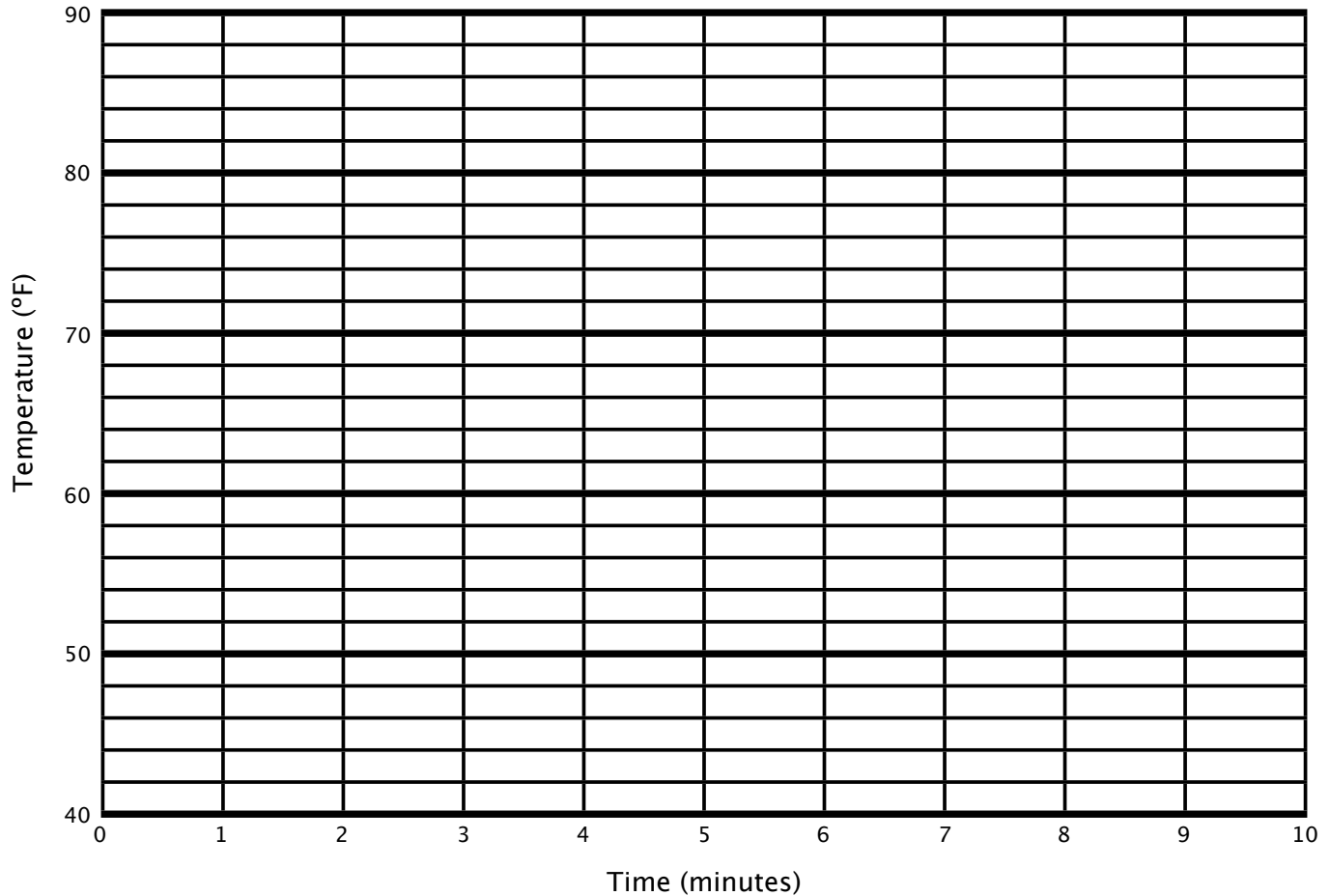


Name: _____
Period: _____

EXPERIMENT #1: GRAPH

Cup A	
Cup B	



.....

EXPERIMENT #1: QUESTIONS

1. What was the primary type of heat transfer that took place during this experiment? (circle one) Conduction Convection Radiation
2. What is the key term associated with this sort of heat transfer?

3. Predict what would happen to the temperature of the water in each cup if the experiment was continued over a longer period of time.

