Heat Transfer True-False Activity

Teacher or designated student reads the following statements or can use the *Heat Transfer* PowerPoint to project statements. Students move to the true side of the class or the false side of class to show their understanding of the truth of the statement. Teacher selects one student from each side to give an explanation of their opinion (can give students opportunity to change their minds if time allows). Teacher can then explain why the statement is true or false or can have a student read the explanation from the PowerPoint.

1. **Heat is a type of energy**
   When objects gain heat energy the particles vibrate more and move faster ie. their kinetic energy increases. Radiant heat energy travels as electromagnetic waves.

2. **Heat moves from cold objects to hot objects**
   Hot objects transfer heat energy to cooler objects around them

3. **Heat can move in two different ways**
   Heat can be transferred by conduction, convection or radiation

4. **Solid materials allow heat to travel quickly through them**
   Some materials are heat or thermal conductors and allow heat to travel quickly through them. Other materials are thermal insulators and slow the transfer of heat through the material

5. **Heat rises**
   The particles of hot objects move faster making hot substances less dense (take up more volume). This means hot liquids and gases can rise above more dense, cooler liquids and gases.

6. **Black attracts heat**
   Does the heat energy decide it likes the look of a black t-shirt more than a white t-shirt? Attracts is not the right term to use in this case. Dark, matte surfaces are better at absorbing and emitting radiant heat energy than light, shiny materials. Light, shiny substances are better at reflecting radiant heat energy so feel cooler.