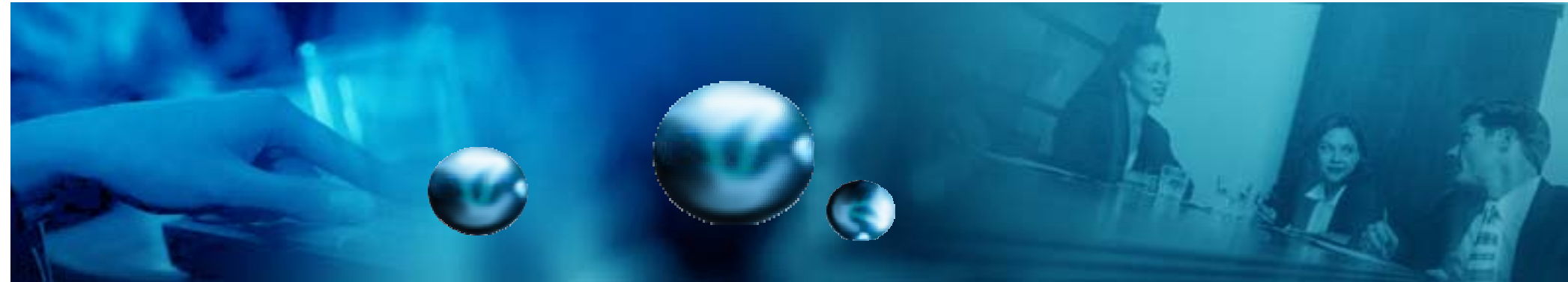
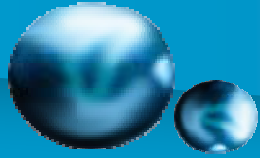


Algebra II Webinar



Revised Course/Credit Requirements (v.9/09)

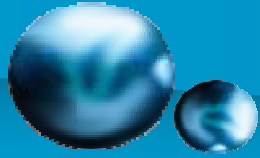


Moderator – Presenter Info

Dan LaDue

Michigan Department of Education
Office of Education Improvement and
Innovation

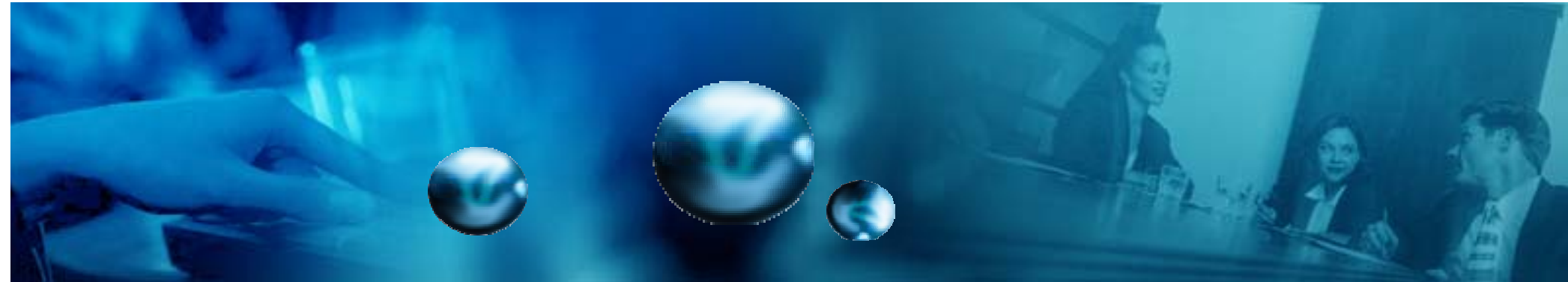
Educational Consultant
High School Mathematics



Goals of Webinar

1. Current issues
2. Why the changes
3. What and how
4. Common questions
5. Next steps and considerations

Current issues





Current issues

Three areas:

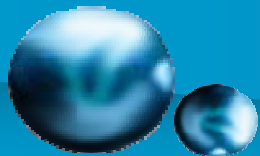
- Legislative
- Assessment
- Curricular



Current issues

Legislative

- Various bills are *proposing* changes to the Michigan Merit Curriculum regarding Algebra II
- So far none of these has been passed
- Proposals will not affect course description; will deal with requirements and delivery modes



