GVSU REGIONAL MATH AND SCIENCE CENTER

UPDATE TO FIVE YEAR STRATEGIC PLAN INCORPORTATING QUALITY INDICATORS

Year 2 for the five year plan of 2008-2009 to 2013-2014

MISSION: To provide, promote, and coordinate leadership, programs, and services to inspire and nurture excellence for all in the teaching, learning, and application of science and mathematics.

VISION: MATH AND SCIENCE: EXCITEMENT IN LEARNING FOR SUCCESS IN LIVING

- Excitement: the key to engaging and inspiring the next generation of mathematicians and scientists toward -
- Learning: the means to acquiring the content and process knowledge of these disciplines required for -
- Success in Living: as an informed and productive citizenry.

VALUES:

We believe:

- Science literacy and mathematical power are for everyone.
- Understanding and applying science and mathematics are essential for success in our global society.
- Science and mathematics are connected with each other and interconnected with other fields of study.
- Science and mathematics content is inherently interesting and, with appropriate pedagogy, students will respond with enthusiasm.
- Science and mathematics have numerous, practical applications.
- Understanding of science and mathematics is necessary for better decisions in government and stewardship of the world.
- Cooperation and communication among institutions and agencies are essential for continuous improvement of learning.
- K-12 education, higher education, business/industry, and community organizations are essential partners in improving science and mathematics education.
- Parents (guardians) are integral partners in the education of children.
- Collaborative work can make a measurable difference in the quality of science and mathematics education.
- All students should be encouraged to develop their talents in science and mathematics to their fullest potential.
- Excellence in science and mathematics achievement should be recognized and rewarded for both students and teachers.
- High quality teachers, effective leaders, and a supportive environment are essential for the successful teaching and learning of mathematics and science.
- Integrity and safety are essential for science and mathematics teaching.
- Learning is a life-long process.

LONG TERM GOALS (5 years):

1. Support the Michigan Department of Education's Strategic Goals and Curriculum Standards for mathematics and science through professional development for teachers and curriculum support for districts.
2. Develop, promote, and provide on-going leadership in mathematics and science education initiatives among regional stakeholders.
3. Develop and promote professional development that supports and strengthens the teachers' understanding of the disciplines and implementation of best teaching practices and assessment.
4. Generate enthusiasm, interest, participation, and achievement in the pursuit of mathematics and science learning for K-12 students, pre-service and in-service teachers.
5. Effectively communicate and collaborate with the Center's education, business, and community partners to maximize the use of regional resources.
6. Harness technology to improve communication, outreach, and educational services.
7. Collaborate with GVSU's efforts to prepare highly-qualified teachers.
8. Pursue flexibility and stability in funding for the Regional Math and Science Center.

PARAMETERS:

We continue to:

- Serve the community in Kent, Montcalm, and Ottawa Counties.
- Work cooperatively with individuals, school districts, businesses, and other organizations to enhance the teaching and learning of science and mathematics.
- Live by our vision, mission, beliefs, goals, and budget.
- Give high priority to continuing professional development for both pre-service teachers and in-service teachers.
- Strive to maintain and improve effective communications with our constituents.
- Encourage the free exchange of ideas and information among all stakeholders.
- Use state funding for the basic services, administration, and operation of the Center, and leverage funds to provide additional programs and services.
- Regularly assess our programs and services through internal and external procedures.
- Encourage the use of appropriate technology and methodology in the teaching and learning of science and mathematics.
- Be active members of the Michigan Mathematics and Science Centers Network and support the MDE, MCTM, MSTA, and MACUL.
- Evaluate our programs and services by following the procedures developed by outside evaluators, SAMPI (Science and Mathematics Program Improvement).

PLANNING PROCESS:

The Regional Math and Science Center's strategic plan was developed following the guidelines outlined in the *Strategic Planning Workbook for Nonprofit Organizations* from the Amherst H. Wilder Foundation and from modifications of the Bill Cook Planning Process. Our objective was to develop a five year strategic plan based on regional needs as assessed by a needs survey conducted in 2008 by the Regional Math and Science Center. We have tried to be consistent with the criteria outlined in the Math and Science Center Master Plan and with the recommendations of the Michigan State Board of Education. We also referred to documents created for the NCA accreditation process for the University. We view the Strategic Plan as a dynamic document that will lead us in a forward direction. It will require annual review and adjustments.

