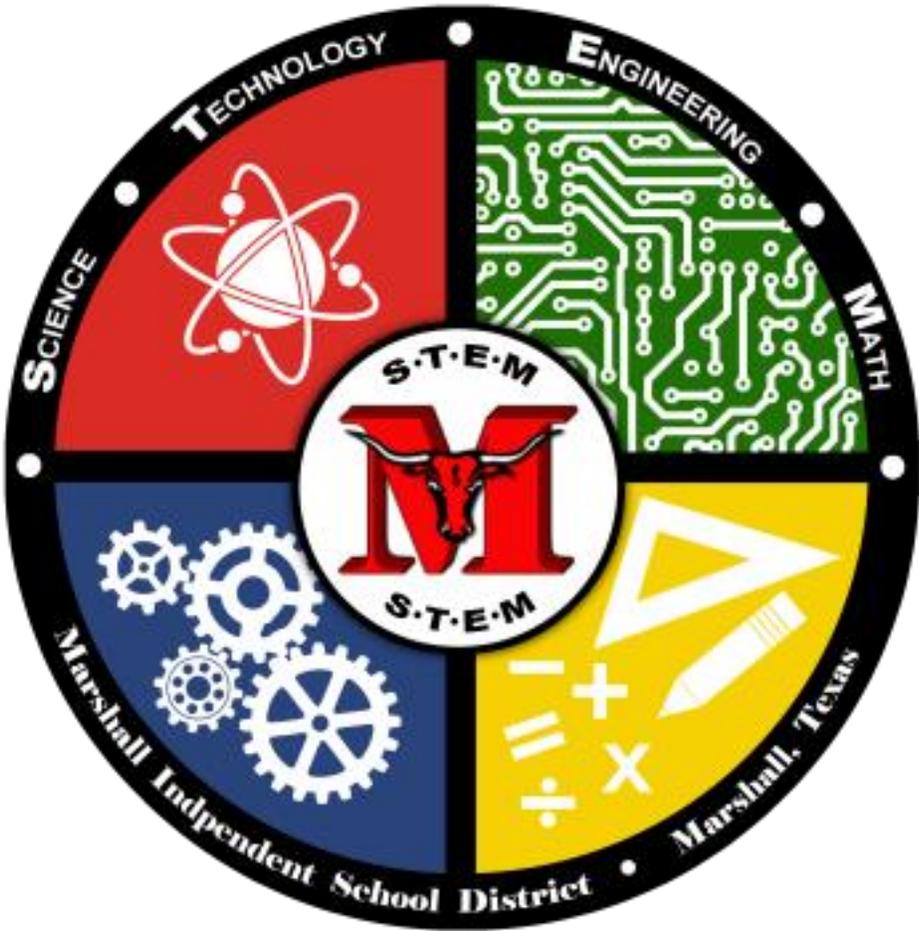


**MARSHALL INDEPENDENT SCHOOL DISTRICT  
SCIENCE, TECHNOLOGY, ENGINEERING & MATH  
PROGRAM**



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**Board of Trustees**

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## **MISD STEM Impact Committee**

**Ms. Anika Perkins.....Assistant Superintendent of Curriculum and Instruction**

**Dr. D. Garreth Durrant.....STEM Coordinator**

**Mr. Jerry Hancock.....Principal Sam Houston Elementary School**

**Mr. Aser Levinthal.....Science Teacher MJHS**

**Mrs. Lula Waskom.....Counselor Sam Houston Elem School**

**Mr. Barton Day.....Provost TSTC**

**Mrs. Allison Jimerson.....Parent**

**Mrs. Brooke LeBouve.....Parent**

**Mrs. Misty Scott.....Parent**

**Dr. Kenday Narayan.....Science Professor, Wiley College**

**Mrs. Jennifer King.....Math Sam Houston Elementary School**



## **Vision**

*The vision of the Marshall ISD's Science, Technology, Engineering, and Math (STEM) Program is to be a leader in STEM education, preparing and inspiring generations of diverse learners to meet the challenges of the global society through innovation, collaboration, and creative problem solving.*

## **Mission**

The mission of the Marshall ISD STEM Program is to provide leadership, support, and opportunities for all STEM stakeholders through the following initiatives:

Marshall ISD STEM initiatives:

- Develop STEM standards of practice, lessons, and units that facilitate higher level thinking.
- Implement STEM professional development for STEM educators.
- Allocate funds for the implementation of STEM initiatives in Marshall ISD.
- Increase STEM participation for all students.
- Collaborate and partner with other districts, businesses/industries, colleges, universities, and technical institutions to promote and sustain STEM education.
- Develop skills utilizing electronic resources for STEM teaching and learning.
- Offer a quality education in an environment of democracy and equity.



# STEM Program Overview

## Introduction

The Science, Technology, Engineering, and Mathematics (STEM) program is designed for students who are interested in the field of science, technology, engineering and math. The STEM program at Sam Houston Elementary is a campus wide Kindergarten-5<sup>th</sup> grade implementation, and there is a 6<sup>th</sup>-8<sup>th</sup> implementation at Marshall Junior High School. The method for delivering instruction for the STEM program is by Project Based Learning or PBL. The STEM program offers a unique classroom experience by incorporating cross-curricular projects and authentic learning experiences that are not part of a traditional classroom. Rigorous coursework and project-based learning allows students to acquire skills that are critical to success in post-secondary education and STEM career fields in the 21<sup>st</sup> century global workforce.

