

CLASS-09  
PHYSICAL SCIENCE  
LESSON PLAN  
**CHAPTER: 04 – IS MATTER PURE ?**

| PERIOD NUMBER | CONCEPTS / TEACHING POINTS                  | PAGES IN TEXT BOOK |    | TEACHING PROCEDURE | TEACHING LEARNING MATERIAL   | EVALUATION   |
|---------------|---|--------------------|----|--------------------|--|--|
|               |   | FROM               | TO |                    |  |  |
| 1.            | Pure substances                             | 52                 | 54 | Conversation       | Different substances like copper turning, coke, Milk, Oil and water, water and husk, salt water, rice and stones | Give two examples for pure substances?                       |
|               | Mixtures                                    |                    |    | Activity           |  | What is the difference between pure substances and mixtures? |
|               | Types of mixtures                           |                    |    | Activity           |  | What are heterogeneous mixtures?                             |
| 2.            | Solutions                                   | 54                 | 55 | Conversation       | Water, Salt, Sugar, Glucose, Beakers-3, Torch  | Give two examples for solutions?                             |
|               | Properties of solutions                     |                    |    | Activity           |  | How can you say that sand and water is not a solution?       |
|               | Concentration of a solution                 |                    |    | Activity           |  | Define solubility?   |
| 3.            | Saturated, unsaturated solutions            | 55                 | 56 | Activity           | Beaker, Salt, Sugar, Spirit lamp, Match box, Tripod, Mesh or Net   | Define unsaturated solution?                                 |
|               | Solubility                                  |                    |    | Conversation       |  | What is called dilution?                                     |
|               | Affecting factors of the rate of dissolving |                    |    | Activity           |  | What are the affecting factors of rate of dissolving?        |

**NAGA MURTHY- 9441786635**  
 Contact at : [nagamurthysir@gmail.com](mailto:nagamurthysir@gmail.com)  
 Visit at : [ignitephysics.weebly.com](http://ignitephysics.weebly.com)

|    |   |    |    |                |  |  |
|----|---|----|----|----------------|--|--|
| 4. | Suspensions and Colloids                      | 56 | 58 | Activity       | Beaker, Water, Milk, Kerosene, Torch light (Laser light), Chalk powder                                 | How can we identify suspension?                                    |
|    | Tyndall effect                                |    |    | Conversation   |  | Give two examples for colloids?                                    |
| 5. | Suspensions and Colloids – Examples           | 58 | 59 | Conversation   | Chart, Videos related to Tyndall effect  | Which mixtures show tyndall effect?                                |
|    | Tyndall effect                                |    |    | Conversation   |  | Which is unstable either colloid or suspension?                    |
| 6. | Separating the components of a mixture        | 59 | 60 | Conversation   | Chart, Spirit burner, Watch glass-2, Funnel, Salt, $\text{NH}_4\text{Cl}$ , Tripod, Beaker, Water, Ink | How can we separate salt from salt water?                          |
|    | Sublimation                                   |    |    | Activity       |  | Define sublimation?  |
|    | Process of evaporation of water               |    |    | Activity       |  |  |
| 7. | Paper chromatography                          | 60 | 61 | Lab Experiment | Beaker, Water, Spirit, Filter paper, Sketch pen (Normal/Marker), Water, Chalk piece                    | What is Chromatography?  |
|    |   |    |    |                |  | Is ink a compound or solution?                                     |
| 8. | Separation of immiscible and miscible liquids | 61 | 62 | Activity       | Water, Kerosene, Milk, Alcohol, Diesel, Kerosene, Beakers-4, Separating funnel                         | Which are called miscible liquids?                                 |
|    | Separating funnel                             |    |    | Activity       |  | Which is used to separate the mixture contains water and kerosene? |

**NAGA MURTHY- 9441786635**  
 Contact at : [nagamurthysir@gmail.com](mailto:nagamurthysir@gmail.com)  
 Visit at : [ignitephysics.weebly.com](http://ignitephysics.weebly.com)

|     |   |    |    |              |   |  |
|-----|---|----|----|--------------|---|--|
| 9.  | Separating of a mixture of two miscible liquids | 61 | 62 | Conversation | Spirit lamp, Stand, Flask, Rubber cork, Thermometer, Water, Acetone, Delivery tubes, Videos related to distillation | When do we use distillation process?                                     |
|     | Distillation                                    |    |    | Activity     |   |  |
| 10. | Fractional distillation                         | 62 | 63 | Conversation | Chart, Videos containing fractional distillation  | What is the difference between distillation and fractional distillation? |
|     | Steps to obtain the different gases in air      |    |    | Conversation |   |  |
| 11. | Pure substances                                 | 64 | 65 | Conversation | Chart, Videos   | Who extracted phosphorous from urine?                                    |
|     | Mixtures – compounds                            |    |    | Conversation |   |  |
|     | Can we separate Copper sulphate and Aluminium ? |    |    | Conversation |   | What is the difference between elements and compounds?                   |
|     | Pure substances – Elements, compounds           |    |    | Conversation |   |  |
| 12. | Elements----- an understanding                  | 65 | 67 | Conversation | Chart, Videos, Iron dust, Sulphur, Magnet, CS <sub>2</sub> , HCl, H <sub>2</sub> SO <sub>4</sub>                    | What are the differences between mixtures and elements?                  |
|     | Compounds----- an understanding                 |    |    | Activity     |   | Are mixtures separated by chemical methods?                              |
|     | Mixtures----- an understanding                  |    |    | Conversation |   |  |

NAGA MURTHY- 9441786635  
 Contact at : [nagamurthysir@gmail.com](mailto:nagamurthysir@gmail.com)  
 Visit at : [ignitephysics.weebly.com](http://ignitephysics.weebly.com)