

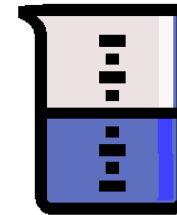
Critical Experiment 1



If we have equal amounts of the same kinds of materials at different temperatures and put them together, what happens?



200 g of water at 80 °C



200 g of water at 20 °C

- A. pretty close to 50 C
- B. pretty close to 80 C
- C. pretty close to 20 C
- D. greater than 80 C
- E. less than 20 C

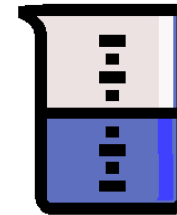
Critical Experiment 2



If we have unequal amounts of the same kinds of materials at different temperatures and put them together, what happens?



100 g of water at 80 °C



200 g of water at 20 °C

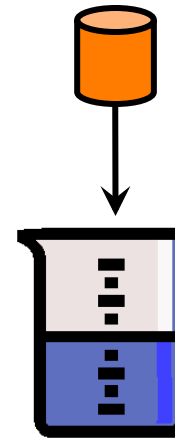
- A. pretty close to 40 C
- B. pretty close to 80 C
- C. pretty close to 20 C
- D. greater than 60 C
- E. something else

What if we have different kinds of stuff?

- What happens if we have equal masses of water and something else — a copper cylinder, say?
- What's your intuition here?
 - Will the temperature settle down to halfway between?
 - Will it be closer to the water's temperature?
 - Will it be closer to the copper's temperature?

Critical Experiment 3

If we have equal masses of different kinds of materials at different temperatures and put them together, what happens?



200 g of
copper
at 80 °C

200 g of
water
at 20 °C

- A. pretty close to 50 C
- B. pretty close to 80 C
- C. pretty close to 20 C
- D. greater than 80 C
- E. less than 20 C