Group	Members	Task
• Initial Organizing Committee	Center Staff and GVSU Administration	Develop Strategic Planning Process
• Advisory Council Meetings o Higher Education o Business/Industries o Community Science o K-12 Schools o GVSU	Representative members from each council	Needs, challenges, and critical questions discussed
• Extended Planning Team	Selected members of Advisory Council	Construction, critique, and review of Strategic Plan

NEEDS ANALYSIS:

The Regional Math and Science Center has used a variety of methods to determine the science and mathematics needs of the region.

- ***Program Evaluations***: Participants evaluate all student and teacher programs offered by the Regional Math and Science Center. As part of the process, they are asked for suggestions as to how the Center may continue to meet their educational needs. Their comments are considered in strategic planning. Results of program evaluations and participant pre/post testing are recorded in WEAVE (University assessment tool).
- ***Survey:*** In 2008, a professional development survey was posted to our website and publicized through the *InterChange* and BaP.
- ***Benchmarking:*** In 2006, a benchmarking study was conducted using data collected regarding peer institutions both in Michigan and other institutions of higher education in the United States.
- ***Advisory Board Focus Groups***: In Fall 2007, the RMSC held focus group meetings of our Advisory Board with (1) K-12 teachers and administrators, (2) business and industry, (3) informal science groups, and (4) colleges and universities. These groups discussed critical questions relating to the current status of the RMSC. Summaries of the discussion are on file at the RMSC.
- ***Extended Planning Team:*** An extended planning team was chosen from participants in the focus groups and met in Spring 2008. This team did a SWOT analysis and reviewed the mission, vision, values, and long term goals. Using the information from the participant evaluations, benchmarking, surveys, and focus group discussions, the Extended Planning team developed the Center's strategic plan.

EXTERNAL EVALUATOR: Western Michigan University, SAMPI (Science and Mathematics Program Improvement)

Glossary of Acronyms

AAAS	American Association for the Advancement of Science
BaP	Building a Presence for Science
BML	Building Mathematics Leaders
BSL	Building Science Leaders (Elementary and Middle Grades Programs)
EE	Environmental Education
GLCE	Grade Level Content Expectations
GLOBE	Global Learning and Observations to Benefit the Environment
GVSU	Grand Valley State University
HSCE	High School Content Expectations
ISD	Intermediate School District
KC4	Kent County-wide Curriculum
MACUL	Michigan Association for Computer-related Technology Users in Learning
MCTM	Michigan Council of Teachers of Mathematics
MDE	Michigan Department of Education
MEAP	Michigan Educational Assessment Program
MEECS	Michigan Environmental Education Classroom Support
MMC	Michigan Merit Curriculum
MME	Michigan Merit Exam
MMLA	Michigan Mathematics Leadership Academy
MMSTLC	Michigan Mathematics and Science Teacher Leadership Collaborative
MSLA	Michigan Science Leadership Academy
MSO	Michigan Science Olympiad
MSP	Math Science Partnership Grant
MSTA	Michigan Science Teachers Association
NCTM	National Council of Teachers of Mathematics
NSES	National Science Education Standards
NSF	National Science Foundation
NSTA	National Science Teachers Association
RMSC	Regional Math and Science Center (GVSU)
SAMPI	Science and Mathematics Program Improvement (External Evaluators) SS - Student Services, OS - Other Services, PD - Professional Development
STEPS	Science, Technology & Engineering Preview Summer Camp for Girls
TIMSS	Third International Mathematics & Science Study
WMITEC	West Michigan Inter-institutional Teacher Education Council

Regional Math and Science Center (RMSC)

UPDATE TO FIVE YEAR STRATEGIC PLAN INCORPORATING QUALITY INDICATORS

Year 2 for the five year plan of 2008-2009 to 2013-2014

Performance Effectiveness Indicator for Leadership:

Center assesses need, leverage resources, and promote collaboration in improving mathematics and science education.

