Name: Date: Class:

Crystal Creator Worksheet Example Answer Key

1. What type of crystal did your team grow?

   0 % alum and 100% chrome alum

2. Fill in the resistance measurements for the following: temperatures going up from 20 degrees to 90 degrees in 5 degree increments and then temperatures coming back down from 90 degrees to 20 degrees in 5 degree increments.

Temperature (20 to 90 deg)	Resistance (ohms)	Temperature (90 to 20 deg)	Resistance (ohms)
20		90	
25		85	
30		80	
35		75	
40		70	
45		65	
50		60	
55		55	
60		50	
65		45	
70		40	
75		35	
80		30	
85		25	
90		20	

3. Graph your temperature vs. resistance data.

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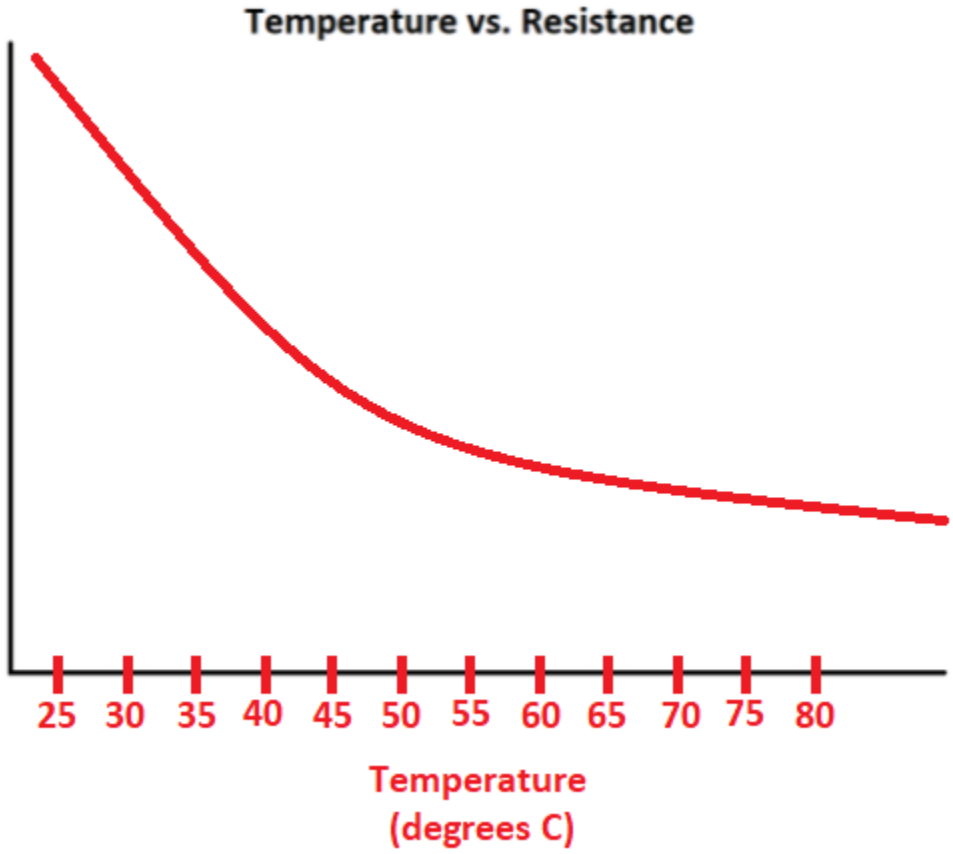

4. What relationship does temperature have with resistance? Why do you think that relationship exists?

   As temperature increases resistance decreases. I think this happens because the electrons gain energy when the temperature increases so they have more energy to reach the conductive band.

5. Hypothesize: What do you think you should change to decrease the resistance of your crystal? Why?

   To decrease the resistance of the crystal I think the crystal needs to be more red because different colors have different band gap sizes.