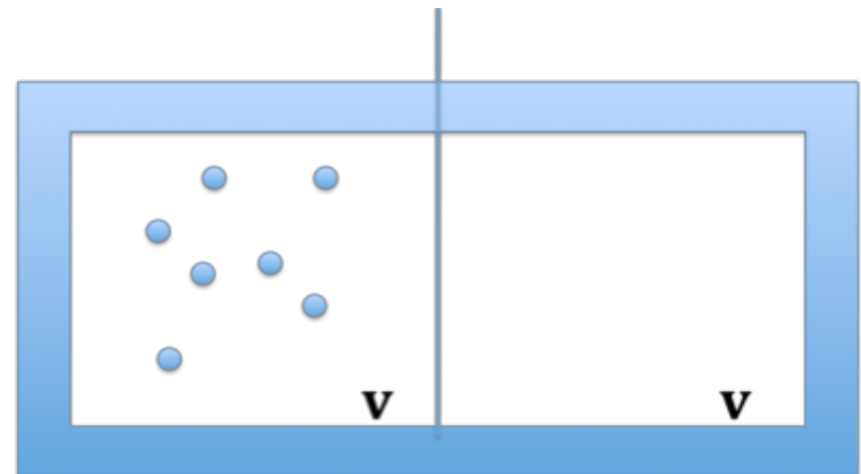Suppose an isolated box of volume $2V$ is divided into two equal compartments. An ideal gas occupies half of the container and the other half is empty. When the partition separating the two halves of the box is removed and the system reaches equilibrium again, how does the new **internal energy** of the gas compare to the internal energy of the original system?

1. The energy increases
2. The energy decreases
3. The energy stays the same
4. There is not enough information to determine the answer

Suppose an isolated box of volume $2V$ is divided into two equal compartments. An ideal gas occupies half of the container and the other half is empty. When the partition separating the two halves of the box is removed and the system reaches equilibrium again, how does the new **pressure** of the gas compare to the **pressure** of the original system?

1. The pressure increases

2. The pressure decreases

3. The pressure stays the same

4. There is not enough information to determine the answer

V   V