Identified Leadership Needs Based on a Current Comprehensive Needs Assessment:

The demands and expectations in mathematics/science education placed on school districts continue to grow. New data and information are being provided by student performance on MEAP, MME, and other assessment instruments. The task of redefining the content and reforming the delivery requires leadership from the Regional Math and Science Center. In addition, the financial support from the State of Michigan to the M/S Centers continues at ¼ funding. Identified needs are:

1. Provide increased and ongoing financial support for Regional Math and Science Center at GVSU.
2. Assess the curricular and instructional needs of the schools in the region in an effort to deliver needed, targeted, and effective services to them.
3. Coordinate efforts and resources and identify cooperative strategies that will help schools/educators meet their goals for mathematics and science education.

Center Five Year Goals for LEADERSHIP:

L1. Build funding sources for the Regional Math and Science Center that will render it independent of state funding if the State Legislature does not restore full funding to the Center.

L2. Develop reliable, effective, and low cost methods of assessing school district curricular and instructional needs.

L3. Direct the human and financial resources of the community to support mathematics and science education.

L4. Plan collaboratively with the Center's partners and stakeholders for services provided by the RMSC.

FOCUS OF PROGRAMMING YEAR 2—LEADERSHIP

Goal L1. Build funding sources for the Regional Math and Science Center that will render it independent of state funding if the State Legislature does not restore full funding to the Center.

List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
L1.1 Seek additional funds to support the Center and its services. a. Seek permanent funding through GVSU, private donors, gifts, endowment, and grants b. Statewide Mathematics and Science Partnership Grant c. Michigan Space Grant Consortium	L1.A1 Have additional funds been found to support the work of the RMSC?	L1.R1 Funding for 2008-09 and the survival of the Center will indicate success. Grant applications and award records will show that the Center has sought opportunities to get outside funding.
L1.2 Seek contributions to support the Regional Math and Science Center's programs. a. MSO (Michigan Science Olympiad) b. Science, Technology Engineering Preview Summer (STEPS) Camp c. Science Education Trust (A science education endowment fund)	L1.A2 Has the RMSC received contributions?	L1.R2 Contributions are made to MSO, STEPS Camp, and other Center programs.

Goal L2. Develop reliable, effective, and low cost methods of assessing school district curricular and instructional needs.

List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
L2.1. Continue to assess the needs of the districts served and search for new, more effective ways to communicate with them. a. Use the electronic network (Science Matters) to assess needs b. Attend ISD curriculum director organization meetings c. Assess services and programs based on participant input and cost-effectiveness (Zoomerang survey)	L2.A1 Has the Center received good assessment information?	L2.R1 Base decisions for programs and services on information received in the assessment process.

Goal L3. Direct the human and financial resources of the community to support mathematics and science education.

List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
L3.1. Encourage the involvement of higher education faculty in pre-college science and mathematics programs. a. GVSU faculty will be involved in Fall Science Update, Science and Math Content Workshops, Super Science Saturday, STEPS Camp, MSO, and Math In Action. b. GVSU faculty will serve on the RMSC Advisory Board. c. Invite faculty from other institutions in the region to participate in RMSC activities and Advisory Board.	L3.A1 Has higher education faculty been involved in precollege science and mathematics programs and activities?	L3.R1 Review participation record of higher education faculty in Center activities for Student Services and Professional Development.
L3.2 Encourage businesses to provide opportunities in programs directed toward science, mathematics, and technology literacy in the community. a. STEPS Camp b. Business sponsored workshops on specific science or mathematics topics. c. Fall Science Update d. MSO	L3.A2 Have businesses been involved in programming for math and science?	L3.R2 Center records will show that businesses have been partners in activities for students and teachers.
L3.3 Continue relationship with ISD's and private and public schools. a. Meet with representatives of ISD's regularly. b. Attend County Curriculum Directors meetings.	L3.A3 Is a productive relationship evident?	L3.R3 Communications and collaboration with other agencies have increased. Documentation of meetings will be kept.

Goal L4. Plan collaboratively with the Center's partners and stakeholders for services provided by the RMSC.

List of planned programs for Year 2:	Assessment Questions for Center Performance Effectiveness	References for data gathering:
L4.1 Plan for activities and services using the resources, efforts, and expertise of the members of the Advisory Board. a. Contact Advisory Board members for assistance and resources.	L4.A1 Have the Advisory Board members been included in Center planning and programming?	L4.R1 Center records will show Advisory Board resources being used at the Center.

Performance Effectiveness Indicator for Professional Development:

Educators who participate in Center Professional Development reflect best instructional practices in their own settings.

