Name: _____

Lights on Pipes!

WHICH SURFACE ABSORBS VISIBLE LIGHT THE BEST?

Problem

Which surface absorbs visible light the best: white-painted, black-painted or mylar-covered?

Research

Answer the following True or False questions:

True/False The emission of energy as electromagnetic waves is called radiation.

True/False Visible light is a form of radiation.

True/False A white object absorbs more light than a black object.

True/False The more energy an object reflects, the hotter it becomes.

Identification of Variables

Identify the **Independent Variable**, **Dependent Variable**, **Constants** and **Control** of this experiment:

Independent Variable	
Dependent Variable	
Constants	
Control	

Hypothesis

If white-painted, black-painted and mylar-covered surfaces are heated, then the _____ surface will absorb heat the best.

(white-painted / black-painted / mylar-covered)

Conclusion

Complete the conclusion statement **after** collecting and analyzing the data.

THE SURFACE WHICH ABSORBS HEAT THE BEST IS _____.

Data Collection and Analysis

Directions: Record the temperature inside each pipe **every thirty seconds** over the course of four minutes. Once all of the data has been collected, make a **line graph** for each of the different pipes that shows how its temperature changed. You will need to make a symbol for each of the different pipes so that you will be able to tell them apart on the graph.

Hot Stuff Data Chart

SURFACE	TEMPERATURE inside of pipe at TIME (minutes:seconds)								
	(initial temperature) 0:00	0:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00

Hot Stuff Results Graph