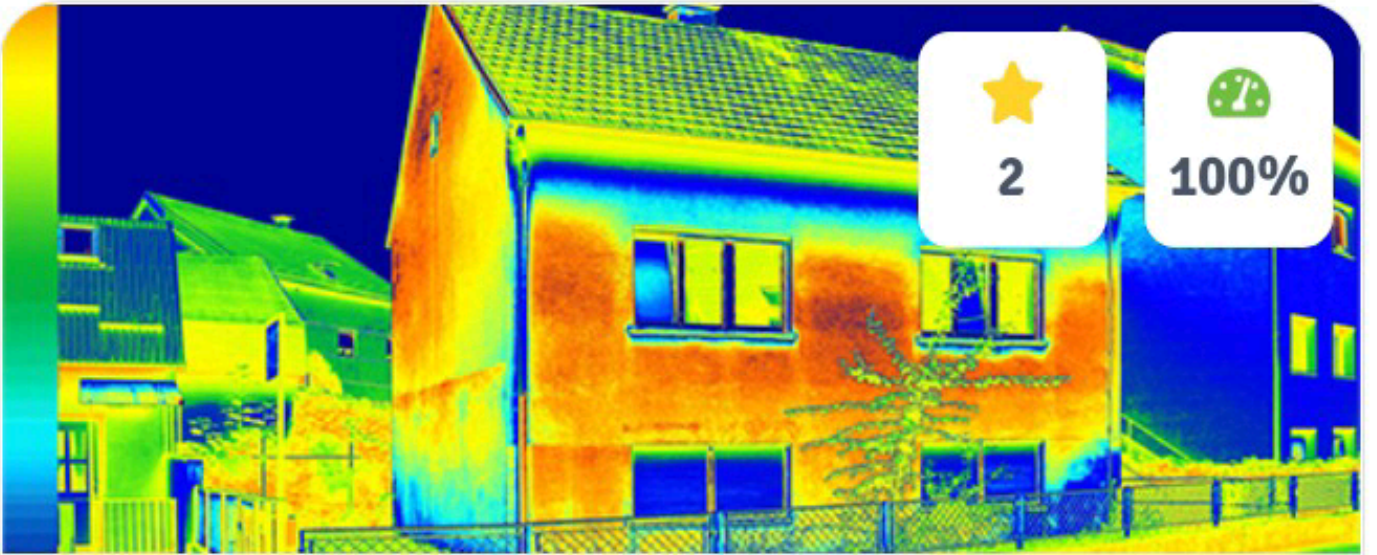




Energy in the Atmosphere

## 13. Thermal Energy Transfers - Investigate

درس تعليمي

ملاحظة



**Drag and drop the correct option to complete the sentences.**

An empty water bottle with a balloon is placed in a container of hot water. The balloon starts to inflate. The heat from the water would warm up the water bottle by



1.

conduction



radiation



current



convection

1.

conduction





**Select the correct answer.**

In an investigation, an empty bottle with a balloon was placed into a container of hot water.  
Which process would most likely cause the bottle to warm up?



electromagnetism



radiation



conduction



convection



An empty bottle with a balloon was placed in a container of hot water.



What do you think will happen to the balloon and why?

Select one claim and one reason.



The balloon will deflate...



...because the warm air in the bottle will rise by convection.



...because the warm air in the bottle will rise by conduction.



The balloon will inflate...



**Select the correct answer.**

Which temperature difference would cause the greatest thermal energy transfer between two objects?

☒

|               |               |
|---------------|---------------|
| Warmer Object | Cooler Object |
| 50 °C         | 40 °C         |

✗

☐

|               |               |
|---------------|---------------|
| Warmer Object | Cooler Object |
| 0 °C          | 0 °C          |

☐

|               |               |
|---------------|---------------|
| Warmer Object | Cooler Object |
| 20 °C         | 20 °C         |

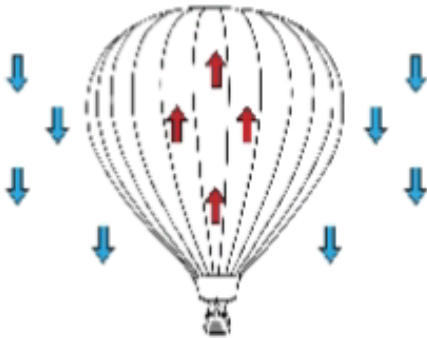
☒

|               |               |
|---------------|---------------|
| Warmer Object | Cooler Object |
| 80 °C         | 10 °C         |

✓

*Select the correct answers.*

A hot air balloon is a type of aircraft that goes up by heating the air inside the balloon with fire.



Which energy transfer is shown in this image of a hot-air balloon? Explain your answer.



Radiation...



...because warm air sinks and cooler air rises.



...because the process involve electromagnetic waves.



...because warm air rises and cooler air sinks.



Convection...



Conduction...