Identified Professional Development Needs Based on a Current Comprehensive Needs Assessment:

Schools must have a professional staff that is knowledgeable in content, instructional pedagogy, and assessment techniques. The Center's professional development efforts will be of high priority and will need to:

1. Reflect local needs and support local, regional, state, and national curriculum standards and state initiatives.
2. Reflect best practice in delivery of PD, such as sequential and systemic format, grade-level appropriateness, and adequate follow-up support.
3. Promote content expertise, best teaching practices, and assessment skills.
4. Provide model teaching materials.
5. Be geographic, economically, and temporally accessible.
6. Develop and support local teacher leaders to help districts establish and implement effective mathematics and science programs.
7. Develop principals into knowledgeable overseers for science and mathematics curricula.

Center Five Year Goals for Professional Development:

PD1. Develop professional development opportunities that meet the identified needs of the district or region, particularly for underachieving schools and districts.

PD2. Identify and promote exemplary existing professional development programs.

PD3. Cooperate with the teacher preparation institutions in the region to inform pre-service teachers of professional development expectations and provide opportunities for them.

FOCUS OF PROGRAMMING YEAR 2—PROFESSIONAL DEVELOPMENT

Goal PD1. Develop professional development opportunities that meet the identified needs of the district or region, particularly for underachieving schools and districts.

List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
PD1.1 Teachers and pre-service teachers will participate in professional development opportunities that broaden their experience and/or increase their awareness of new initiatives, national mathematics and science programs, current research in teaching and learning, and best teaching practices. a. Fall Science Update b. Math In Action Conference c. Professional conferences, workshops, and courses (MCTM, MSTA, etc.) d. Foster administrative support for teacher professional development e. Continuing support for the Building Science and Mathematics Leaders Programs f. Sponsor local educators to attend conferences and meetings	PD1.A1 Have teachers who participated in PD broadened their experience and become aware of current m/s initiatives, programs, and research?	PD1.R1 Evaluations of presentations and workshops will address the issues of current initiatives, programs, and research.
PD1.2 Teachers will participate in extended professional development opportunities that will offer in-depth work in subject area content, pedagogy, and/or assessment, and leadership. a. Offer extended time workshops / courses. For example: 1. Inquiry / Nature of Science Workshop 2. Math Content Series 3. GLOBE Workshop 4. Science Content Series 5. Flinn Chemistry Workshop 6. Battle Creek Kits 7. Algebra for All	PD1.A2 Do teachers participate in a more extensive PD activity? Have teachers who participated in in-depth PD incorporated research-based content, pedagogy, and assessment into their classrooms?	PD1.R2 Attendance records will be kept to show participation. Classroom observation by outside evaluator (SAMPI) as grant funds are available.

b. Implement a statewide teacher leader program through a Math/Science Partnership Grant (MMSTLC) c. Encourage mentoring and coaching PD1.3 Confer with local districts to both determine needs and deliver specifically targeted professional development. a. Meet with districts as requested b. Develop strategies for delivery c. Negotiate funding responsibilities d. Broker in-services as requested PD1.4 Coordinate with ISDs to provide appropriate professional development opportunities. a. Attend Curriculum Directors and planning meetings b. High School Mathematics and Science Success Projects PD1.5 Participate in the State of Michigan's efforts in professional development. a. Attend meetings as necessary b. Incorporate recommendations into Center's program c. Collaborate on PD grants, such as NSMI or MVU	PD1.A3 Has the RMSC developed relationships with local districts and delivered PD specifically targeted to their needs? PD1.A4 Has the RMSC coordinated programming with the ISDs? PD1.A5 Has the RMSC incorporated Michigan recommendations in PD?	PD1.R3 SAMPI logs (Other Services) Teacher evaluations will ascertain if their needs are met. PD1.R4 Coordinated programming will be identified on all flyers and brochures. SAMPI logs (Other Services) PD1.R5 PD activities in science and mathematics will align with Michigan Standards in content and pedagogy.

