1. Draw a diagram of filtration and explain how it works.
2. Draw a diagram of gravity separation and explain how it works.
3. Draw a diagram of solvent extraction and explain how it works.
4. Which separation method(s) takes advantage of the fact that different substances have different boiling points? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Which separation method(s) takes advantage of the fact that different substances have different solubilities? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Which separation method(s) takes advantage of the fact that different substances have different densities? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Which separation method(s) only works for mechanical mixtures? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Which separation method(s) only works for suspensions? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

List the steps necessary to separate the following mixtures. Indicate at each step what substances are being separated. Some questions have more than 1 answer. Can you think of more than 1 way to separate the following?

|  |  |
| --- | --- |
| 1. Dissolved sugar in water   (you want to keep the sugar) | 1. Iron powder, salt water   (you want to keep the water) |
| 1. Dissolved sugar in water   (you want to keep the water) | 1. Iron powder, salt water   (you want to keep the salt) |
| 1. Sand, rocks, and orange juice | 1. Apple juice with mud in it |
| 1. Iron powder, salt water (you want to keep the iron) | 1. The pearls in Bubble tea |