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–molec– ular 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.