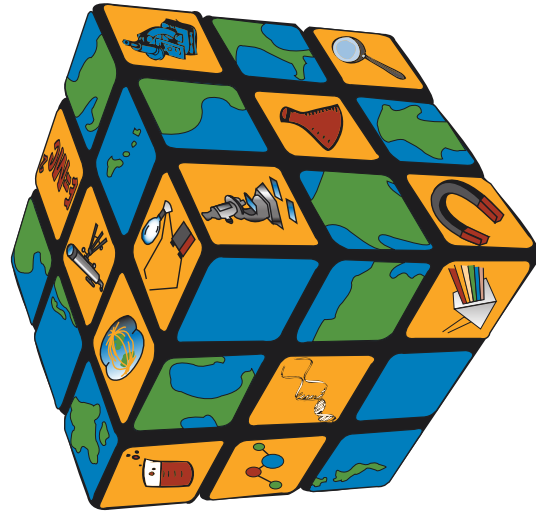




**Thomas Jefferson National Accelerator Facility
Virginia Regional Science Bowl
February 11, 2006**

**Jefferson Lab
Virginia Regional Science Bowl
February 11, 2006**



Jefferson Lab <http://education.jlab.org>
CHANGE THE WITH SCIENCE

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On behalf of the nation's scientific community, I applaud your participation in the Virginia Regional Science Bowl and welcome you to Jefferson Lab. You and your team members are tomorrow's leaders. We encourage you to keep striving for your goals and dreams. We eagerly anticipate your achievements!

As a Department of Energy physics research facility, Jefferson Lab takes seriously its partnership with the local, regional, and national education community. Jefferson Lab contributes to the quality and strength of university physics programs through shared faculty appointments with the Lab. We also provide opportunities for the nation's most promising undergraduate science students to immerse themselves in the science of Jefferson Lab for 10 weeks in the summer through the Science Undergraduate Laboratory Internship (SULI) program. Funded by the DOE Office of Science, the SULI program offers undergraduate students the chance to interact with Jefferson Lab staff and scientists in a world-class research environment. More information about SULI is on the Internet at <http://education.jlab.org/>.

In addition, we work with many dedicated teachers to enhance the quality of science, math and technology education. Our unique research environment and science, math, and technology expertise creates extraordinary educational partnerships with local school districts. More than a third of the Jefferson Lab scientists and staff interact regularly as mentors and career role models with students and teachers.

I hope each of you continue pursuing your interests in mathematics, science, engineering, and technology. Good luck in the competition and enjoy your day at Jefferson Lab.

Christoph W. Leemann
Director, Jefferson Lab

What is Jefferson Lab?

The Department of Energy's Thomas Jefferson National Accelerator Facility, or Jefferson Lab (JLab), is a national laboratory for nuclear physics research. The lab is managed by a consortium of 61 universities called the Southeastern Universities Research Association, or SURA, under contract of the DOE. Approximately 700 people are employed at Jefferson Lab.

As a user facility for physicists worldwide (more than 1,800 scientists from around the world conduct experiments at Jefferson Lab), JLab's primary mission is to conduct basic research that builds a comprehensive understanding of the atom's nucleus. With industry and university partners, it has a derivative mission as well: applied research for using Free-Electron Lasers based on technology the laboratory developed to conduct its physics experiments. As a center for both basic and applied research, Jefferson Lab also reaches out to help educate the next generation in science and technology.

Superconducting electron-accelerating technology makes the laboratory unique. University researchers use Jefferson Lab's Continuous Electron Beam Accelerator Facility (CEBAF)—the technology's first large-scale application anywhere to conduct experiments. With high-energy electron beams from the accelerator, these experimenters probe the subnuclear realm, revealing for the first time how quarks make up protons, neutrons, and the nucleus itself. Using this same superconducting electron-accelerating technology, Jefferson Lab has constructed a laser of unprecedented power and versatility called a Free-Electron Laser. This laser offers unique capabilities for basic research and manufacturing processes.

Jefferson Lab represents a \$600 million investment by the federal government, the Commonwealth of Virginia, the city of Newport News, foreign contributors, and the U. S. nuclear physics research community. The operating budget from the Department of Energy is approximately \$80 million per year.