Goal PD2. Identify and promote exemplary existing professional development programs.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
PD2.1 Collaborate with other institutions/organizations to offer professional development opportunities. a. Science Matters b. Annis Water Resources Institute c. Statewide Math and Science Leadership Project (MMLA, MSLA) d. Statewide Teacher Leader Project (MMSTLC) e. Projects funded by the Michigan legislature	PD2.A1 Has the RMSC collaborated with other organizations to deliver PD programs?	PD2.R1 Collaborations are always noted on printed material advertising programs. Meeting notes or interviews with collaborators show level of collaboration and contribution of each partner.

Goal PD3. Cooperate with the teacher preparation institutions in the region to inform pre-service teachers of professional development expectations and provide opportunities for them.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
PD3.1 Extend invitation to area pre-service teachers to participate in appropriate PD. a. Math In Action b. Fall Science Update c. Intercollegiate Teacher Education Council	PD3.A1 Have pre-service teachers attended PD and gained knowledge and experience?	PD3.R1 Review registrations for attendance and participation assessment for pre-service students.
PD3.2 Act as administrative coordinator for Integrated Science Program at GVSU. a. Engage Integrated Science students in PD b. Engage Integrated Science students in volunteer educational settings	PD3.A2 Have Integrated Science pre-service teachers attended PD and gained knowledge and experience?	PD3.R2 Review registrations for attendance and participation assessment for Integrated Science pre-service students. Review student volunteers reflection sheets.

Performance Effectiveness Indicators for Student Services:

Students impacted (directly and indirectly) by Center programs demonstrate progress toward mathematics and science literacy.

Students will elect to participate in mathematics and science opportunities in greater numbers.

Identified Student Service Needs Based on a Current Comprehensive Needs Assessment:

The Regional Math and Science Center serves approximately 180,000 public and non-public school students. Our surveys and stakeholders' discussions indicate that students need to:

1. Develop an understanding, appreciation, and a sense of the usefulness of mathematics and science in career paths and daily living.
2. Be encouraged to begin their study sequences early and to continue them with academic success.
3. Be exposed to enrichment opportunities that reflect real world applications of mathematics and science that inspire and motivate them.
4. Participate in a wide range of mathematics and science activities appropriate to their level of preparation and receptivity (i.e. gifted, underrepresented).
5. Have equal access to mathematics and science education that meets national and state standards and is delivered in a manner that reflects best teaching practices.
6. Have opportunities to experience the inquiry nature of science and to use the tools and new technologies that support it.
7. Engage in the science, mathematics, and technology skills, knowledge, and attitudes necessary for success in the 21st Century.
8. Use the technology available to interact with m/s content and issues.

Center Five Year Goals for Student Services:

SS1. Provide extended learning opportunities beyond the classroom and illustrate application in the real world.

SS2. Provide activities and programs that will increase all students' interest, motivation, performance, and participation in mathematics, science, and technology, especially in underachieving schools.

SS3. Promote enriched and accelerated study opportunities for students.

SS4. Increase the number of underrepresented students who participate in mathematics and science.

FOCUS OF PROGRAMMING YEAR 2—STUDENT SERVICES

Goal SS1. Provide extended learning opportunities beyond the classroom and illustrate application in the real world.

List of planned programs for Year 2:	Assessment Questions for Center Performance Effectiveness	References for data gathering:
SS1.1 K-12 students will gain an awareness of real world application of mathematics, science, technology, and career opportunities. a. Water Resources Institute Research Vessel Outreach (2500 students) b. STEPS Science, Technology and Engineering Preview Summer Camp for Girls (78 students) c. Pro Solve (1501 students) d. Summer Camps e. Computer Camps (19 students)	SS1.A1 Are K-12 students who participated in RMSC activities more aware of applications and career opportunities in s/m/t?	SS1.R1 Documented conversations and evaluation questions will indicate the extent of student awareness of application and career opportunities in s/m/t. Session plans will document how s/m/t is applied.
SS1.2 Students will demonstrate mathematics, science, and technology knowledge and skills. a. MSO (1800 students) b. Chemistry Olympiad (35 students) c. STEPS Camp d. Michigan Statistics Poster Contest (687) e. Michigan High School Math and Science Research Symposium (56)	SS1.A2 Do middle and high school students have the opportunity to demonstrate skills and knowledge?	SS1.R2 Photographs and video will show students demonstrating skills and knowledge. Science Olympiad Rules Manuals describe the demonstration quality of the competition. STEPS curriculum and Poster Contest rules will also indicate a high-quality, academic program.