4. Describe an everyday example of this sort of heat transfer.

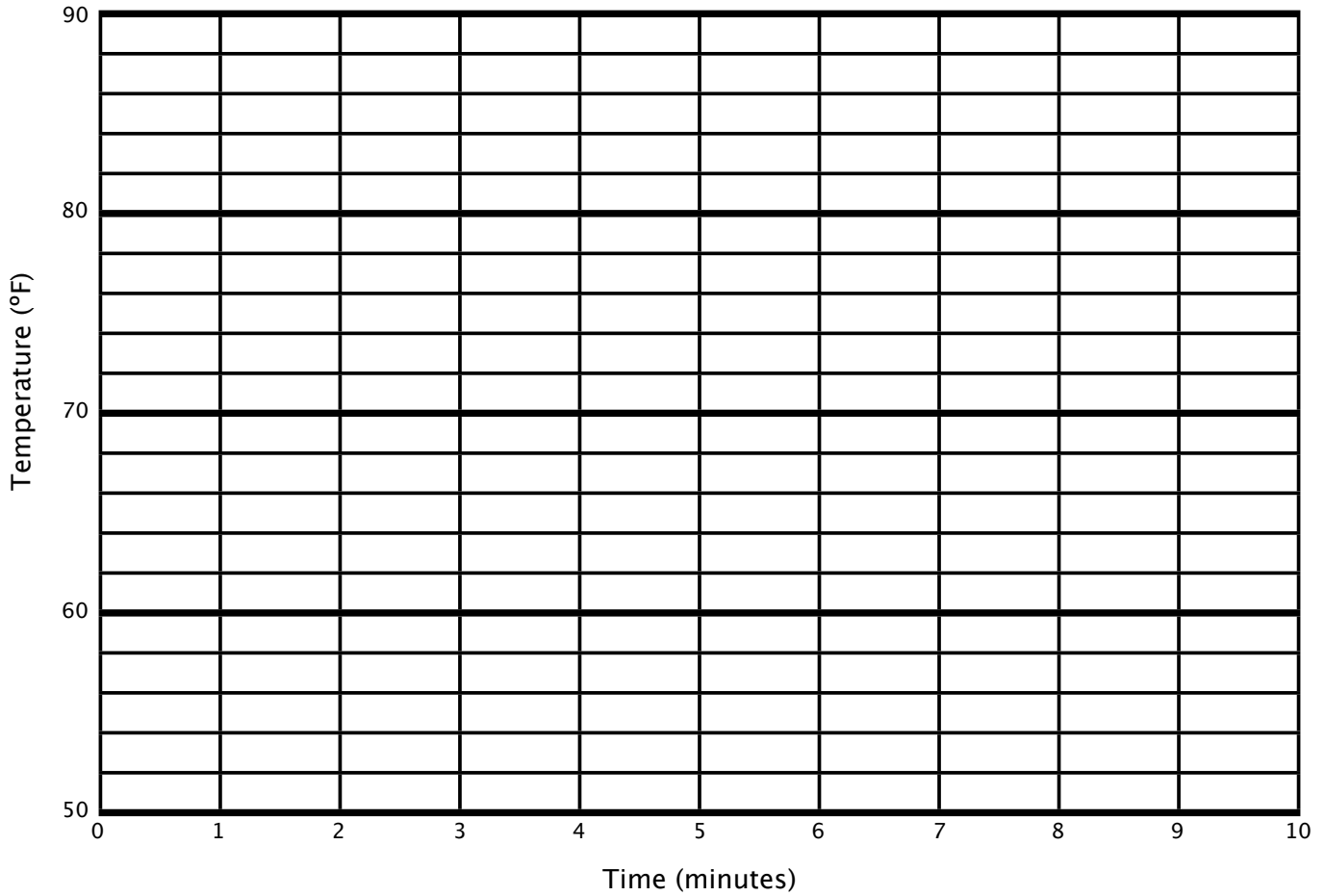
5. Using the graph you created above, and the formula found on page 1 of the ESRT, calculate the rate of change for the temperature of the water in cup A over the course of this experiment. Show all your work.
6. Using the graph you created above, and the formula found on page 1 of the ESRT, calculate the rate of change for the temperature of the water in cup B over the course of this experiment. Show all your work.
7. Which cup experienced a greater rate of change? Explain what that means.

Name: _____

Period: _____

EXPERIMENT #2: GRAPH

Can A	
Can B	



.....

EXPERIMENT #2: QUESTIONS

.....

1. What was the primary type of heat transfer that took place during this experiment? (circle one) Conduction Convection Radiation

2. What is the key term associated with this sort of heat transfer?

3. Describe an everyday example of this sort of heat transfer.

4. Using the graph you created above, and the formula found on page 1 of the ESRT, calculate the rate of change for the temperature of the water in can A over the course of this experiment. Show all your work.

5. Using the graph you created above, and the formula found on page 1 of the ESRT, calculate the rate of change for the temperature of the water in can B over the course of this experiment. Show all your work.

