

### **Charles' Law Worksheet**

- 1) The temperature inside my refrigerator is about  $4^{\circ}$  Celsius. If I place a balloon in my fridge that initially has a temperature of  $22^{\circ}$  C and a volume of 0.5 liters, what will be the volume of the balloon when it is fully cooled by my refrigerator?
  
  
  
  
  
  
- 2) A man heats a balloon in the oven. If the balloon initially has a volume of 0.4 liters and a temperature of  $20^{\circ}$  C, what will the volume of the balloon be after he heats it to a temperature of  $250^{\circ}$  C?
  
  
  
  
  
  
- 3) On hot days, you may have noticed that potato chip bags seem to "inflate", even though they have not been opened. If I have a 250 mL bag at a temperature of  $19^{\circ}$  C, and I leave it in my car which has a temperature of  $60^{\circ}$  C, what will the new volume of the bag be?
  
  
  
  
  
  
- 4) A soda bottle is flexible enough that the volume of the bottle can change even without opening it. If you have an empty soda bottle (volume of 2 L) at room temperature ( $25^{\circ}$  C), what will the new volume be if you put it in your freezer ( $-4^{\circ}$  C)?