

**ID the Biologist**  
North Shore Science League  
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Introduction

Science is basically an ever-changing body of knowledge developed using the scientific method. Textbooks are, in reality, summations of many, many experiments conducted by scientists throughout the world. The purpose of this event is to recognize some of these scientists based on descriptions of their experiments. The scope of this event will include only scientists who have worked in the field of Molecular Genetics. More specifically, these scientists have conducted experiments pertaining to:

Genetics (from a historical perspective)  
DNA  
RNA  
Proteins

Event Description

Students are not allowed to bring any reference materials into this event. There will be a 30 minute time limit. Teams will be given ten questions, each pertaining to a different scientist who has made significant contributions in one of the topics listed above. The question will begin with a general description of the experiments conducted by a given researcher. Trivial information may also be included in this description. Each question will have two parts. In part A, teams are expected to identify the scientist who conducted the research, and in Part B, teams will be asked a question concerning the research which was conducted.

Hints for Event Preparation

7 of the scientists have won the Nobel Prize  
3 of the scientists have conducted historically/recently significant research  
5 of the scientists will be drawn from the following list:

Harold Varmus	Stanley Prusiner
Walter Gilbert	Matthew Meselson
Hans Krebs	Oswald Avery
James Watson	Barbara McClintock
Francis Crick	David Baltimore
Thomas Cech	Paul Berg
Stanley Cohen	Alfred Hershey
Linus Pauling	Joshua Lederberg

### Example Question

#### The Methodical Biochemist

This researcher began his work with an interest in DNA metabolism. He was primarily interested in studying how life made new DNA. This led him to conduct experiments which attempted to identify the protein responsible for making DNA during the cellular process of DNA replication. His initial attempts to develop an assay which would allow him to purify this protein were unsuccessful. Then one day he tried using a DNA primer in his reaction, and surprise, surprise, he was able to synthesize DNA in a test tube. Using this assay and typical biochemical purification techniques, this scientist was able to purify DNA polymerase(s) from many organisms including, *E. coli*, *S. Cerevisiae*, and *H. Sapiens*. If a novel DNA polymerase is identified, odds are it came from this guy's lab or from the lab of one of his former postdocs. This researcher was awarded the Nobel Prize for his work. His son, Roger, was recently awarded the Nobel Prize.

Part A:

The name of this scientist is \_\_\_\_\_

Part B:

This scientist is considered to be the godfather of DNA replication. Therefore, he was asked to write a book on this field. His book also contained information on DNA repair and several other topics.

The name of this book is \_\_\_\_\_

Answers: Arthur Kornberg, DNA Replication

### Scoring

The answer to part A is worth 2 points, one point for the scientist's first name and one point for the scientist's last name. Part B is worth 1 point. The total score for each team will be tallied. The team with the highest score wins. Tie-breakers will be decided by comparing scores on question 1 followed in order until question 10.