

- 23** When a frictionless and well-insulated bicycle pump is used to pump up a tyre, the air in the tyre becomes hotter than the surrounding air.

Which of the following statements best explains this observation?

- A** After compression, the air molecules collide more frequently with the walls of the tyre.
- B** Work is done on the air and the internal energy remains unchanged.
- C** Work is done on the air and since little thermal energy escapes, the internal energy increases.
- D** The internal energy increases because thermal energy is supplied and work is done on the air.