Moving Molecules in a Solid

Name _____
Date _____
Per _____ page _____

Objective: _____
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EXPLAIN IT WITH ATOMS & MOLECULES

After you watch the molecular model animations of liquids and solids, answer the questions below.

1. How is the motion of the atoms in solid metal different from the motion of the molecules in liquid water?

2. What is it about atoms and molecules in liquids and solids that keep them close to one another even though they are moving?

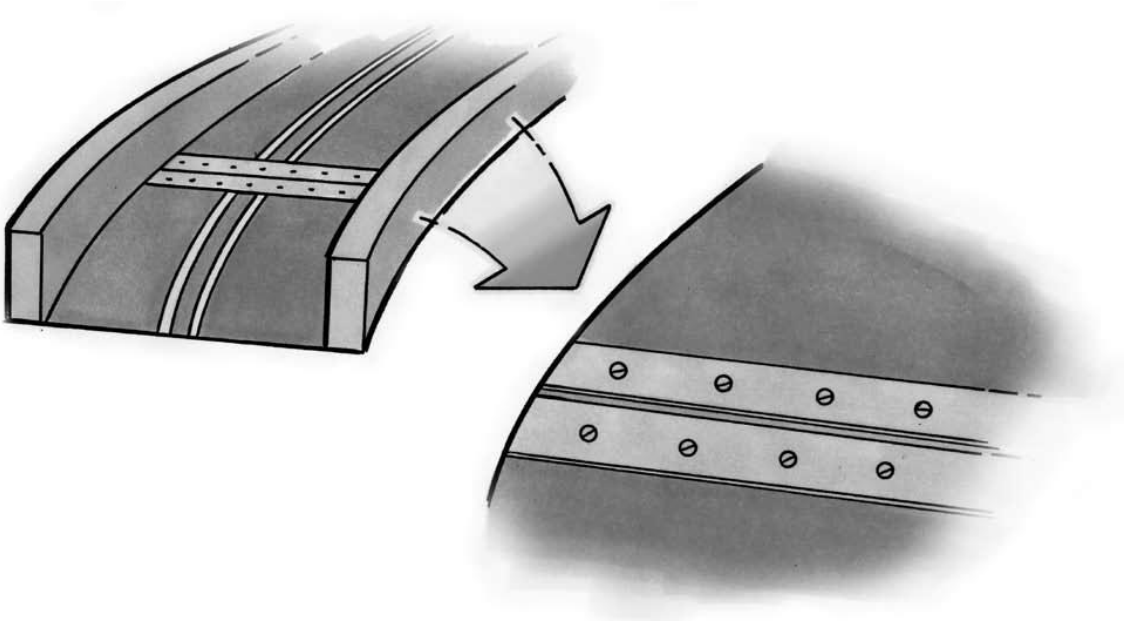
DEMONSTRATION

3. At room-temperature the metal ball fit through the ring. What happened when your teacher tried to push the heated ball through the ring?

4. What happened to the atoms in the heated metal ball so that it didn't fit through the ring?

5. After the ball was cooled by putting it in the water, why do you think it fit through the ring again?

Look at the picture of the road of a bridge. The road on a bridge gets colder in the winter and hotter in the summer than that road leading to it and away from it. Many bridges have a flexible connection like the one shown in the picture.



Knowing what you know about how solids act when they are heated and cooled, why do you think they put flexible connections in the road on a bridge? (use sentences)

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