sure to include all relevant details.
Answer: Student's answer should include a reference to an area in which pumping a well for 50 years would deplete streamflow by at least 10 percent of the amount pumped.

5. What is a stream depletion factor?
 - a. Gaining Stream verses a Loosing Stream
 - b. Proportion of streamflow depletions relative to total groundwater pumping in a given length of time
 - c. Proportion of streamflow depletions relative to total surface water pumping in a given length of time
 - d. None of these

6. The area with a Stream Depletion Factor (SDF) equal to or above what percentage is regarded as the area where groundwater and surface water are hydrologically connected?
 - a. 10 percent
 - b. 20 percent
 - c. 30 percent
 - d. 50 percent

7. Tim's neighbor, Jim has been complaining that after Tim put a new irrigation well on his property that he has lost water in a creek on his property due to the connectivity of water. What would you suggest Tim do to prove, or disprove, Jim's claim that the groundwater and surface water are connected? If you get stuck, try looking back on previous questions you answered and running through the simulations. *Your answer should be in paragraph form.*

Answer: Student's answer should indicate, in paragraph form, a reference to hydrologic connection and evaluating pumping of the well and stream depletion.