Current issues

Assessment

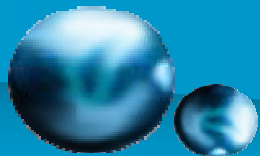
- The original pre- and post-Michigan Merit Exam document (v11.07) has been revised into the “Expectations for Success with the MME”
- “Expectations for Success” identifies those expectations that will be tested on the MME
- Some changes made based on changes to Algebra II document



Current issues

Curricular

- The Algebra II course description has been changed
- This is the focus of this presentation



Point of Clarification

- Algebra I Course/Credit
Requirement remains the same
- Geometry Course/Credit
Requirement remains the same
- Mathematics HSCE unchanged



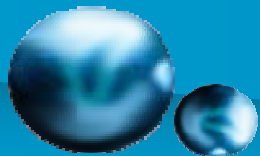
High School Content Expectations

All of the Mathematics High School Content Expectations are still required to be taught and continue to be part of local district curriculum.



What has changed?

The Algebra II Course/Credit Requirements document from November 2007 has had content expectations removed from it and a new version dated September 2009 has been created.



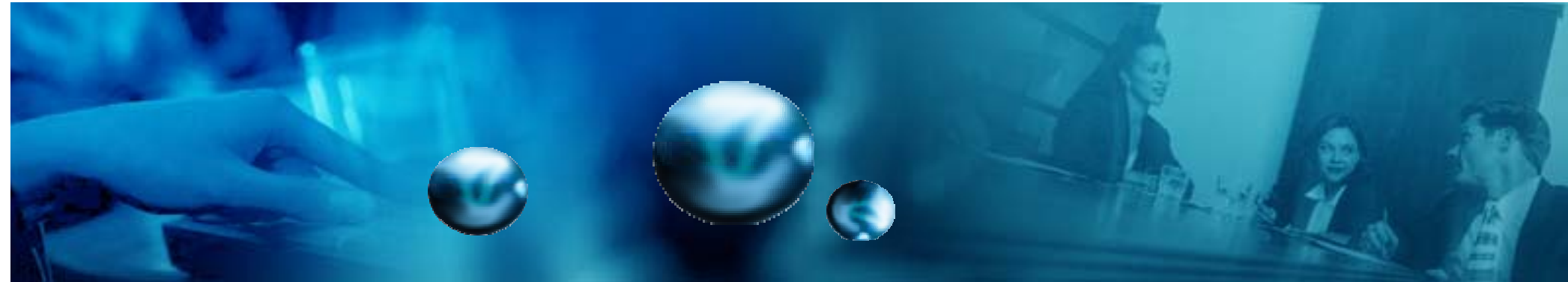
Where can I find it?

The new Algebra II Course/Credit Requirements document (v09.09) is now available on the Michigan Department of Education website.

www.michigan.gov/mathematics

www.michigan.gov/highschool

Why the change?



Two reasons



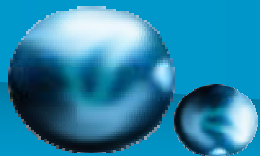
Why the change?

1. Feedback from the field stating that the content within the Algebra II Course/Credit Requirement was more than could be reasonably mastered by all students for one credit.



Why the change?

2. To create an Algebra II course that more closely aligns with:
 - ACT College Readiness Standards
 - Proposed Common Core
 - Achieve America Diploma Project Algebra II course description



Check for Understanding

Use the polling feature to answer the following question.

True or False: The Algebra II Course/Credit Requirement is the only mathematics course which has had changes made to it.

Specifically, what has changed?

Content has been . . .



What content has been removed?

- Probability
- Understanding Error
- Trigonometric Functions
- Examining Distributions
- The Normal Distribution
- Samples, Surveys, and Experiments
- Probability Models and Calculations



What was removed?

Quantitative Literacy Standard

- Expectations: L1.3.2 and L1.3.3 (probability)
- Topic L2.4 Understanding Error



What was removed?

Algebra and Functions Standard

- Expectation A1.2.10 (trigonometry)
- Topic A3.7 Trigonometric Functions



What was removed?

Statistics and Probability Standard

- Expectations S1.1.2, S1.2.2, S1.2.3 (examining distributions)
- Topic S1.3 The Normal Distribution
- Standard S3 Samples, Surveys and Experiments
- Standard S4 Probability Models and Calculations

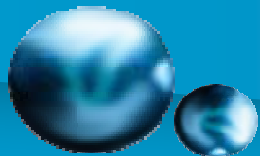


Summary of changes

- Total of 25 content expectations were removed from Algebra II
- Those 25 expectations remain part of the HSCEs

How was this done?

