

September, 2010

Dear Parents,

All of the middle school students in District 25 will have the opportunity to experience two new science units that the teachers will be piloting during the 2010-2011 school year. We hope this comprehensive letter will address some of the questions you may have about the middle school science pilot.

Overview of the District 25 Curriculum Review Cycle

Every five to ten years school districts across the nation conduct specific curriculum review cycles in all of the content areas. It is an opportunity for staff members to regularly research best practices in teaching and learning to ensure that your children will be prepared with the skills, habits, and attitudes necessary to be competent readers and writers, as well as successful math, science, and social science students. In our rapidly changing world, the skill sets that your children will need to become global citizens emphasize the ability to critically question, analyze, and synthesize information and to creatively and collaboratively problem solve real-world issues.

Science Review Process in Arlington Heights

Two years ago, District 25 began its K-8 science curriculum review process. Last spring a recommendation was made to the Board of Education to purchase *Science Companion* as the elementary science program. *Science Companion* was developed at the University of Chicago and reflects an inquiry approach to science with many opportunities for children to discover and understand how the world works. This science program will be implemented beginning in the spring of 2011. One of the most meaningful ways to collect data on potential new programs is to conduct pilot studies. Last year we had 28 elementary teachers volunteer to pilot science materials from three different reputable publishing companies. The teachers collected data on the strengths and challenges of each program. When a decision was made about which program to select, it was based on both quantitative and qualitative data that was collected throughout the pilots.

The Middle School Science Pilot

After two years of researching best practices in teaching and learning in the middle school science classroom, there was consensus among the District 25 middle school science teachers at both middle schools that they wanted to pilot two new science units from two different programs that have been nationally recognized for their rigor, inquiry-based learning, and hands-on meaningful science activities. One of the units will be implemented the first ten to thirteen weeks of school and the second unit will be implemented a few weeks later.

At the beginning of the year, the sixth grade teachers will pilot a physics unit and the seventh and eighth grade teachers will pilot a chemistry unit. The chemistry unit is appropriate for seventh through tenth grade students. The science teachers felt the

chemistry unit would provide a strong chemistry foundation for both grade levels. The second pilot will be a biology unit in grade six, an earth science unit in grade seven, and a meteorology unit in grade eight. The meteorology unit is a combination of both earth science and physical science.

If District 25 students are doing well in science, why is the district considering changing our middle school science program?

The students in District 25 have always done very well on the state science test (ISAT), and exceptionally well at middle school Science Olympiad competitions at the state and national level. The curriculum review cycle and the new national science standards that will be adopted by states next year were the two reasons why we are evaluating our present science program. The new standards indicate that science teachers need to teach fewer concepts more deeply and that science programs need to be structured so that students understand the relationship between the various science disciplines. The new standards also require students to be able to think critically, to question, to test hypotheses, and to present evidence for the reasons that various science phenomenon occur.

How have our science teachers been trained in these new units?

A week of summer training was offered to all middle school science teachers for the first new science unit they will be teaching. The new science teacher is working with a mentor to learn about the first new unit, and teachers who were not able to attend training were provided with the necessary materials. They will work with their colleagues to plan lessons. During first semester all of the science teachers will be trained on the second pilot science unit. There will be follow-up professional development support provided during the duration of the two new units.

How do we know that these two programs we will be piloting match the new national science standards?

We have been so fortunate this year to partner with professors Dr. Brian Reiser from Northwestern University and Dr. Joe Krajick from the University of Michigan as we researched best practices in middle school science and examined various middle school science programs. Dr. Reiser and Dr. Krajick are two of the primary authors of the new national science standards and have international reputations in the area of science instruction, K-12.

What happens when the pilots are completed?

The middle school science teachers will collect both quantitative and qualitative data about the two units of study throughout the year. The teachers, staff from the Department of Student Learning, as well as university science professors will analyze the data. A recommendation about a new science program will be made to the Board of Education in spring of 2011.

What science will the students be learning when they complete the two pilot units?

The middle school science teachers will return to teaching the existing science curriculum. The seventh grade students will have learned all of the content and skills they will need to successfully complete the science ISAT.

Are there any articles that I can read about the new national science standards and the two science units the teachers will be piloting?

The first link is an overview of the implications of the new standards and the second link is an overview of the new national standards. The third link provides an overview of the IQWST science program: *Investigating and Questioning the World through Science and Technology*. The fourth link is an overview of the PBIS science program: *Problem Based Science Inquiry*.

<http://www.edweek.org/ew/articles/2010/07/13/37science.h29.html?tkn=LNSFfkNysRnkH71aVWMX+Q7R0yBXdqf8IXxW>

<http://www.nsta.org/about/standardsupdate.aspx>

<http://www.umich.edu/~hiceweb/iqwst/index.html>

<http://www.its-about-time.com/pbis/pbis.html>

When will I hear more about the pilot programs?

You will hear more about the programs from the science teachers at middle school curriculum nights early in the fall, and we hope your children will share with you what they have been learning in science. If you have further questions, the science teachers and building administrators will be happy to answer your questions. Please feel free to contact me as well at dtruding@sd25.org or at 847-758-4890.

Sincerely,



Dale Truding
Assistant Superintendent of Student Learning