## HOMOGENEOUS VS HETEROGENEOUS MIXTURES LAB

Purpose: The purpose of this lab is to identify the solute, solvent and different types of mixtures.

Part 1: Mixing water and sand/dirt

Claim/Hypothesis: If water and sand/dirt are mixed, the sand/dirt \_\_\_\_\_\_\_\_\_\_\_\_\_\_(will, will not) dissolve and become a \_\_\_\_\_\_\_\_\_\_\_\_\_(homogeneous, heterogeneous, or colloid) mixture.

Materials:

Sand or dirt vegetable oil

Flour water

Salt spoon

4 plastic cups

Procedure:

1. Add ¼ cup of sand/dirt and ¼ cup of water in a plastic cup
2. Stir vigorously with spoon
3. Observe physical properties
4. Record evidence in data table
5. Filter water out of sand/dirt mixture and dispose of cup properly.

Results:

|  |  |  |
| --- | --- | --- |
| Solvent | Solute | Homo/hetero/colloid |
|  |  |  |

Part 2: Mixing water and flour

Claim/Hypothesis: If water and flour are mixed, the flour \_\_\_\_\_\_\_\_\_\_\_\_\_\_(will, will not) dissolve and become a \_\_\_\_\_\_\_\_\_\_\_\_\_(homogeneous, heterogeneous, or colloid) mixture.

Procedure:

1. Add ¼ cup of flour and ¼ cup of water in a plastic cup
2. Stir vigorously with spoon
3. Observe physical properties
4. Record evidence in data table
5. Dispose of cup properly.

Results:

|  |  |  |
| --- | --- | --- |
| Solvent | Solute | Homo/hetero/colloid |
|  |  |  |

Part 3: Mixing water and salt

Claim/Hypothesis: If water and salt are mixed, the salt \_\_\_\_\_\_\_\_\_\_\_\_\_\_(will, will not) dissolve and become a \_\_\_\_\_\_\_\_\_\_\_\_\_(homogeneous, heterogeneous, or colloid) mixture.

Procedure:

1. Add ¼ cup of salt and ¼ cup of water in a plastic cup
2. Stir vigorously with spoon
3. Observe physical properties
4. Record evidence in data table
5. Dispose of cup properly.

Results:

|  |  |  |
| --- | --- | --- |
| Solvent | Solute | Homo/hetero/colloid |
|  |  |  |

Part 4: Mixing water and oil

Claim/Hypothesis: If water and oil are mixed, the oil\_\_\_\_\_\_\_\_\_\_\_\_\_\_(will, will not) dissolve and become a \_\_\_\_\_\_\_\_\_\_\_\_\_(homogeneous, heterogeneous, or colloid) mixture.

Procedure:

1. Add ¼ cup of oil and ¼ cup of water in a plastic cup
2. Stir vigorously with spoon
3. Observe physical properties
4. Record evidence in data table
5. Dispose of cup properly.

Results:

|  |  |  |
| --- | --- | --- |
| Solvent | Solute | Homo/hetero/colloid |
|  |  |  |

Conclusion/Reasoning:

1. Which substance(s) is/are the solvent(s)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Which substance(s) is/are the solute (s)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.Which mixture was homogeneous? What properties did the mixture show that made you certain of your choice?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.Which mixture was heterogeneous? What properties did the mixture show that made you certain of your choice?

5.Which mixture was a colloid? What properties did the mixture show that made you certain of your choice?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Identify the following as homogeneous or heterogeneous mixture:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_ trail mix
2. \_\_\_\_\_\_\_\_\_\_\_\_\_ coffee
3. \_\_\_\_\_\_\_\_\_\_\_\_\_ air
4. \_\_\_\_\_\_\_\_\_\_\_\_\_blood
5. \_\_\_\_\_\_\_\_\_\_\_\_\_ milk