

Chapter 2 Question #3

I will do an experiment where I will drop two objects: a metal Altoids container, and a plastic Advil bottle.

Which one do you think will come to thermodynamic equilibrium first?

1) Altoids container

2) Advil bottle

3) They will come to thermodynamic equilibrium at the same time.

Chapter 2 Question 3 Answer:

(2) The Altoids container

There is no right answer to this, especially if you do not have the two objects in front of you. The reason I would think the Advil bottle would take longer is because it is made out of plastic, whereas the Altoids container is made out of metal. Thus, I would expect the Advil bottle to bounce around longer (i.e. longer time to reach mechanical equilibrium), and since plastic is a good thermal insulator, I would expect it to take longer to come to thermal equilibrium.