	Earth Scie	nce	Name: _			
7	Lab #12: Heat	ING LAND VS.	WATER	Date:		
Heating	g Land vs. V	Vater				Lab #12
	e: People like to g			ner day. There	is also a	big difference between
	Ave	rage High a	nd Low Jan	uary Tempe	ratures	
	Syracuse, NY	32 / 16°		Ottawa, Can		23 / 10°F
	Grand Forks, NI) 17 / -1°	°F	Winnipeg, C	anada	18 / 2°F
Purpose:	By the time you fi	nish this invest	igation, you sh	ould be able to	explain v	vhy:
2. temp	peratures near water peratures far from v s: Water will chai	water are highe	er in the summe	er and lower in	the winter	
temper	ature much faster	when heated ar	nd cooled.			
Review:						
Specifi	c heat:					
Record	I the specific heat	of water:		J/g•°C		
Record	I the specific heat	of limestone: _		J/g•°C		
	Vater has the highen perature changes	_			hen it gai	ins and loses energy,
Materials:	beaker	water	rock	heat lam	p tl	nermometer
Method:						
2. Place	s your rock sample e a rock and a beal	ker of water on	a sheet of whi	te paper under a	heat lam	-
	ord the temperature	of both the wa			_	•
	r: °C	0				me = 0 minutes.
4. Turn	on the lamp for I	o minutes reco	ruing the temp	erature of the ro	ck and th	ne water every minute.

- 5. Turn off the lamp and record the temperature of the rock and the water every minute for another 10 minutes.
- 6. Add a title to the graph on the next page. Also add a scale to the y-axis for temperature.

Data Collection and Processing:

Time (minutes)		1	2	3	4	5	6	7	8	9	10
Lamp On	Water (°C)										
	Rock (°C)										
Lamp Off	Water (°C)										
	Rock (°C)										

Comparison of the second of th

Analysis and Conclusions:

- 1. Which substance increased temperature more quickly?
- 2. Which substance decreased temperature more quickly?
- 3. What method was used to transfer heat to the rock and the water (conduction, convection, or radiation)?
- 4. Compare the wavelength of the absorbed energy (visible light) to that of the radiated energy (heat).
- 5. What differences explain the speed at which the rock and the water gain and lose temperature?