

Explaining the Behavior of Gases The kinetic-molecular theory helps explain the behavior of gases. CROSSCUTTING CONCEPTS Systems and System Models Review the assumptions made by the kinetic-molecular theory. For example, the constant motion of gas particles allows a gas to expand until it fills its container, such as when you inflate a beach ball. Thus, there are fewer chlorine molecules than gold atoms in the same volume. Develop your own visual or physical representation to help others understand the kinetic-molecular theory and the behavior of gases. Compression and expansion If you squeeze a pillow made of foam, you can compress it; that is, you can reduce its volume. When the volume of a container is made larger, the random motion of the particles fills the available space. Figure 3 illustrates what happens to the density of a gas in a container as it is compressed and as it is allowed to expand. Air, which is a mixture of gases, is also compressible