6. Which cup experienced a greater rate of change? Explain what that means AND why this occurred.

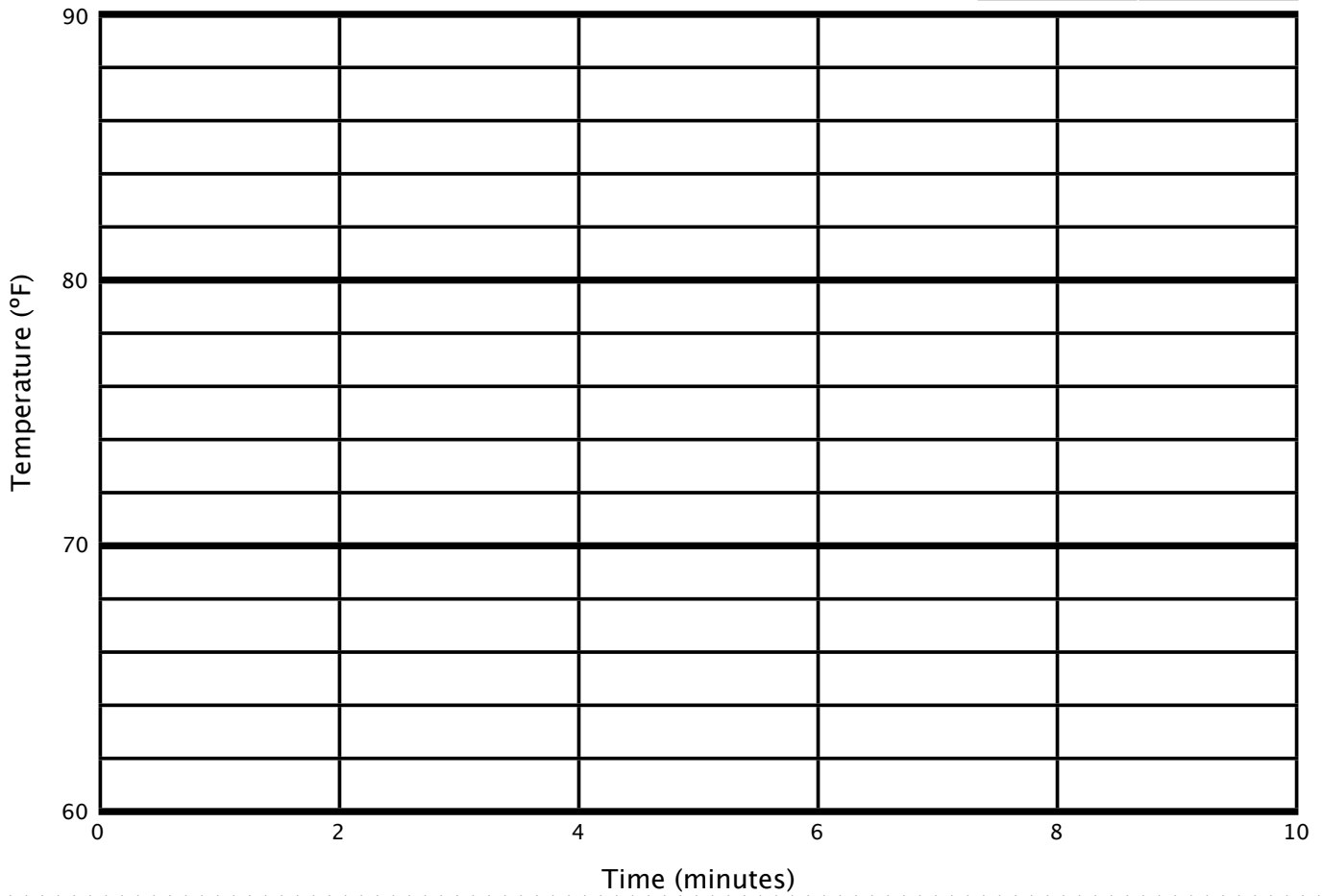
7. What is the relationship between the color of a surface and the rate at which it absorbs heat energy?

Name: _____

Period: _____

EXPERIMENT #3: GRAPH

Surface		Surface	
Surface		Surface	



EXPERIMENT #3: QUESTIONS

1. What was the primary type of heat transfer took place during this experiment? (circle one) Conduction Convection Radiation
2. What is the key term associated with this sort of heat transfer?

3. Using the graph you created above, and the formula found on page 1 of the ESRT, calculate the rate of change for the temperature of Surface A over the course of this experiment. Show all your work.
4. Using the graph you created above, and the formula found on page 1 of the ESRT, calculate the rate of change for the temperature of Surface D over the course of this experiment. Show all your work.
5. What is the relationship between the color of a surface and the rate at which is absorbs heat energy?

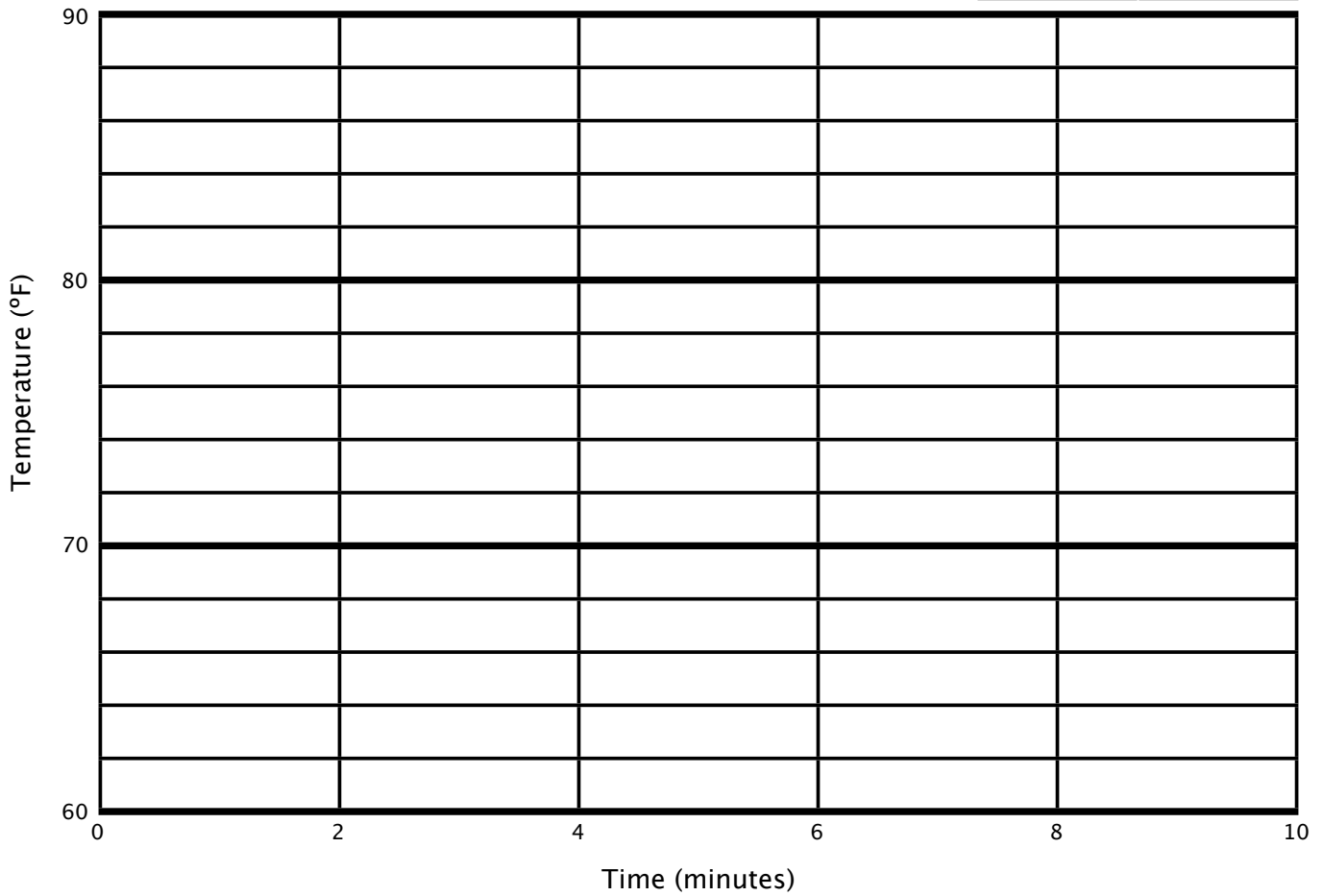
6. What is the relationship between the texture of a surface and the rate at which is absorbs heat energy?

7. Which of the following Earth surfaces will absorb the most insolation on a clear day? (circle one) Ice sheet Forest Desert
8. Which of the following Earth surfaces will reflect the most insolation on a clear day? (circle one) Ice sheet Forest Desert

Name: _____
Period: _____

EXPERIMENT #4: GRAPH

Water		Basalt	
Copper		Iron	



EXPERIMENT #4: QUESTIONS

1. What was the primary type of heat transfer that took place during this experiment? (circle one) Conduction Convection Radiation
2. What is the key term associated with this sort of heat transfer?

3. Using the graph you created above, and the formula found on page 1 of the ESRT, calculate the rate of change for the temperature of the water over the course of this experiment. Show all your work.
4. Using the graph you created above, and the formula found on page 1 of the ESRT, calculate the rate of change for the temperature of the copper pennies over the course of this experiment. Show all your work.
5. Explain why you think there is such a dramatic difference in the rate at which different materials heat up (Hint: Look at p. 1 of your ESRT).

