

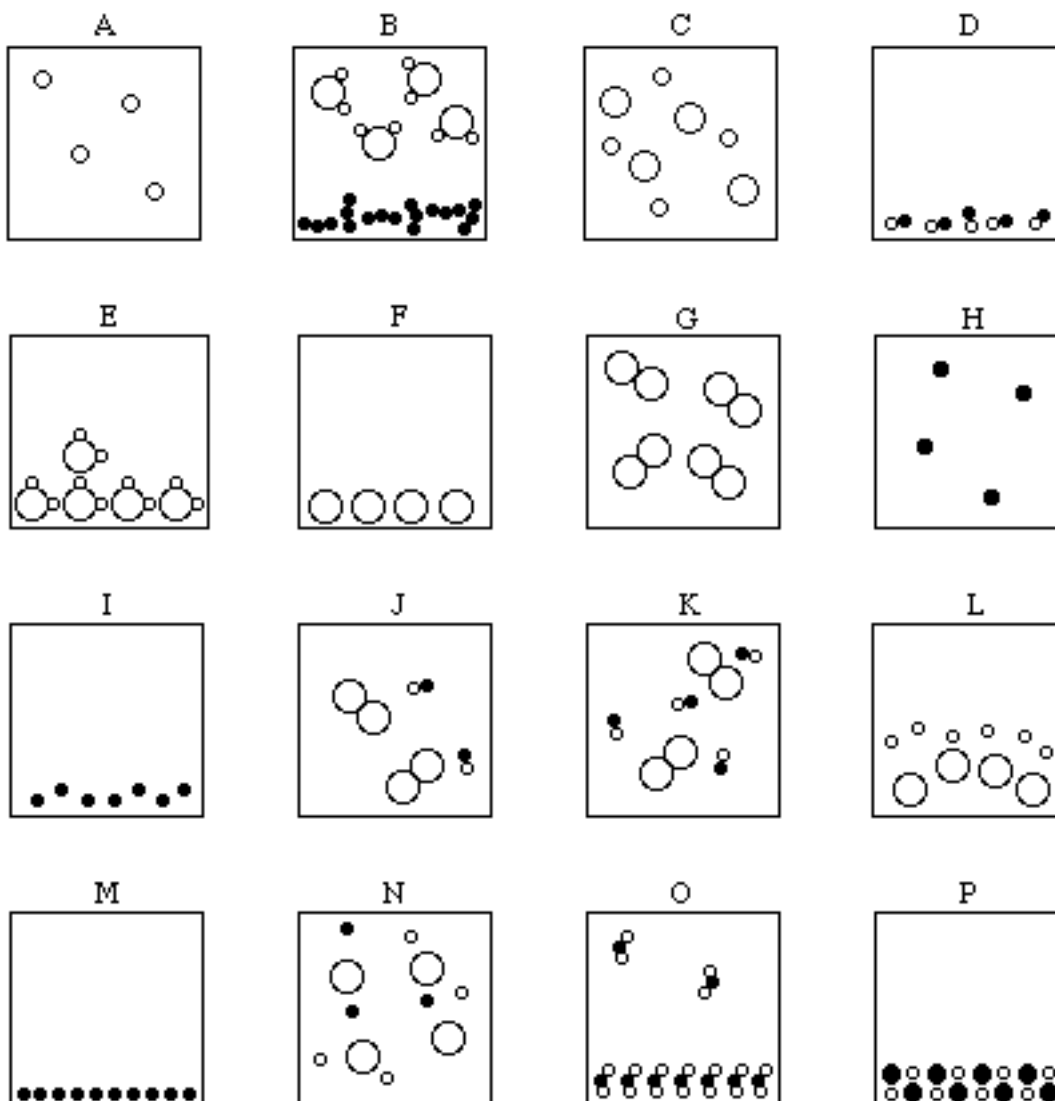
Each diagram (A - P) shows a sample of a substance(s) as viewed at the atomic level. Characterize the contents of the container in terms of each of the following categories:

Category I. Homogeneous mixture, heterogeneous mixture or pure substance

Category II. Element(s), compound(s) or both

Category III. Solid, liquid, gas or combination of phases

As an example consider diagram A. Category I: pure substance; Category II: element; Category III: gas phase. It is a pure substance since there is a single type of matter in the container. It is an element since it exists as a monatomic substance. Finally it is in the gas phase due to the totally random distribution of particles and the particles are distributed throughout the container.



Answers:

Diagram	Category I	Category II	Category III
A	<b>pure substance</b>	<b>element</b>	<b>gas</b>
B	<b>heterogeneous mixture</b>	<b>compounds</b>	<b>gas (top) and liquid (bottom)</b>
C	<b>homogeneous mixture</b>	<b>elements</b>	<b>gas</b>
D	<b>pure substance</b>	<b>compound</b>	<b>liquid</b>
E	<b>pure substance</b>	<b>compound</b>	<b>solid</b>
F	<b>pure substance</b>	<b>element</b>	<b>solid</b>
G	<b>pure substance</b>	<b>element</b>	<b>gas</b>
H	<b>pure substance</b>	<b>element</b>	<b>gas</b>
I	<b>pure substance</b>	<b>element</b>	<b>liquid</b>
J	<b>homogeneous mixture</b>	<b>element and compound</b>	<b>gas</b>
K	<b>homogeneous mixture</b>	<b>element and compound</b>	<b>gas</b>
L	<b>heterogeneous mixture</b>	<b>elements</b>	<b>liquids</b>
M	<b>pure substance</b>	<b>element</b>	<b>solid</b>
N	<b>homogeneous mixture</b>	<b>element</b>	<b>gas</b>
O	<b>pure substance</b>	<b>compound</b>	<b>solid and gas</b>
P	<b>pure substance</b>	<b>compound(ionic)</b>	<b>solid</b>

