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17.0.J Summary Status Report Mar 26

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Mar 26 Fire & Ice Status Report

In the last two class days, and extending back to before break, we have explored the various ways in which heat can move.

We started with conduction phenomena – bringing a warmer object into contact with a colder object – by direct mixing and by separating the objects from each other in some fashion, yet monitoring the temperature of both objects. In this way, we illustrated the Zero-th Law of Thermodynamics – the principle of thermal equilibrium. When two objects at different temperatures are brought into contact, both objects will adjust toward an intermediate temperature. This occurs quickly at first, and then slows down over time.

This happens by transfer of energy from the warmer object to the cooler object (regardless of what the actual temperatures are). At the molecular level, the atoms/molecules in the warmer object transfer motion through collisions to the atoms/molecules in the cooler object. Once all atoms/molecules in both objects reach an equivalent average kinetic energy, the temperature stops changing.

The movement of energy by molecule-to-molecule transfer of energy of motion is CONDUCTION.

The other two ways energy can move is by CONVECTION and RADIATION.

The descriptions you wrote on your recorder reports (if you did so), are pretty rough and don’t make a strong and clear distinction. So, I will refer you to some website reading materials. It would be good if you read these and reworked the ideas into your own definition that is clear and specific. (Readings posted on the March 26 day-by-day location).