Goal SS2. Provide activities and programs that will increase all students' interest, motivation, performance, and participation in mathematics, science, and technology, especially in underachieving schools.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
SS2.1 Recognize K-12 students for achievement in mathematics and science. a. Pro-Solve Program (1501 students) b. Three Mary Jane Dockeray $1500 Scholarship for outstanding science achievement by high school seniors c. MSO	SS2.A1 Have students been recognized for achievement in mathematics and science?	SS2.R1 Science Olympiad will recognize teams and individuals. Student applications for Dockeray Scholarship will describe student accomplishment and reason for selection of winner. *InterChange* recognizes student achievement.

Goal SS3. Promote enriched and accelerated study opportunities for students.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
SS3.1 Promote opportunities for appropriate students to participate in accelerated study. a. STEPS Camp b. MSO c. Summer Camps d. Michigan High School Math and Science Research Symposium e. Computer Camps	SS3.A1 Has the RMSC promoted opportunities for accelerated study for appropriate students?	SS3.R1 Center database will show students participated in activities that involved accelerated study. Examine program brochure, registration recommendation, lesson plans, and photographs of students.

Goal SS4. Increase the number of underrepresented students who participate in mathematics and science.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
SS4.1 Promote opportunities for students, especially underrepresented students, to participate in mathematics and science activities. a. Actively plan for underrepresented student involvement in Center programs b. Summer Camps (Scholarships) c. Computer Camps (Scholarships) d. Collaborate with the GVSU Minority Affairs Office e. STEPS Camp	SS4.A1 Have underrepresented students participated in RMSC activities?	SS4.R1 Event data and photographs will show underrepresented students participating in RMSC programs. Special events will be targeted to underrepresented students. Discussion with staff will indicate that efforts are made to include underrepresented students in RMSC programs.

Performance Effectiveness Indicator for Curriculum Support:

Districts will develop and implement aligned curricula in mathematics and science classrooms.

Identified Curriculum Support Needs Based on a Current Comprehensive Needs Assessment:

Stakeholders report that mathematics and science curricula throughout our region are in many districts, but not all, developed and aligned. Efforts have been made to align to standards as described in the High School Grade Level Content Expectations in mathematics and science and the Michigan Educational Assessment Program. The Federal No Child Left Behind Legislation and Education YES! require districts to deliver and be accountable for an aligned curriculum. Most districts are struggling with implementing the curriculum that has been developed and in helping teachers understand the vertical and horizontal relationships in the districts. The RMSC will be driven by the need to:

1. Align curriculum with local, regional, state, and national standards and state High School and Grade Level Content Expectations.
2. Help districts develop an interdisciplinary curriculum that uses real-world applications and connects learning of core subjects with literacy.
3. Access exemplary curricula and curriculum resources.
4. Develop and understand best practices in pedagogy, evaluation and assessment.
5. Incorporate the knowledge and use of technology in teaching and learning.
6. Promote greater understanding of curriculum issues among pre-service teachers. Communicate and motivate adoption of effective practice in mathematics and science education based on literature, theory, and research.

Center Five Year Goals for Curriculum Support:

CS1. Work with K-12 districts in developing and implementing mathematics and science curricula that are aligned with local, regional, state, and national standards and state Grade Level Content Expectations.

CS2. Identify exemplary mathematics and science curricula that will enable local districts to implement a standards-based curriculum.

CS3. Help districts build and use a support system to ensure excellence in science and mathematics teaching and learning.

CS4. Encourage pre-service teachers' participation in appropriate curriculum activities.

CS5. Support efforts to incorporate technology into science/math curriculum.

FOCUS OF PROGRAMMING YEAR 2 – CURRICULUM SUPPORT

Goal CS1. Work with K-12 districts in developing and implementing mathematics and science curricula that are aligned with local, regional, state, and national standards and state Grade Level Content Expectations.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
CS1.1 Assist K-12 school districts in aligning their curricula with local, regional, state, and national standards and connect with literacy initiatives. a. Participate in national and state funded programs such as HS-MASS and I^3 b. Consult with K-12 districts, as requested c. Science Matters d. Michigan Mathematics Leadership Academy e. Michigan Science Leadership Academy f. Statewide Michigan Mathematics and Science Teacher Leadership Collaborative	CS1.A1 Have districts aligned their curricula to local, regional, state, and national standards? Have literacy connections been made?	CS1.R1 A random informal survey of schools will be taken. Curriculum alignment information will be gathered. Collaborate with the ISDs in collecting data on curriculum alignment.