Agenda

- 7:30 a.m. Team Registration, CEBAF Center Atrium
- 8:15 Welcome, CEBAF Center Auditorium
- 8:20 Orientation / Rules Review
- 9:00 Round Robin - Round #1
- 9:30 Round Robin - Round #2
- 10:00 Round Robin - Round #3
- 10:30 Break
- 10:40 Round Robin - Round #4
- 11:10 Round Robin - Round #5
- 11:40 Round Robin - Round #6
- 12:10 p.m. Round Robin - Round #7
- 12:40 Lunch (Tiebreakers if necessary)
- 1:30 Double Elimination - Round #1
- 2:00 Double Elimination - Round #2
- 2:30 Double Elimination - Round #3
- 3:00 Break
- 3:10 Double Elimination - Round #4
- 3:40 Double Elimination - Round #5
- 4:10 Finals #1 – CEBAF Center Auditorium
- 4:40 Finals #2 - if needed - CEBAF Center Auditorium
- 5:15 Presentation of Awards and Certificates

Each round is 20 minutes with 10 minutes to get to the destination room of the next match.

As part of the Ferguson Enterprises Stay All Day program, afternoon activities are available for teams that do not advance to the finals. Stay All Day activities will be ongoing from 1:30 - 3:30 in VARC 72.

Division and Team Number Assignments

Democritus Division

Team 1
Team 2
Team 3
Team 4
Team 5
Team 6

Democritus

Thomson Division

Team 1
Team 2
Team 3
Team 4
Team 5
Team 6

Thomson

Rutherford Division

Team 1
Team 2
Team 3
Team 4
Team 5
Team 6

Rutherford

Bohr Division

Team 1
Team 2
Team 3
Team 4
Team 5

Bohr

Round Robin Competition Room Assignments

Democritus Division

	CC F326	CC F113	CC F226
Round 1	1 vs. 2	3 vs. 4	
Round 2	4 vs. 6	3 vs. 5	
Round 3	2 vs. 5	1 vs. 6	
Round 4	1 vs. 3	4 vs. 5	
Round 5	1 vs. 4	2 vs. 6	
Round 6	5 vs. 6	2 vs. 3	
Round 7	2 vs. 4	1 vs. 5	3 vs. 6

Thomson Division

	CC F325	CC F224	CC F226
Round 1	1 vs. 2	3 vs. 4	
Round 2	4 vs. 6	3 vs. 5	
Round 3	2 vs. 5	1 vs. 6	
Round 4	1 vs. 3	4 vs. 5	
Round 5	1 vs. 4	2 vs. 6	
Round 6	2 vs. 4	1 vs. 5	3 vs. 6
Round 7	5 vs. 6	2 vs. 3	

Rutherford Division

	CC F324	CC Aud	CC L104
Round 1	1 vs. 2	3 vs. 4	
Round 2	4 vs. 6	3 vs. 5	
Round 3	2 vs. 5	1 vs. 6	
Round 4	1 vs. 3	4 vs. 5	
Round 5	1 vs. 4	2 vs. 6	
Round 6	2 vs. 4	1 vs. 5	3 vs. 6
Round 7	5 vs. 6	2 vs. 3	

Bohr Division

	CC F226	CC L104
Round 1	1 vs. 2	3 vs. 5
Round 2	4 vs. 5	1 vs. 3
Round 3	3 vs. 4	2 vs. 5
Round 4	2 vs. 3	1 vs. 4
Round 5	1 vs. 5	2 vs. 4

Round 6 - F226: 3 vs. 6 (Thomson)
 L104: 3 vs. 6 (Rutherford)
 Round 7 - F226: 3 vs. 6 (Democritus)

