**LEAD-IN**

1. **Working in groups of three or four, state whether the following sentences are true or false, and correct the false ones.**
   1. A thermometer is an instrument that measures the heat of the body. T F
   2. The human body is a good instrument for measuring temperature. T F
   3. In order for two bodies to reach thermal equilibrium, they need to be separated. T F
2. **Match the terms (1-6) to their corresponding definitions (a-f)**

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| --- | --- |
| * 1. □ Kinetic energy   2. □ Random   3. □ Temperature   4. □ Thermal equilibrium   5. □ Bond energy   6. □ Internal energy | 1. Occurring without definite reason or pattern 2. The condition of a system which has the same uniform temperature as its surroundings. 3. The energy that includes the intrinsic energy of individual molecules, the kinetic energy of internal motion, and interactions between molecules. It does not include the potential or kinetic energy of the system as a whole. 4. The energy needed to form a molecule from its constituent atoms. 5. The property of an object which indicates the amount of internal energy possessed by that object. 6. Energy possessed by a body due to its motion. |

**READING AND LISTENING**

**Listening activity**

**With your partner, consider the gaps in the text to the right. Try to put the right word in each gap. When you have finished, listen to the text to check your answer. Were they correct?**

LEFT HAND, FEELING, OBJECT, DIFFERENT, LONG TIME, ICE, QUALITATIVE, WARM, METAL, FROZEN

You often associate the concept of temperature with the ……………………………… of heat or coldness that you get when touching an ……………………………… . Our senses provide us with a qualitative indication of temperature, but they are unreliable and often mislead us. Imagine putting your ……………………………… in a bucket filled with your warm water, and your right hand in a bucket filled with ……………………………… cubes.

Keep your hands in the buckets for a little while, and then put them in a third bucket filled with water at room temperature. The hand that has been dipped in hot water will feel cold, while the other hand will feel ………………………………. Therefore, you might think that the water in the bucket is both warm and cold, which would be adsurd.

Similarly, when you take a ……………………………… ice cube tray and a cardboard box of ……………………………… food from your freezer, your sensations are ……………………………… : the metal box feels colder than the cardboard one. Since the two objects have been in the same freezer for a ………………………………, they will actually be at the same temperature.

So, our senses can only give us a ……………………………… indication of how hot or cold an object is.

The first step is to define what temperature is. Every object or physical entity is endowed with internal energy. This consists of kinetic energy, which comes from random molecular motion, and the potential energy within and between molecules (bond energy). According to this definition, we usually say that a system or a body *possesses* internal energy. *Temperature can be defined as an indicator of the amount of energy possessed by matter*. Therefore, when an object possesses more energy than another object, it is said to have a higher temperature.

This means that it will feel warmer if you touch it.

COMPREHENSION QUESTIONS 1

**Answer the following questions.**

1. Is the human body a reliable instrument for measuring temperature?

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1. Can two objects at the same temperature feel warmer or colder?

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