Goal CS2. Identify exemplary mathematics and science curricula that will enable local districts to implement a standards-based curriculum.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
CS2.1 Promote the adoption and implementation of an exemplary K-12 curriculum. a. Battle Creek Kits Project b. Michigan Mathematics and Science Teacher Leadership Collaborative c. High School Mathematics and Science Success and I^3 Projects d. Algebra for All	CS2.A1 Has the RMSC provided support for schools using the exemplary curriculum projects?	CS2.R1 A review of the database will show that the RMSC has provided support for the Battle Creek Kit implementation. Materials available for review.

Goal CS3. Help districts build and use a support system to ensure excellence in science and mathematics teaching and learning.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
CS3.1 Assist districts to improve student performance on MEAP and MME especially identified under-performing districts. a. Consult with districts to determine how the Center could assist them to increase student performance b. Work with Grand Rapids, Wyoming, and West Ottawa Districts, all under-performing schools. (Supported in the past by a Teacher Quality Title II, Part A Grant) c. Collaborate with ISD on curricular projects d. Community collaborative for GRPS e. Network Section 99.6 MME, HSCE, and I^3 Workshops f. Mathematics and Science Partnership Grant – Michigan Mathematics and Science Teacher Leadership Collaborative g. Algebra for All	CS3.A1 Have MEAP scores improved in districts that have been assisted by the RMSC?	CS3.R1 The database will identify the districts that have been assisted by the RMSC. MEAP records will determine if improvements occurred.

Goal CS4. Encourage pre-service teachers' participation in appropriate curriculum activities.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
CS4.1 Promote the study of curriculum issues and participation in curriculum related activities for pre-service teachers. a. Center staff participation in student teacher programs b. Pre-service teachers' participation in the Fall Science Update and Math in Action Conference c. Presentations in pre-service teacher education courses d. Collaborate with regional higher education institutions e. Use pre-service teachers to assist with RMSC programs	CS4.A1 Have pre-service teachers been involved in curriculum related issues?	CS4.R1 The Center database and evaluations will indicate that pre-service teachers participated in PD and OS in ways that introduced them to model teaching and developed awareness of current curricular issues.
CS4.2 Promote reexamination and evaluation of the GVSU Program for Teacher Preparation in mathematics and science. a. Keep current with state and national issues on teacher preparation. b. Serve on the GVSU Science Education Group. c. Interact and discuss reform with university colleagues.	CS4.A2 Does GVSU continue to reexamine and evaluate the Teacher Preparation Program in mathematics and science?	CS4.R2 A review of the meeting notes from the Science Education Group will identify GVSU's plans for revision of the Teacher Preparation Plan.

Goal CS5. Support efforts to incorporate technology into science/math curriculum.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
CS5.1 Support efforts to incorporate technology into the mathematics/science curriculum. a. Identify technology that supports curriculum and instruction b. Provide professional development opportunities that support technology education c. GLOBE d. TI Calculators incorporated in workshops e. Geogebra f. Algebra for All	CS5.A1 Are teachers incorporating technology into science and mathematics lessons?	CS5.R1 A random sample of participants who attend technology activities will be surveyed /interviewed. Lesson plans will be reviewed.

Performance Effectiveness Indicator for Community Involvement:

Individuals and groups from the community understand and support the goals and activities of the Center.

Identified Community Involvement Needs Based on a Current Comprehensive Needs Assessment:

West Michigan is fortunate to have a wide variety of institutions and businesses that have an interest in and provide opportunities for K-12 students to experience mathematics, science, and technology in action. With the current emphasis on real-world applications of mathematics and science in daily life there is a need to:

1. Inform the community of the local, regional, state, and national standards and goals that are driving mathematics and science education.
2. Coordinate a communication network that promotes partnerships, cooperation, and collaboration in regional activities that support mathematics and science.
3. Communicate the vision and direction for mathematics and science education as established by the Michigan Department of Education.
4. Educate the K-12 districts and the community about services of the Center, especially parents.

