Title: Identifying different states of matter

Subject: Science

Grade: 3

Time: 30 minutes

Overview: Students will research and analyze like scientists the matter placed in 9 baggies while in groups of 4 kids using observational skills and show this by recording data in a chart.

Goals:

1. Compare, analyze, and identifying items as either gas, liquid, or solid.
2. Make observations using the five senses.
3. Ensure the proper use of recording data in provided chart in Science journal.

Objective:

Students will be able to:

1. classify the type of matter
2. describe mystery matter in terms of physical features & characteristics
3. identify different types of matter

Materials: charts, pencils for each child, a set of 9 baggies each with one mystery matter (solid, liquid, or gases).

Adaptations/Modifications:

1. Involve kinesthetic learners by putting unknown matter in baggies where they can use their complete senses to try and figure out the matter.
2. Support visual learners by completing the chart on the board and in journals.
3. Support auditory learners by completing the chart on the board together aloud.
4. Reinforce steps and concepts by repetition, retelling.

Anticipatory Set: Set up the classroom to look like a lab (to include test tubes, goggles, microscopes, lab coats, etc.) and explain to the students that they need to put on their scientist goggles. They (as students) are to identify the mystery substances that were provided by the crime lab in a recent crime!

Procedure for Activity:

1. Draw a chart similar to the one the students will be using (Appendix A) to activate prior knowledge of the characteristics of solids, liquids, and gases. Begin by asking the students to help fill in the chart. They can use the chart previously completed in their Science journal with yesterday’s activity.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type of Matter** | **Does it take up space?** | **Is it visible?** | **Can it change shape?** | **Does it have weight?** |
| Solid | Yes | Yes | No | Yes |
| Liquid | Yes | Yes | Yes | Yes |
| Gas | Yes | No | Yes | Yes |

1. Have students get out their Science journals and turn to page 5 where they will be using to record the data they find.
2. Have the students break into their designated criminology teams and observe the room. Have them notice there are 9 numbered microscopes in the room that have a corresponding baggie with an unidentified matter in it.
3. Explain that each baggie needs to be recorded on the data sheet at the corresponding number. They will be recording information about that object and then, as a group, come to a conclusion about what the matter is classified as and what exactly the matter might be. Students may also look at the objects under the microscope, if time allows, before switching microscopes.

Formative Assessment: Walk around the room during the process and observe the students to make sure they are on track and using a thorough thought process. Ask them questions to reach higher thinking, such as “If placed into a different container, could that piece of matter change shape?”

The guided practice would be the chart that the students complete while being scientists. These are to be collected when the experiment is over.

Closure: At the end of the time given, go over the chart on the board again and review each of those nine mystery matter objects. State what category each one fits and ask for reason from the students why they chose it. As a bonus, see if the object can be identified with a name of the substance.

Appendix A – blank chart of Science journal

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Type of Matter** | **Does it take up space?** | **Is it visible?** | **Can it change shape?** | **Does it have weight?** | **Describe the look of the matter!** | **Naming the object!** |
| **1** |  |  |  |  |  |  |
| **2** |  |  |  |  |  |  |
| **3** |  |  |  |  |  |  |
| **4** |  |  |  |  |  |  |
| **5** |  |  |  |  |  |  |
| **6** |  |  |  |  |  |  |
| **7** |  |  |  |  |  |  |
| **8** |  |  |  |  |  |  |
| **9** |  |  |  |  |  |  |

Notes: