

OBJECTIVES

After completing this lab, the student will be able to:

1. describe the contributions to planetary science of three different scientists.
2. discuss the world events surrounding each of these four scientists.
3. draw any connections which may link these four scientists together in some way.

STUDENT MATERIALS

pencil
note pad

LAB MATERIALS

The instructor should provide the following item:

high speed computer with Internet connections

STUDENT REQUIREMENTS

Students may work alone or in teams of not more than three. However, each student is expected to write his own reports, not simply copy from other team members. Turn in all three of your reports at the end of your lab period.

INTRODUCTION

Scientists do not work in a vacuum (at least not without a space suit). They are influenced by other scientists and world events which surround them. Many times scientists make discoveries because their work has been influenced by other scientists or individuals working on similar problems. Sometimes the wrong person may receive the credit for a

discovery because he or she expanded and popularized someone else's work. Sometimes discoveries are made accidentally by a scientist working on a completely different problem. Regardless of how scientific knowledge is obtained, it does not become generally accepted until society agrees to accept it. Recall Galileo and the problems he had with the Roman Catholic Church. Think of the modern controversy between biologists and theologians over Darwin's Theory of Evolution. Currently cloning has taken center stage. Science is done from within a social frame work. What scientists work on is influenced by social events such as wars, plagues, politics, etc.

Learning about science does not always involve learning about scientific discoveries. Sometimes it means learning about scientists themselves. During this lab, you will try to find to the discoveries of three scientists who were, or are currently, working on problems of the Solar System. You will attempt to draw threads of similarity between them to see if they influenced each other in some manner. Finally, you will attempt to relate the work of each scientist to the backdrop of the society in which he or she worked and how that social connection may have affected their science. Some of these scientists will be rather easy to track down, while others may be difficult. I hope you will find this study of scientists and their lives interesting.

PROCEDURE

Pick at least three scientists from the list below. You are to use Internet search engines such as Yahoo, Lycos, etc., to find out what contribution(s) each of them has made to the study of the Solar System. The best way to do this is to click on **search** and then enter the astronomer's name in the search box. Another place to start is <http://www.yahoo.co.uk> and click on **science**, then **astronomy**, then **astronomers**. As

you obtain information about each scientist, try to establish the social background that each of them was working under. Were there wars or other political events, illnesses, financial constraints, religious beliefs, etc., which in some way affected their scientific philosophy and discoveries? In addition, try to establish links between the three scientists you have chosen. Some of the links may be strong and others might be rather thin. Do the best you can to establish some relationship between your scientists no matter how thin the link. As you find information, jot it down on your notepad so you can use it later to write up your lab report about each scientist. As you study one person's work you may be led to study someone else on the list. Do not feel obligated to stick to your initial selections. If you find that it seems difficult to find information about one of the scientists you have selected, then simply pick someone else. Do not spend the entire lab period hunting down information that is hard to obtain. The purpose of this lab is to learn about science by studying scientists, not to make your search difficult. Answer the questions about each person on the forms provided on the next few pages. When you are finished, staple your reports together and turn them in.

Choose from this list

- Aristotle
- Claudius Ptolemy
- Nicholas Copernicus
- Johannes Kepler
- Galileo Galilei
- Tycho Brahe
- Isaac Newton
- Edmund Halley
- Giovanni Schiaparelli
- Percival Lowell
- Giovanni Cassini
- Christian Huygens
- William Herschel
- Caroline Herschel
- Urbain Le Verrier
- Carl Sagan
- Carolyn Shoemaker
- Clyde Tombaugh

NAME: _____

LAB SECTION: _____

SCIENTIST REPORT NUMBER 1

SCIENTIST'S NAME: _____

BORN / DIED: _____

1. Write a short discussion about the life and times of this scientist. Be sure to include world events, religious beliefs, etc., which may have influenced his or her scientific studies.

2. What was this person's major scientific contributions to the study of our Solar System?

3. What connections, if any, can you make between this person and any work done by some of the other scientists in the original list? This should include how one person's work may have affected the science of the person in this report.

NAME: _____

LAB SECTION: _____

SCIENTIST REPORT NUMBER 2

SCIENTIST'S NAME: _____

BORN/DIED: _____

1. Write a short discussion about the life and times of this scientist. Be sure to include world events, religious beliefs, etc., which may have influenced his or her scientific studies.

2. What was this person's major scientific contributions to the study of our Solar System?

3. What connections, if any, can you make between this person and any work done by some of the other scientists in the original list? This should include how one person's work may have affected the science of the person in this report.

NAME: _____

LAB SECTION: _____

SCIENTIST REPORT NUMBER 3

SCIENTIST'S NAME: _____

BORN/DIED: _____

1. Write a short discussion about the life and times of this scientist. Be sure to include world events, religious beliefs, etc., which may have influenced his or her scientific studies.

2. What was this person's major scientific contributions to the study of our Solar System?

3. What connections, if any, can you make between this person and any work done by some of the other scientists in the original list? This should include how one person's work may have affected the science of the person in this report.