

## ***Chatham Hall Summer Investigators*** **July 15-July 27, 2012**



### **The Academic Program:**

This summer's program entitled "Who Dunit?" integrates the areas of biology, chemistry and mathematics. Students assume the role of crime scene investigators in order to solve a mock crime. The schedule for each day will include three 90 minute class periods, known as investigation periods. In two of the three investigation periods, students design and perform experiments to test the evidence collected at the "crime scene". By learning to classify fingerprints, they gain an appreciation for probability and statistics, as they relate fingerprint types to the general population. Fundamental differences between human and animal hair are examined under the microscope and calculations of a medullary index show distinctions between hair samples. Students learn about atomic structure of basic elements, as they perform flame tests on various stains collected from the crime scene. By studying blood typing (artificial blood only) and DNA structures, students are introduced to genetics and complex biological principles. The extraction of DNA from strawberries emphasizes the importance of this molecule. Applications of mathematics are stressed in the third investigation period. Data collection and the application of the principles of statistics and probability allow students to make essential

predictions which help in the resolution of the “crime”. Scale and proportions are also emphasized as students draw scale models of the crime scene. The scientific processes and mathematical analyses learned in these three investigation periods enable students to solve the crime by the end of the program.

The Chatham Hall Summer Investigators is an enrichment program. While the curriculum has a non-traditional, interdisciplinary format that demonstrates the powerful connections that exist between mathematics and science, it is not remedial in these areas. Although all classes cover the same topics, the degree of difficulty at which these topics are taught varies, depending upon the grade level and mathematics background of the students within the section. The summer investigators does not provide academic credit; there is no formal testing or grades. Teachers will write “comments” for each student on a report card at the end of the program.

## **The Daily Schedule**

**8:00-8:30 am Breakfast**

**8:30-10:00 Investigation Period 1**

**10:00-10:30 Break/Snack/Announcements**

**10:30-12:00 Investigation Period 2**

**12:00-1:00 Lunch**

**1:00-2:30 Investigation Period 3**

**2:30-3:00 Break**

**3:00-4:00 Sports Period 1**

**4:15-5:15 Sports Period 2**

**6:00-6:45 Dinner**

**7:00-8:00 Study Hall**

**8:00-9:15 Evening Activities**

## **The Afternoon Athletic Program**

The athletic program introduces girls to a variety of sports, each offered for one week, as an opportunity to increase athletic skills and sense of wellbeing and confidence. There are two hour-long periods, one for a required self-defense class and the other from sports such as soccer, field hockey, basketball and physical conditioning.

## **Evening Activities**

A required one-hour study period after dinner each weekday, gives students the time to complete assigned homework for each investigation period. After study hall, a number of evening activities are offered. These include pick-up sports in the gym, physical conditioning in the weight room, games and academic opportunities like fun with chemistry and biology and mathematic puzzles. Frequently, evenings are highlighted by “make-your-own sundae” parties and other community gatherings, such as a student organized talent show.

## **Weekend Activities**

The weekend continues the week’s experience with a Saturday field trip to the North Carolina Zoo in Asheboro, NC. The cost for this trip is included in the tuition; students must use their own spending money to purchase souvenirs.

## **Costs**

The cost for this two-week program is **\$1,500**. This includes tuition, room and board, course materials, field trip costs and a Summer Investigators T-shirt.

For more information, please contact

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