Informal writing assignments with explanation of goals

The goal of these informal writing assignments is to motivate, engage and try to bring concepts learned during the class to real life. Also these assignments help students to participate in class discussions. At the beginning of each new topic, I have opened the class with an everyday question. I have asked them to write down the possible answer or to discuss it with a partner. During the course of the class, I always provided enough materials to answer the critical thinking question. At the end, I have asked the same question to see if they have understood the concepts. Below are some examples that I have used during the semester.

1. How would you differentiate a rock from a snake?
   Students have to be able to understand the concept of what qualifies something as “living” versus “non-living”

2. You have a plant and you would like to make a gift to somebody. To make sure the plant will be healthy and blooming in the next days, you decide to water the plant with double the amount of fertilizer. After few days, your plant is wilting. Can you explain what happened?
   This situation provides a practical example of the importance of the membranes and water balance. Students have to associate the concepts of membranes and water balance in cells with cell walls. Students should explain that a double amount of fertilizer is hypertonic solution and will plasmolize the plant cells. Water moves from places from low (cell) to high concentration of solutes (soil). In this case the water will move from the plant to the soil.

3. What is diabetes? How is diabetes treated today? How is the medication produced today?
   The goal of this assignment is to introduce students to the advances of biotechnology and how it is today affecting our lives. At the end of the class students should be able to understand how insulin is produced today.

   Diabetes is a chronic disease in which the body cannot produce insulin, a chemical that allows cells to take up and break down sugar from the blood. Until 1982, the disease was treated with insulin extracted from the pancreas of cattle or pigs that had been killed for meat. In 1982, researchers were able to genetically engineer bacteria to produce human insulin. The drug could be produced efficiently in huge quantities and made available for patients with diabetes. This was the first genetically engineered drug approved by the food and Drug administration and it continues to help million of people every day.