Two alignment sources



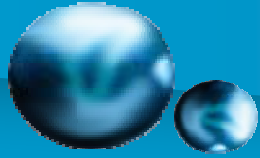
How was this done?

1. Alignment with Achieve ADP
Algebra II End-of-Course Exam
Content Standards



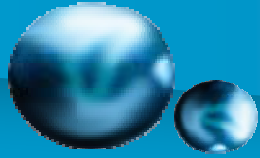
How was this done?

2. Alignment with ACT College Readiness Standards



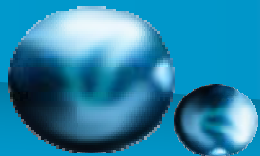
Impact of the Common Core

The National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO) have released the first official public draft of the college- and career-readiness standards in English language arts and mathematics.



Impact of the Common Core

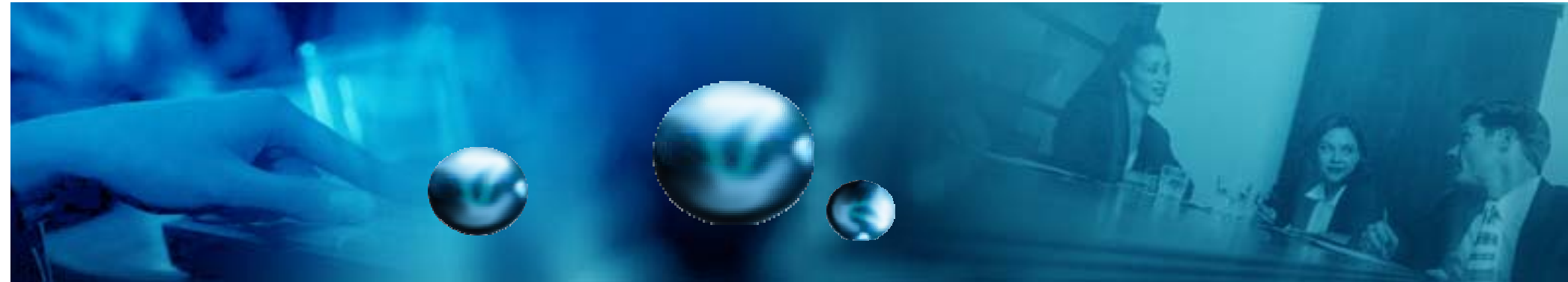
Michigan is one of the states participating in the initiative and will likely be adopting the Common Core State Standards.



Impact of the Common Core

An initial review of the draft Common Core college- and career-readiness standards indicates alignment with Michigan's HSCE for English Language Arts and Mathematics.

Removed Content



What to do?



Removed content?

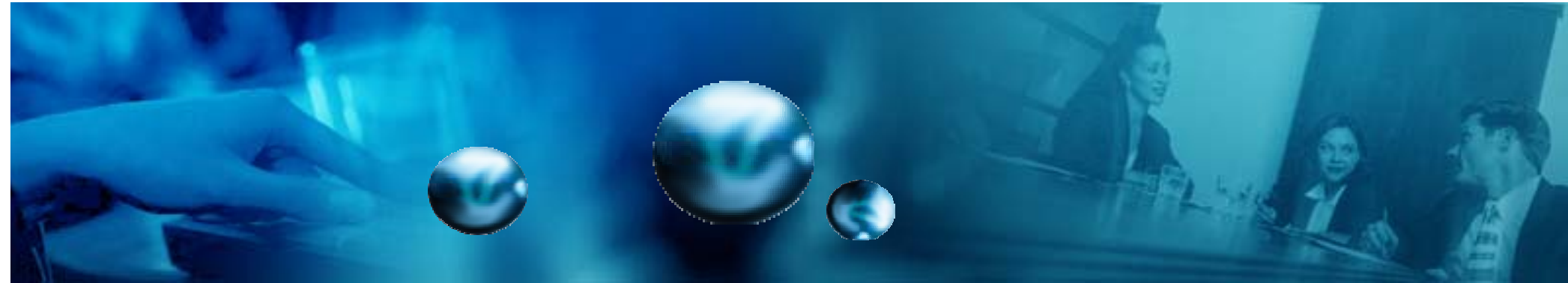
Local districts will continue to have flexibility to determine “how” to implement the graduation requirements and to determine when students have earned the credits.



