ODM EDUCATIONAL GROUP
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# MATTER

SUBJECT-PHYSICS

CHAPTER NO- 1

Properties of gases, distinguishing properties of solid, liquid and gases

PERIOD-6



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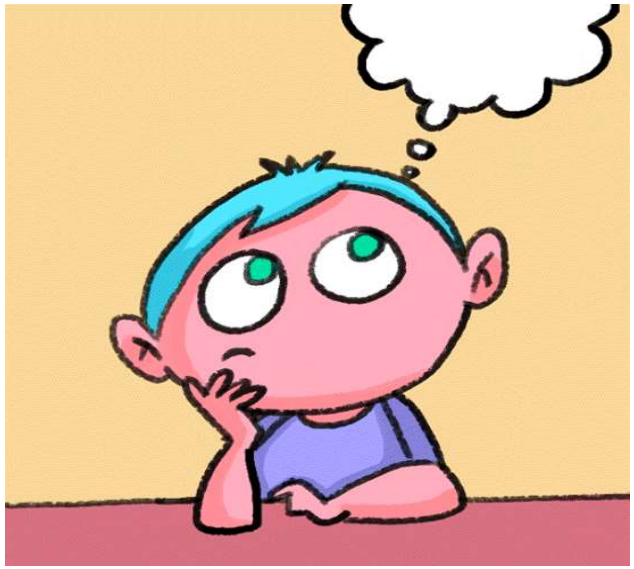
# LEARNING OBJECTIVE

Students will be able to

- Familiarize with the properties of gases
- Sensitize the molecular model of gases
- Distinguish between the properties of solid , liquid and gases



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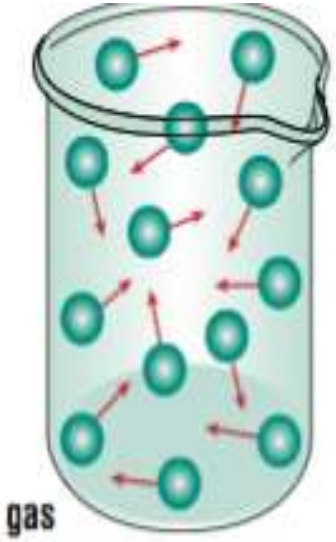
# WARM UP QUESTIONS

- Recapitulation of previous topic by asking the following questions.
- list the properties of solids
- list the properties of liquids

# Properties of gases

**Properties of gases:**

- no fixed shape
- gases spread (or diffuse) to completely fill a container
- gases are easily compressed.




**Gas particles:**

- are 'free', having no bonds between them
- have much more energy than those of a solid or liquid
- fly around, bouncing off each other and the walls of their container.

- Explain the properties of gases by the help of a video
- https://youtu.be/ZaIaNyKDG54
-
- Explain the molecular model of gaseous state by the help of a video
- https://youtu.be/6bHkWh5T3mk

# Distinguishing properties of solid, liquid and gases

| Properties | Solids | Liquids | Gas |
|---|---|---|---|
| **1. Volume** | Definite volume, as intermolecular forces between the constituent particles are very strong. | Definite volume, as intermolecular forces between the constituent particles are strong. | No definite volume, as intermolecular forces between the constituent particles are weak. |
| **2. Diffusion** | Can diffuse into liquids. | Diffusion is higher than solids. | Highly diffusible as particles move randomly at high speed. |
| **3. Compressibility** | Negligible | Negligible | High |
| **4. Rigidity or Fluidity** | Very rigid and cannot flow | Less rigid and can flow easily. | No rigidity and can flow most easily. |
| **5. Density** | High | Moderate | Low |
| **6. Shape** | They have a definite shape | They do not have a definite shape. | They do not have a definite shape. |
| **7. Kinetic energy of particles at a given temperature** | Least energy | Higher than solids | Maximum energy |
| **8. Interparticle space** | Least | Lesser | More than others |
| **9. Interparticle force of attraction** | Very strong | Less strong | Weak |
| **10. Intermolecular forces** | Strong enough to hold the constituent particles in fixed positions. | Strong enough to hold the constituent particles in aggregation within the bulk but not in fixed positions. | Extremely low, so that the constituent particles are free to move in a continuous random motion. |
| **11. Arrangement of molecules** WWW.MAJORDIFFERENCES.COM | Packed in definite pattern so they possess a definite geometry. | Packed weak in comparison to solids, shape not fixed. | Packed very poorly so they fill the container, no definite shape. |

- Explain the distinguishing  properties of solid, liquid and gases by the help of a video
- https://youtu.be/9d1jK_2FMu8
- https://youtu.be/bwGim-eceS8

# HOME ASSIGNMENT

Exercise- B 7,8

Q. list the properties of gases

Q. Distinguish between properties of solid, liquid and gases

**THANKING YOU**

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