

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:

<b>Independent Variable</b>	
<b>Dependent Variable</b>	
<b>Constants</b>	
<b>Control</b>	

#### ***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**

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

### *Hot Stuff Results Graph*

