

CHAPTER 3	Modelling Gases in the Roller Rink Answer Key	BLM 3.1.3A
ANSWER KEY		

- The number of molecules corresponds to the number of skaters.
 - The pressure corresponds to the number of collisions in the rink.
 - The volume corresponds to the size of the rink.
 - The temperature corresponds to the beat of the music.
- When the size of the rink decreases, there are more collisions between the skaters and the sides of the rink. The pressure increases.
 - When the number of roller skaters decreases, there are fewer collisions between the skaters and the sides of rink. The pressure decreases.
 - When the beat of the music increases, the skaters move faster. The temperature increases, and there are more chances for collisions. The pressure increases.
- If you increase the number of skaters, there are fewer collisions, and the pressure decreases.

If you increase the rink size, there are fewer collisions, and the pressure decreases.

If you slow down the music tempo, the skaters will move more slowly. The temperature will decrease, and there will be less chance of collision. The pressure will decrease.
- Skaters occupy space.

There is less space between skaters than between gas molecules.

Collisions are inelastic between skaters.

There might be attractive forces between skaters.

Skaters can think and probably avoid collisions.
- Butterflies captured in a box, billiard balls moving on a table, and popcorn popping in a pot are examples that may be used as real world models of gases.