Hobart High School

Improvement Goal: Problem Solving

All students will use problem solving skills to think critically and apply knowledge and reason to solve problems.

Expectation(s) for Student Learning:
- All students will achieve higher performance in classes and standardized testing.
- All students will compute accurately with and without a calculator.
- All students will demonstrate problem-solving skills.
- All students will use technology research tools to locate, evaluate, and collect information in order to process data and report results.
- All students will use technology resources in developing strategies and making informed decisions for solving problems.

Target Participants:

All students in Hobart High School

Target Groups:

Hispanics

Free and Reduced

Special Education

Blacks

Limited English

Non-honors students

Interventions:

Curriculum, Instructional and Assessment:

All students will increase skills in problem solving through monitoring progress on academic standards to determine instructional needs.

All students will increase problem solving skills through differentiated instruction across the mathematics curriculum that emphasizes conceptual understanding.

All students will use reasoning and critical thinking to solve problems through applied problem solving **across the curriculum** that provides relevant, concrete, and everyday problems.

All students will increase problem solving skills by using technology tools **across the curriculum.**

All students will increase problem solving skills through opportunities for family/community participation.

All students will increase problem solving skills as a result of teacher participation in professional learning communities.

Any student who is failing or needs academic help will have the option to sign up for tutoring.

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Student Support:

Subgroup students with low performance will increase problem solving skills beyond regular classroom instruction with increased academic opportunities.

Staff:

All students will increase problem solving skills as a result of teacher participation in professional learning communities.

All students will increase problem solving skills as a result of teacher technology.

Evaluation:

Rubrics

Math ISTEP

SAT,

AP Exams

NSSE Exit Survey

PSAT

PIVOT

Timeframe for Implementation:

Immediate 2017

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ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES

Intervention: Academic Standards
1. All students will increase skills in problem solving through monitoring progress on academic standards to determine instructional needs.
    A. Classroom Assessments/Conferring
    B. ECA data will be analyzed to determine skill areas for instruction.
    C. Core 40 data will be analyzed to determine math classes.
	2012-2017	Teachers
		Administration
		Students
		Parents
			-ECA Reports
			- Algebra I ECA
			-Math ISTEP
			-Rubrics
			-Classroom Assessments
			-PIVOT
				-Classroom assessments
				-Manipulatives
				-Calculator
				-Software
				-Classroom Texts
				-Time for data analysis
				-Classroom data display
				-Compass Learning
				-Lab Equipment
				-Graph Paper
				-Google Classroom
				-Quizlet
				-GO Formative
				-Educreations
				-Chromebooks
				-Khan Academy

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ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES

Intervention: Assessment/Differentiated Instructional for Conceptual Understanding
1. All students will increase problem solving skills through differentiated instruction across the mathematics curriculum that emphasizes conceptual understanding.
 	
    A. Students will know basic math facts (These help in acquisition and speed of performing math, not in understanding math).
    B. Students will understand units of measurement and apply appropriate techniques and formulas.
    C. Students will understand and solve algebraic equations and understand patterns and relationships between numbers.
    D. Students will identify, describe, and compare geometrical shapes.
    E. Students will construct and interpret graphs throughout the curriculum as part of data analysis.
    F. Students will demonstrate the ability to compare and contrast different values.
	2012-2017	Teachers
		Administration
		Students
		Parents
			-Classroom assessments
			-Rubrics
			-ECA Reports
			- MATH ISTEP
			-PIVOT
				-Peer Tutoring
				-Manipulatives
				-Textbooks
				-Google Docs
				-Time for Data Analysis
				-Classroom Data Display
				-Calculators
				-Graphing Calculators
				-Professional Development for curriculum mapping
				-Go Formative
				-Khan Academy
				-Computers / Chromebooks
				-Springboard

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ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES

Intervention: Reasoning and Critical Thinking To Solve Problems
1. All students will use reasoning and critical thinking to solve problems through applied mathematics across the curriculum that provide relevant, concrete, and everyday problems.
    A. Students will build academic vocabulary across the curriculum.
    B. Students will understand and choose the correct mathematical operation to solve problems in math and science. (Example: Similarities and Differences/Graphic Organizers- Marzano)
    C. Students will use mental math/estimation to understand when an exact answer or an estimate is sufficient.
    D. Students will develop a set of problem solving strategies across the curriculum. Example:
    1. What is the question asking?
    2. Assign variables.
    3. Set up an equation.
    4. Algebraically solve the equation
    5. Check for reasonableness.
    E. Students will problem solve by using probability, data analysis, and statistics in math, science, and business classes.
	2012-2017	Teachers
		Administration
		Students
		Parents
		9-12 Cross-curricular
			-Classroom Assessments
			-Teacher Observations
			-Student Presentations
			-PIVOT
			- Springboard
				-Khan Academy
				-*Classroom Instruction That Works* by Robert Marzano
				-*Choice of Words*
				-*Building Academic Vocabulary* by Marzano
				-Time for data analysis
				-Schedules
				-Professional Development
				-After School Tutoring
				-Math Lab class
				-PIVOT
				-Springboard
				-Portfolios

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ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES

Intervention: Technology Tools
1. All students will increase problem solving skills by using technology tools in math and science.
    A. Students will construct and interpret graphs with graphing calculators along with data analysis.
    B. Students will use calculators/graphing calculators to calculate, analyze, and interpret mathematical equations.
    C. Students will use computer simulations to solve problems.
    D. Students will use PLTW industry software.
    E. Students will use programming software.
	2012-2017	Teachers
		Administration
		Technology Department
		Parents
			-Monitoring Website usage
			-PIVOT
			-Portfolios
				-Khan Academy
				-School City of Hobart Website
				-Professional Development
				-Book Studies
				-Data Analysis Training
				-graphing calculators
				-online graphing calculators
				-Chromebooks

Intervention: Family/Community Involvement
1. All students will increase problem solving skills through opportunities for family/community participation.
    A. Skyward Assignments/Grades/Discipline/Attendance
    B. Web site – Homework Help and Tips
    C. Parent Teacher Communication
    D. Naviance- Monitoring
    E. Khan Academy
    F. Ask Rose
	2012-2017	Teachers
		Administration
		Central Office Administration &
		Technology Department
		Parents
		Students
			-Grades
			-Formative Assessments
			-Skyward Usage
				-TRC
				-Learning Connection
				-Peer tutoring
				-Parent Volunteers
				-Parent Conferences
				-Online Assistance:
				   • Khan Academy
				   • Ask Rose
				   • SpringBoard
				-Other Online Resources from Teachers
				-Google Apps

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ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES

Intervention: Professional Learning Communities
1. All students will increase problem solving skills as a result of teacher participation in professional learning communities.
    A. Data Analysis- ECA Reports, Classroom Assessments
    B. Best Practices – Book Studies, Department Meetings
    C. Professional Development– In-House Professional Development Catalog, Conferences, Harmony
    D. Departmental articulation meetings with middle school
	2012-2017	Teachers
		Administration for Software implantation and training
		Student Interns
		Parent Volunteers
		Counselors
		Parents
			-ECA Reports
			-Grades
			-Formative Assessments
			-Classroom Assessments
			-Professional Development Enrollment
			-ISTEP Reports
			-PIVOT
			-Portfolios
				-Professional Development
				-Book Studies
				-Data Analysis Training
				-*Failure is Not an Option* by Alan M. Blankstein
				-Common Planning Time
				-Math PLC Time
				-Late Start Wednesday
				-Springboard
				-Google Apps
				-TRC Resources

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ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES

Intervention: Tutoring
1. Any student who is failing or needs academic help will participate in tutoring.
   A. Competent student assistants (ECA Interns) will be assigned to Algebra Classes for tutoring during the last 30 minutes of math classes. Peer tutors will help tutor students two weeks before the test.
   B. Media Center will open for tutoring at lunch.
   C. Monitoring student learning on a timely basis - Success Period Hovering Adults - *Failure Is Not an Option* – Immediate Interventions will be put into place. Develop a Pyramid of Interventions that are step by step for failing students.
   D. Enlist retired teachers to volunteer tutoring time.
   E. Academic Labs/ Additional Class to Pass ECA will be instituted second semester for failing students.
   F. Students' parents have regular access to progress reports via Skyward
	2012-2017	Teachers/Aides
		Students
		Administration for software implantation and training
		Counselors
		Administration
		Student Interns
		Parent Volunteers
			-Teacher Referral	-Odyssey Compass Learning
				-Peer Tutors
				-KhanAcademy
				-Transportation Director
				-Teachers
				-Parent Volunteers
				-Instructional Aides
				-TRC
				-Math Lab class
				-Khan Academy
				-Skyward
				-After school tutoring

ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES
Intervention: Increased Academic Learning Time 1. Subgroup students with low performance will increase problem solving skills beyond regular classroom instruction with increased academic learning time.	2012-2017	Administration School Staff Students Central Office Administration & Technology	-ECA Reports -Classroom Assessments -Teacher Goal Sheets -Professional Development	-Khan Academy -Interventions -Double Blocking -*Raising the Bar-Closing the Gap* by DuFour, Eaker, and

A. Applied Essential Skills, Personal Growth B. Summer School C. English as a New Language D. Math Lab		Department Parents	Enrollment -iObservation -Algebra ECA -Math ISTEP	Karhanek

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ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORNING	RESOURCES

Intervention: Response to Instruction (RTI)
1. Students will participate in RTI Tiers based on achievement levels.
A. A district-wide RTI policy is implemented with guidelines.
B. Tier II will be implemented through the intervention of
"Increased Academic Learning Time" within the classroom including the following:
-Achievement Groups - Strategy Groups
-Seminar
-Summer School
-Deliberate scheduling for smaller class sizes in Algebra and Geometry class.
-English as a New Language
C. Tier II and Tier III will be implemented through intense intervention with additional support services.
-Small Group Instruction
-Individual Instruction
      6. Students have the opportunity to participate in peer tutoring, study tables, and ECA review sessions.
D. Opportunity Center
  • Out of School Suspension Program (OSSP)
  • Aspire (Alternative School)
  • Intensive Care Unit (ICU)
  • Credit Recovery
  • Study Tables
  • Tutoring
	2012-2017	-Lead: Central Office Administrators
		-Principals
		-Northwest Indiana Special Education Cooperative (NWIESC) Director
		-K-12 Teachers
		-LRE Facilitators
		-Interventionists
		-RTI Teams
			-School City of Hobart's Balanced Assessment System Framework
			-RTI Forms
			-RTI Meetings
			-Administrators
			-Skyward
				-School City of Hobart's Balanced Assessment System Framework
				-Professional Learning Communities
				-Common Planning Time
				-RTI Forms
				- RTI Meetings
				-Skyward
				-Scholastic University
				-RTI Policy and Guidelines
				-Professional Development RTI
				-Curriculum Materials
				-RTI
				-TRC -Compass Learning Odyssey --- Khan Academy
				- Peer tutors
				- Study Tables Opportunity Center
				•Out of School Suspension Program (OSSP)
				•Aspire (Alternative School)
				•Intensive Care Unit (ICU)
				•Credit Recovery
				•Study Tables
				•Tutoring

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ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES
Intervention: Instruction Support Services Students who qualify for additional services will be provided extra instructional support. A. Special Education B. English Learners (EL) C. 504	2012-2017	-Lead: Central Office Administrators -Principals -K-12 Teachers -EL Coordinator -Special Education Staff	-School City of Hobart's Balanced Assessment System Framework	-School City of Hobart's Balanced Assessment System Framework -Professional Learning Communities -Common Planning Time -Harmony -TRC (District Web site) -IIEP Advantage -Case Conferences -504
Intervention: Enriched and High Ability 1. Students will participate in Enriched and High Ability courses based on achievement levels. A. Enriched Curriculum -Small Group Instruction -Enriched Courses B. High Ability -Completion in Algebra prior to high school -Advanced Placement (AP) Courses GT/Honors C. Accelerated Courses -College Credit Courses -Career Pathway Electives D. Porter Career Center certification courses	2012-2017	-Lead: Central Office Administrators -Principals -K-12 Teachers	-School City of Hobart's Balanced Assessment System Framework	-SCOH BASF -Professional Learning Communities -Common Planning Time -Skyward -TRC -AP Curriculum and Professional Development -College Curriculum and University Partnership Professional Development -High Ability Policy and Guidelines