Center Five Year Goals for Community Involvement:

CI1. Engage local institutions of higher learning, informal science groups, businesses, and community groups as working partners in the Regional Math and Science Center.

FOCUS OF PROGRAMMING YEAR 2—COMMUNITY INVOLVEMENT

Goal CI1. Engage local institutions of higher learning, informal science groups, businesses, and community groups as working partners in the Regional Math and Science Center.

List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
CI1.1 Continue to expand the partnerships and communication network of the Center. a. Advisory Board b. Expand the electronic Network	CI1.A1 Has the electronic Network activity increased?	CI1.R1 Center should increase the electronic communication to Advisory Board and stakeholders.
CI1.2 Engage community partners to be directly involved in Center Programming. a. STEPS Camp b. MSO c. Fall Science Update d. Super Science Saturday	CI1.A2 Have community partners been involved in Center programming?	CI1.R2 Community partners should be active and visible in Center programming.
CI1.3 Network with community groups serving underrepresented populations. a. Upward Bound b. Boys & Girls Clubs c. YMCA/YWCA d. Scouting	CI1.A3 Has the Center worked with community groups to serve underrepresented groups?	CI1.R3 The logs and participation data will be a measure of the effort to include underrepresented students in the Center's programs.

Performance Effectiveness Indicator for Resource Clearinghouse:

Resources provided by Center are used to support best practices in mathematics/science education.

Identified Resource Needs Based on a Current Comprehensive Needs Assessment:

Our Regional Math and Science Center's region includes a large geographical area consisting of three counties and 465 public and non-public school buildings that include rural, suburban, and urban schools. We draw on a wealth of human and material resources that are useful in mathematics, science, and technology education. There is a need to:

1. Identify the resources and communicate their availability.
2. Enhance and coordinate the use of resources.

Center Five Year Goals for Resource Clearinghouse:

RC1. Continue to serve as a clearinghouse for current information, materials, resources, and scheduling, using appropriate electronic technologies.

RC2. Coordinate with colleges, museums, botanical gardens, nature centers, professional organizations (MSTA, MCTM), and other groups to make their resources available to K-12 schools.

RC3. Expand electronic communication networks.

FOCUS OF PROGRAMMING YEAR 2—RESOURCE CLEARINGHOUSE

Goal RC1. Continue to serve as a clearinghouse for current information, materials, resources, and scheduling, using appropriate electronic technologies.

List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
RC1.1 Act as a clearinghouse to assist local institutions of higher learning, informal science groups, businesses, community groups, and professional societies in sharing resources. a. Stakeholder representatives will sit on the Advisory Board b. The Center's electronic newsletter, *InterChange*, and website will be coordination vehicles c. Facilitate informal networking with representatives d. Hold formal meetings when appropriate e. Serve on community organization boards and disseminate information	RC1.A1 Has the RMSC helped coordinate science and mathematics activities and resources in the service region?	RC1.R1 Review activities and meeting notes of Center staff in regards to coordination in the region. Review the calendar of events in the *InterChange*. Interview staff and individuals from other organizations.

Goal RC2. Coordinate with colleges, museums, botanical gardens, nature centers, professional organizations (MSTA, MCTM), and other groups to make their resources available to K-12 schools.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
RC2.1 Coordinate programs and activities that make GVSU and community resources available to the K-12 community. a. MSO b. Fall Science Update c. Conferences and workshops d. Super Science Saturdays e. Communicate by any appropriate means (letter, fax, phone, listserv, email) to educators in the service area f. Work through the regional ISDs to develop a common vision in the local districts	RC2.A1 Have GVSU resources contributed to science and mathematics learning at the K-12 level?	RC2.R1 GVSU has been very generous with its resources. A visit to the facilities and examination of our programs will indicate that GVSU has made a strong commitment to supporting K-12 science and mathematics education.

Goal RC3. Expand electronic communication networks.		
List of planned programs for Year 2:	**Assessment Questions for Center Performance Effectiveness**	**References for data gathering:**
RC3.1 Expand and promote the use of electronic communication networks. a. Listserv b. Website links c. Science Matters e. Electronically publish articles in the Regional Math and Science Center's newsletter, *InterChange*	RC3.A1 Has the RMSC increased the use of listservs and the website?	RC3.R1 A review of the Center's electronic activities will indicate if the vehicle is being used.