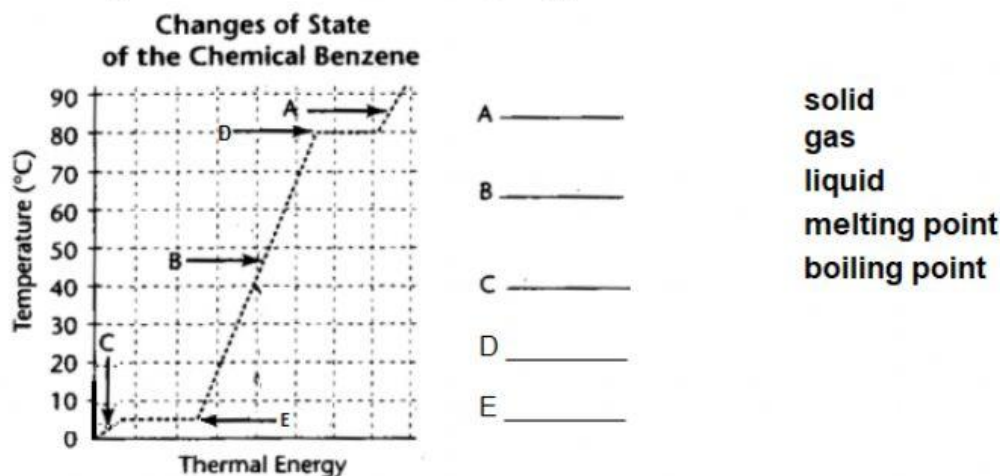


Use the diagram below to answer the following.

- 26. Interpreting Data** The graph above shows the changes in temperature of a sample of benzene as its thermal energy is increased.



- 27. Drawing Conclusions** Based on the graph at what temperature would you expect benzene to freeze? _____ To boil? _____

- 28. Applying Concepts** Describe what is happening to the particles of benzene in the horizontal section of the graph, between state C and state B.

The bonds between the particles are being broken.

The particles are moving faster and faster (gaining kinetic energy)

The temperature is **increasing decreasing remains the same**.

The thermal energy is **increasing decreasing remains the same**.

- 29. During long trips, the tires of a truck reach extremely high temperatures.**

Explain why truck drivers are encouraged to monitor and adjust the air pressure in their tires during long trips.

In the morning the air in the tires would be **colder warmer** than it will be later in the day. Because it **colder warmer** in the morning the air pressure in the tires will be **less than greater than the same as** it will be later in the day. If the driver checks the tire pressure in the morning and find out it is just right the driver should know that as he drives on the hot summer day the air in the tires will **get cooler get warmer will not change**, because the air in the tires is getting **cooler warmer** the air particles are **gaining losing** energy. As the particles **gain lose** energy they will hit the sides of the tire with **more less** force than they did in the morning.

Because they are hitting the sides of the tire with **more less** force the pressure in the tire will **go up go down remain the same**. If the pressure **goes up goes down remains the same** the tire might have **too much too little perfect pressure**. The **increased decreased unchanged** pressure could cause the tire to explode if the driver does not adjust the air pressure in the middle of the day.