Round Robin Scoring Charts

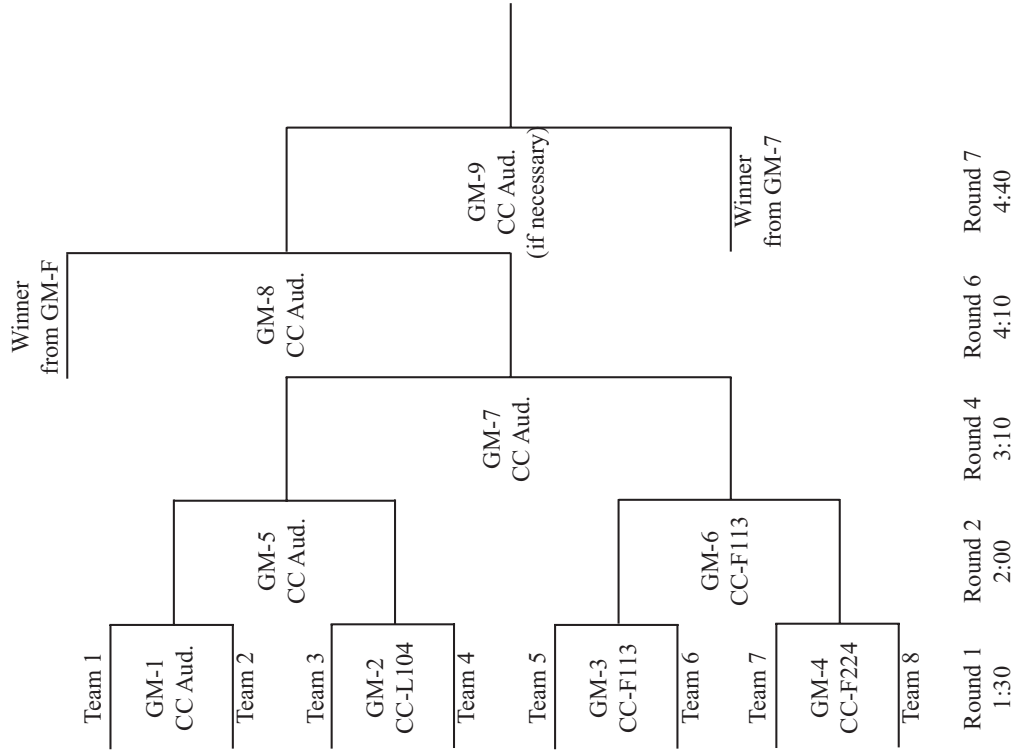
Democritus Division

	Team 1	Team 2	Team 3	Team 4	Team 5	Team 6	TOTAL
Team 1							
Team 2							
Team 3							
Team 4							
Team 5							
Team 6							

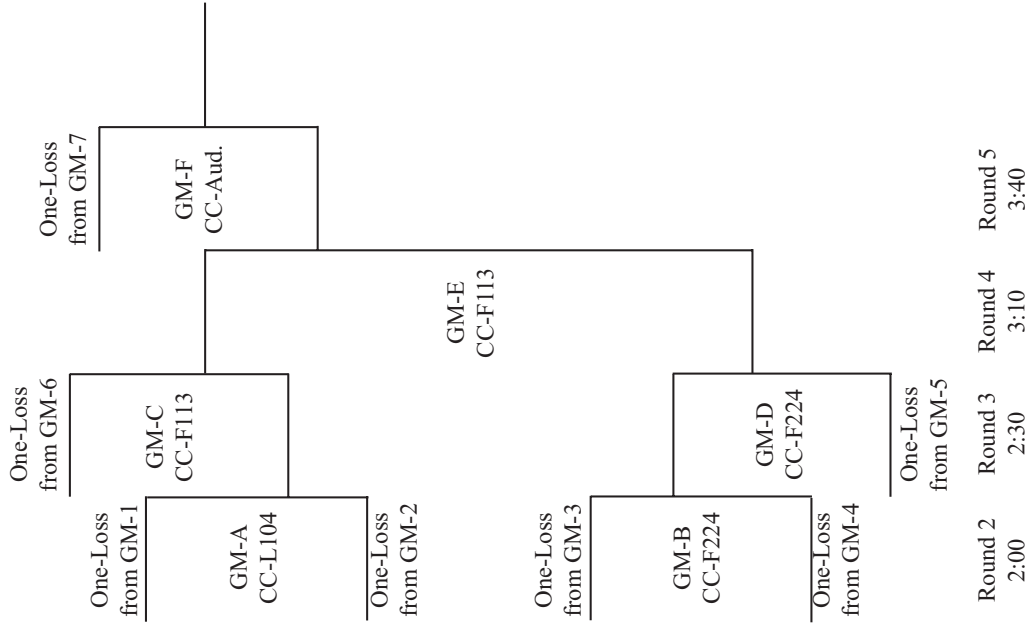
Thomson Division

	Team 1	Team 2	Team 3	Team 4	Team 5	Team 6	TOTAL
Team 1							
Team 2							
Team 3							
Team 4							
Team 5							
Team 6							

Double Elimination No-Loss Bracket



Double Elimination One-Loss Bracket



Stay-All-Day Activities

Sponsored by Ferguson Enterprises

1:30 - 3:30

VARC 72

In the event your team does not make it to the finals, we have additional opportunities for you and your teammates to show off! Your team can compete in the activities listed below between 1:30 p.m. and 3:30 p.m.

Why Stay-All-Day? Well, the team with the best composite score from the three activities will win a check for \$250 for their school's science department, and participating in the Ferguson Enterprises Stay-All-Day Activities will be fun! The "official" rules will be available this afternoon in the VARC building, room 72.

A Simple Balancing Act – Determine the mass of an object using balance and a little math.

Hitting the Target – Calculate where to place a target so that it will be hit by a ball that rolls down an inclined plane and falls off a table.

Scale Model of the Solar System – Determine the distance between the sun and each planet in a scale model of the solar system.

Team members may work together or separately. Each team may only submit one official entry per activity. The winner of the Ferguson Enterprises Stay-All-Day Activities will be announced after the Final Round in the CEBAF Center Auditorium.