Removed Content

- Options for the removed content:
- Districts may integrate these expectations into their current mathematics course offerings.
 - Districts may design additional courses.
 - Districts may align these expectations with a CTE program.

Frequently Asked Questions

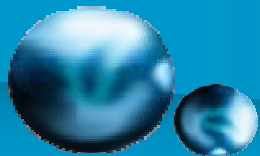




FAQs

1. Now that 25 HSCEs have been removed from Algebra II, is that course only worth half a credit?

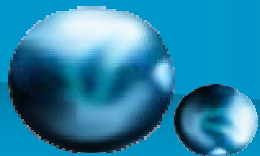
Answer: No, Algebra II is still a one credit course, unless taken over two years.



FAQs

2. Can Algebra II still be taken over two years for two credits with the reduced number of expectations?

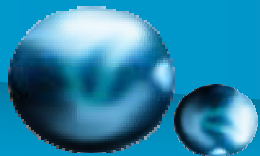
Answer: Yes, two credits can be earned if taken over two years. Please remember the first of these two credits, however, may not be recorded as Algebra II since the student has not yet completed all the content expectations. The first credit must be recorded with some other mathematics title such as Algebra IIA or pre-Algebra II.



FAQs

3. Are students still required to complete 4 credits of mathematics?

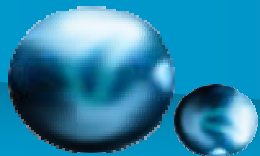
Answer: Yes, all students are required to earn 4 credits of mathematics --unless a personal curriculum is developed which modifies the mathematics requirement.



FAQs

4. If Algebra I, Geometry, Algebra II, and one other math credit are required for graduation, where are these content expectations that were removed from Algebra II going to fit in?

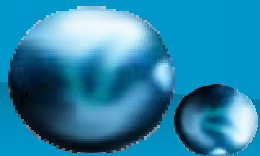
Answer: Local school districts have the freedom to determine how this is accomplished. The content removed from Algebra II could be the basis for 4th credit of mathematics or could be woven into existing courses.



FAQs

5. What accountability will there be for those content expectations that are now not assigned to a course?

Answer: Districts have the responsibility to prepare students for the workforce or college. The content removed from Algebra II is just as important in that preparation as the content that remains in the course.



FAQs

6. Do the new Algebra II content expectations take effect for the class of 2011 or the class of 2012 since the class of 2011 has either already completed Algebra II or are enrolled in it as of September of this year?

Answer: The new requirement takes effect immediately – the class of 2011. Remember local districts continue to have the flexibility to determine when and how content is taught.



FAQs

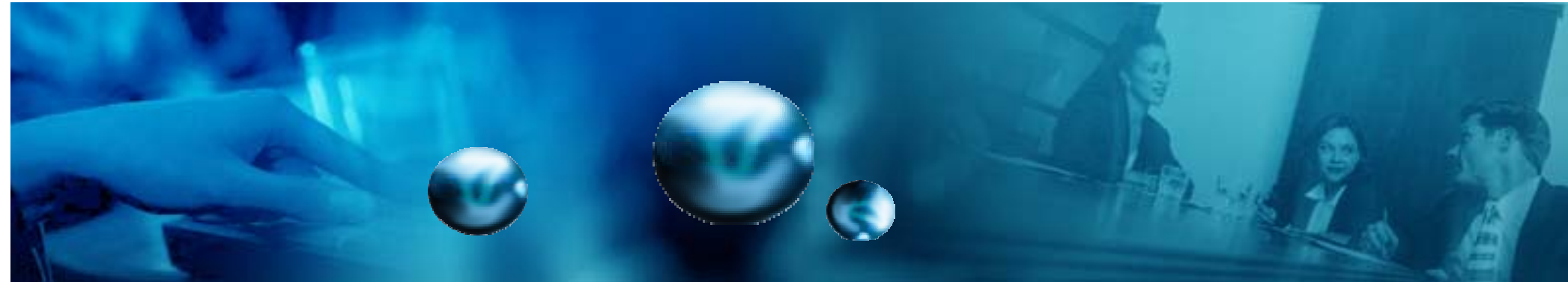
7. Part of new requirements document (p. 4) states, "[the] revised Algebra II course description also reflects the proposed Common Core College and Career Readiness Standards that Michigan expects to adopt." Can people expect more changes to the Algebra II Course/Credit Requirements once the CCSSO releases its final draft?

