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**Former Astronaut Encourages Minnesotans to Rethink Math and Science Education**  
*First woman of color in space spoke at Minneapolis Foundation's "Minnesota Meeting"*

**MINNEAPOLIS, APRIL 23, 2009** – Former NASA astronaut Dr. Mae Jemison said Minnesota needs to develop a “science literate society” to ensure its economic competitiveness in the future at The Minneapolis Foundation’s Minnesota Meeting on Wednesday, April 22. She said all students have “a world filled with ideas and possibilities before them” if they receive a balanced education that includes rigor in science and math through problem solving and real-world applications.

Jemison, the first woman of color to travel into space, is also a medical doctor, chemical engineer, teacher, scientist, and technology entrepreneur. As a young African-American from the Southside of Chicago, she entered Stanford at age 16 and is regarded as a national leader in encouraging science education.

The event at the Minneapolis Convention Center focused on the theme of “Our Future Prosperity: Preparing Minnesota Students to be Leaders in Math and Science.” The Minneapolis Foundation, through the 2009 season of its Minnesota Meeting public affairs forum, is promoting discussion on how to ensure all the state’s students achieve at high levels – regardless of gender, ethnicity, or household income.

Jemison told the Minnesota Meeting crowd of 800, including 150 students from Twin Cities area middle and high schools, that literacy in science will be critical for the jobs of the future. But, according to the Minnesota Private Colleges Research Foundation, only 40% of high school students in Minnesota are meeting the ACT college readiness benchmark score in science. That percentage drops significantly for African American students – only 9% meet the benchmarks in science, and only 16% meet college requirements for math. Latinos, American Indians, and Asian Americans also experience participation and achievement gaps.

Moderator Eric Jolly, president of the Minnesota Science Museum, agreed, noting that “three of four new jobs that will be created in the next decade that pay more than minimum wage will require basic fluency in science, engineering and mathematics. Our students need to be prepared for that.”

According to Jemison, the accelerated pace of technology development has made science as critical as other school subjects, such as reading. Science and math skills aren’t about memorization, she said, but rather “problem-solving and critical thinking skills are the most important aspects of science literacy – being able to work our way through the day.”

Jemison added, “It’s never too early...kids have a natural curiosity, a natural inclination towards learning” that we need to build upon.” She feels that laptops and computer training are significantly less effective than hands on experimentation from kindergarten on.

Jemison cited teacher quality and training as essential ingredients for effective STEM [Science, Technology, Engineering, and Math] instruction. “To get rigor in the classroom from 8<sup>th</sup> grade on up you need teachers who majored in the subject. For grade school teachers to be comfortable teaching math and science, they need to have taken some science after high school.” In addition, she said, teaching methodology needs to address a diversity of learning styles.

Jemison said effective teaching in the STEM subjects engages students' "intellect, emotions, interests, and skills." Students need hands on experiences with these subjects that engage the senses, she said.

It's not just future engineers who need science and math, Jemison pointed out, but algebra and chemistry are used daily by carpenters, electricians, and beauticians.

She encouraged investment in school labs to help kids make these connections through experimentation. Jolly agreed that it is critical to make science "understandable, accessible, and meaningful" by providing students an understanding of its real world applications. He said, "It's about challenging students to succeed."

When asked about students who may be afraid of pursuing science and math education because of its difficulty, Jolly pointed out, "When you understand that the use of science and mathematics gives you the ability to help change the world, you're not afraid of the rigor."

Jolly said that the educational system's current emphasis is on test results, rather than achievement. He observed that "we spend more time weighing children than feeding them. We need to stop putting students second to numbers."

Family support for education in math and science also makes a profound difference in a student's education, noted Jemison and Jolly. They identified a number of ways for families to support their children's natural curiosity, including museum visits. "The number one predictor of college success is parent involvement," added Jolly.

Minneapolis Foundation President and CEO Sandra Vargas closed the meeting, calling it "an explosion of ideas" and encouraging the attendees to use their influence to help all students excel in math and science.

The Minneapolis Foundation is sponsoring the season's third and final Minnesota Meeting session on education policy this spring on May 27, featuring Harlem Children's Zone leader Geoffrey Canada speaking about "Organizing Our Communities to Support Student Success." To register or learn more about Minnesota Meeting, visit [www.MinnesotaMeeting.com](http://www.MinnesotaMeeting.com) or call 612-617-1117.

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