

**Answer on Question #52846-Physics-Other**

Would a fishing sinker dropped into an ice-covered lake reach the temperature of the lake water more quickly if the sinker was made of iron or lead? Use your data on the specific heats of these metals to explain your answer.

(Assume the sinkers have a starting temperature of 37 degrees C and have the same shape and mass.)

**Solution**

The specific heat of iron is  $0.45 \frac{\text{kJ}}{\text{kgK}}$ . The specific heat of lead is  $0.13 \frac{\text{kJ}}{\text{kgK}}$ . We can see that specific heat of iron is bigger than of lead. That's why the iron sinker reach the temperature of the lake water more quickly.