

Physics 251 Homework 2

You have two containers of water. Each container has 0.5 liters of water. Container A is at a temperature of 35 C and Container B is at a temperature of 55 C.

- 1) Which container's particles have a higher average kinetic energy? Explain.
- 2) Which container has water with greater total kinetic energy? Explain.
- 3) If the water from each container is mixed, what is the final temperature of the 1 liter of water?

Now suppose container A has 1 liter of water at 10 C and container B has 0.876 liters of water at 50 C.

- 4) Which container's particles have higher average kinetic energy?
- 5) Which container has water with greater total kinetic energy? Explain.
- 6) If the water is mixed, what is the final temperature of the mixture? Explain.