

# The Future of Michigan's Science Assessments

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## The Role of Technology- Based Assessment

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# Michigan's Past, Current, and Planned Science Assessments

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- Michigan Educational Assessment Program (MEAP) - Grades 5 and 8
- Michigan Merit Examination (MME) - Grade 11
- Secondary Credit Assessment System (SCAS)  
- new assessments of high school science course/credit areas, e.g., Biology, Chemistry, Physics, and Earth Science

# Early Science Assessments

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- First Michigan Science assessment was carried out in 1986.
- Was multiple-choice only
- Conducted special studies using hands-on performance assessments (individually administered)
- Individual testing is difficult to carry out, time-consuming, and has little overall impact

# Current MEAP Science Design

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- Science assessments are comprised of multiple-choice items and constructed-response items
- Some content standards are assessed each year
- Other content standards are also assessed one year over a three-year cycle

# Current MME Design

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- English Language Arts - ACT Reading, Writing, and ELA; WorkKeys Reading for Information; 1 Michigan Social Studies item
- Mathematics - ACT Mathematics; a few items from ACT Science; WorkKeys Applied Mathematics; 15 Michigan items
- Science - ACT Science; 53 Michigan items
- Social Studies - 59 Michigan items

# Current SCAS Design Plans

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- Create model assessments at the state level
  - Interim assessments, based on units of instruction for each high school course/credit area
  - Summative assessments - traditional end-of-course exams
- Provide assessments in pdf and online formats

# Science Design in the Future

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- Focus on key student outcomes at the state level
- Create a balanced assessment system
  - Summative state assessments
  - Interim instructional assessments
  - Formative classroom-based assessments
- Move towards computer-administered assessments

# Science Design in the Future

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- By looking at learning progressions, the goal is to create assessments that work together
  - Formative assessments for classroom teacher use
  - Interim assessments for district use
  - Summative assessments for use at the state level

# Science Design in the Future

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- Develop the assessment system (state, district, and classroom-based assessments) at the same time to assure that the pieces work together to support learning of the content expectations.
- State will provide both summative and interim assessments
- State will facilitate work on formative assessments

# Science Design in Future

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- Create a balanced assessment system starting with different assessment types
  - State: multiple-choice and written response
  - District: multiple-choice and written response
  - Classroom: multiple-choice, written response, performance assessments, projects, and portfolio-based activities
- Add additional assessment formats as they become feasible

# Role of Technology-Based Assessments

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- Electronic testing would open up more opportunities for state and district testing
- MEAP has carried out an online pilot in English and social studies at one grade level
- Pilot was successful and well received
- Key legislators are interested in interim and summative online testing

# Online Testing Plans

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- Staff have developed a plan for moving the state to online testing:
  - Social studies first
  - Science second
  - ELA and mathematics last
- Major impediment has been the lack of resources
  - Funding to run two systems
  - Local infrastructure

# Advantages of Online Testing

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- Cost savings
- Reduction in administrative hassles
- Student motivation
- Increased use of non-multiple-choice formats
- Faster return of results
- Opportunity to introduce new assessment formats, such as online performance tests

# Goals

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- Have all social studies and science assessments online within five years
- Encourage all districts that wish to test online in mathematics and ELA to do so also within five years.
- Obtain resources to offer online testing
- Provide incentives for LEAs to use online testing systems

# Goals

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- Create prototype science performance assessments that can be used in two programs - MEAP and especially SCAS
- Demonstrate the value of online performance assessments - as a way of broadening support for online testing
- Pilot new assessment formats to gain experience working with them and using them

# For Questions and Comments

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