Bassett High School

Bassett, Virginia

Alex Randall, Principal

Teresa Setliff, Coach

Coach Setliff graduated from Tennessee Wesleyan College with a B.S. in Biology and a minor in Chemistry. She has graduate credit from VA Tech, UVA, and Wake Forest in chemistry, biochemistry, and technology. She currently teaches Chemistry, AP/DE Chemistry, and Environmental Science at Bassett High School. She is coach for the SCAEL Science Team. Before coming to Bassett High School, she was a chemist in a paint manufacturing facility. Coach Setliff feels that the discovery of the DNA molecule was one of the most important scientific discoveries because it leads to improved health and the fight against disease.

Megan Adkins, Senior

Megan is a member of the National Honor Society, the International Club, and treasurer of the Drama Club. She participates in the Social Studies team for the SCAEL and the Forensics Team. She was an actress in the One Act play, which made it to the regional competition. She is also a new member of the Robotics Team.

Kameron Carter, Junior

Kameron lives in Bassett, Virginia, with her mother, Helen, father, Terry, and two younger siblings, Blake and Haley. Kameron is a member of BETA, SAVE, FOCUS, and the robotics team of Piedmont Governor's School. She has been a member of the golf team for three seasons and captain of the golf team for one. This past year was her first year as a member of Bassett High School's Science SCAEL team and this is her first trip to the Science Bowl. After high school, Kameron plans on attending a four-year university where she can play golf at the college level while majoring in a scientific field.

Benjamin Dawson

Benjamin has an affinity for science and computers. He is IC₃ and Microsoft PowerPoint certified. He loves solving visual problems, as well as reading. His favorite author is Terry Brooks. He plays a lot of video games, most of which are online role-playing games, such as World of Warcraft. He enjoys talking to people and is interested in business management as a career choice at the moment.

Carter Fetting, Junior

Carter is co-captain of the Social Studies SCAEL team and is active in various clubs and activities around school. His hobbies include different sports and hanging out with his friends. Carter also attends the Piedmont Governor's School and lives with his mother and four-year-old sister, Tayhlyan.

George Sink, Junior

George has been on the Social Studies SCAEL team for three years and is a co-captain. He is in the SCA and the Beta Club. As a member of the Oak Level Ruritan Club, he works to improve his community. Also, George has been on many trips and missions with his youth group. He is hoping to study engineering in college and obtain a job in the technical field.

2006 Virginia Regional Science Bowl Competition Officials

Phil Adderley	Gary Graham	Greg Nowicki
Ravi Anumagalla	Joe Grames	Dena Polytronakis
Jacqueline Bacon	Michael Haddox-Schatz	Julie Roche
Myung Bang	Doug Higinbotham	Mark Smith
Susan Brown	Hanna Jacobsen	Marcy Stutzman
Kandice Carter	JT Kelley	Kristen Turk
Todd Clark	John Kelly	Pam Turk
Jennifer Coughlin	Carol Kinsey-O'Neal	Skip Tyler
Dennis Dobbins	Brian Kross	Valerie Varnier
Bridget Dowd	Paul Letta	Lyn Wells
Deborah Dowd	Allison Lung	Christine Wheeler
Molly Dowd	Debbie Mayer	Bethany Wissmann
Rolf Ent	Lia Merminga	Hannah Wissmann
Mary Erwin	Jade Miller	Mark Wissmann
Theresa Foremaster	Jim Murphy	Jane Worley
Al Gavalya	Susan Murphy	Ray Yoh

Thanks to the following organizations for their generous contributions of food and prizes for the students and teachers participating in the 2006 Virginia Regional Science Bowl.



Virginia Regional Science Bowl Planning Committee

Jan Tyler: Coordinator
Steve Gagnon: Assistant Coordinator
Dave Abbott: Assistant Coordinator
Stacy DeVeau: Assistant Coordinator
LaChelle Dozier: Assistant Coordinator
Joyce Miller: Assistant Coordinator
Lisa Surlles-Law: Assistant Coordinator
Joanna Korolyshyn: Logo & T-shirt Design
Debbie Magaldi: Publicity and Media Coverage
Cynthia Lockwood: Awesome Logistics - Room Set-up and Food
Noel Vermeire: Awesome Logistics - Room Set-up and Food
Vera Collins - Registration

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Steve Gagnon, Jefferson Lab Science Education Group
Jan Tyler, Jefferson Lab Science Education Group
Lisa Surlles-Law, Jefferson Lab Science Education Group
Dave Abbott, Jefferson Lab Science Education Group

Stay-All-Day Coordinators

Stacy DeVeau
LaChelle Dozier

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