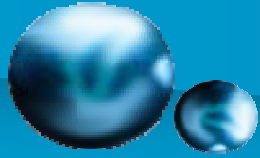
Answer: Yes, people should understand that changes to the Algebra II Course/Credit Requirements and the HSCEs could be made. However, based on initial drafts, Michigan appears to be well aligned if we include those expectations removed from Algebra II.

Questions

Please submit questions using the chat function.

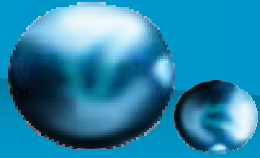
What now?





What do we do now?

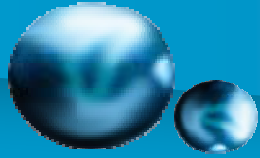
Utilize procedure already in place for schools by following the School Improvement Framework



School Improvement Framework

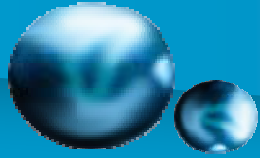
Strand I: Teaching for Learning Standards

- Curriculum
- Instruction
- Assessment



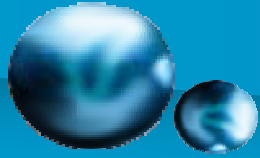
Curriculum

1. Aligned, Reviewed and Monitored
2. Communicated to staff, students, and parents



Assessment

1. Aligned to curriculum & instruction with multiple measures
2. Data Reporting & Use
 - informs curriculum & instruction
 - meets student needs



Instruction

1. Planning
2. Delivery
 - Delivered Curriculum
 - Best Practices
 - Student Engagement

Instruction



Five Recommendations for Effective Instruction



Recommendation #1

Help students build explanations by asking and answering deep questions

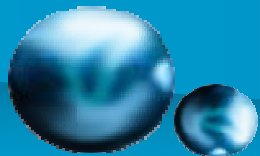
Organizing Instruction & Study to Improve Student Learning: IES Practice Guide. US Department of Education. Institute of Educational Sciences. September 2007



Recommendation #2

Use quizzes to re-expose students to information emphasizing active recall

Organizing Instruction & Study to Improve Student Learning: IES Practice Guide. US Department of Education. Institute of Educational Sciences. September, 2007



Recommendation #3

Provide models of proficient problem solving, verbalization of thought processes, guided practice, corrective feedback, and frequent cumulative review

Assisting Students Struggling with Mathematics: Response to Intervention (RtI) for Elementary and Middle Schools. US Department of Education. Institute of Educational Sciences. April, 2009



Recommendation #4

Emphasis on instruction that includes solving word problems, and is based on common underlying structures

Assisting Students Struggling with Mathematics: Response to Intervention (RtI) for Elementary and Middle Schools. US Department of Education. Institute of Educational Sciences. April, 2009



Recommendation #5

NCTM's Technology Principle

Technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students' learning.

(<http://www.nctm.org/standards/content.aspx?id=3070>)

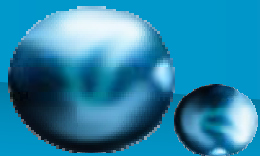


Essential Consideration

National Council of Teachers of
Mathematics high school focal points

Available beginning October 6, 2009

<http://www.nctm.org/standards/content.aspx?id=23749>



Links to websites and documents

- Algebra II content expectations
www.michigan.gov/mathematics
- Michigan Merit Curriculum
www.michigan.gov/highschool
- Achieve ADP <http://www.achieve.org/>
- ACT <http://www.act.org/path/secondary/index.html>
- Common Core Standards Initiative
<http://www.corestandards.org/>
- Institute for Education Sciences <http://ies.ed.gov/>
- Doing What Works in Math and Science
http://dww.ed.gov/priority_area/priority_landing.cfm?PA_ID=8
- NCTM Focus in High School:
<http://www.nctm.org/standards/content.aspx?id=23749>

Final Questions

Please submit using the chat function.

Contact information

Dan LaDue
ladued@michigan.gov