## STEM Purpose Statement and Goals

Marshall ISD recognizes the importance of Science, Technology, Engineering, and Math necessary to compete in a 21<sup>st</sup> century global workforce. Most humans spend over 95% of their time interacting with technology. To appreciate the world we live in, Marshall ISD understands it is vital to foster engineering and technological literacy among all students. Children are born engineers-they are fascinated with building, taking things apart, and understanding how things work. STEM harnesses children's natural curiosity to promote learning Science, Technology, Engineering and Math concepts. Marshall ISD's STEM program uses a TEKS standards'-based curriculum integrated with engineering and technology.

### Goal 1: Increase student awareness and access in pursuing STEM fields.

- Provide rigorous **STEM** programs and courses at every grade level which foster problem-solving skills, creativity, collaboration, and team work.
- Provide engineering and technological literacy necessary for the 21<sup>st</sup> century.

### Goal 2: Increase student's technological literacy.

Acquiring essential understandings and skills that include:

#### Knowledge (Know about):

- What engineering *and* technology are and what engineers do
- Various fields of engineering
- Nearly everything in the human world has been touched by engineering
- How society influences and is influenced by engineering
- How technology affects the world (positively & negatively)
- Engineers are from all demographics and genders

#### Skill/Experience (Be able to):

- Apply the Engineering Design Process
- Apply science and math in engineering
- Employ creativity and careful thinking to solve problems



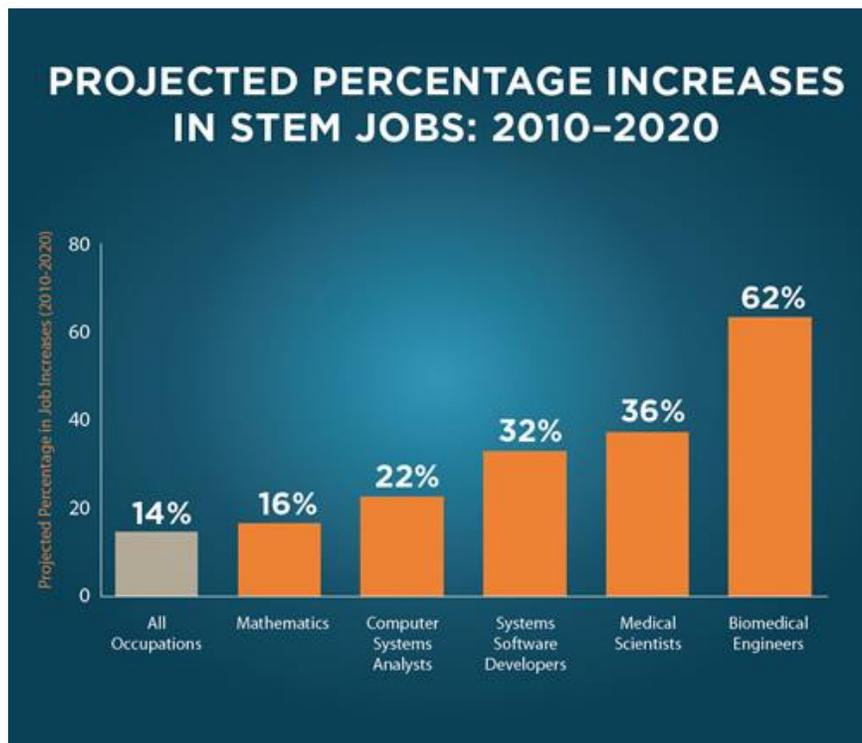
- Envision one's own abilities as an engineer
- Troubleshoot and learn from failure
- Understand the central role of materials and their properties in engineering solutions

**Goal 3: Increase Marshall ISD educator's abilities to teach engineering and technology to students.**

- Provide meaningful and ongoing professional development for STEM educators
- Provide resources for educators necessary to develop student engineers

**STEM Facts:**

- In 2012, 7.4 million employees reported working in a STEM-related field. By 2018, we could be expected to see more than 8.6 million people pursuing careers in STEM, not counting those that are self-employed.<sup>1</sup>
- Mechanical engineering is the #1 major chosen by students who want to pursue a career in STEM.<sup>1</sup>
- Females who show an interest in STEM studies choose to focus more on science education.<sup>1</sup>
- In five years, California, Texas, New York, Florida and Illinois will be the leaders in creating the most STEM jobs.<sup>1</sup>
- Not every STEM job requires a four-year degree.<sup>1</sup>



2

<sup>1</sup> <https://www.controldesign.com/blogs/stem/six-fun-stem-facts-you-might-not-know/>

<sup>2</sup> <https://www.ed.gov/Stem>



## Women in STEM Careers

Although many STEM careers are male-dominated, some — such as accounting and health-related occupations — employ more women. And today, many traditionally male-dominated fields are actively recruiting women. Look at the companies that make special efforts to diversify their workforce.<sup>3</sup>

## STEM on the Job

Most employers want workers who are able to reason and solve problems using some math, science, or technology knowledge. Key STEM skills include:<sup>4</sup>

- Analytical skills to research a topic, develop a project plan and timeline, and draw conclusions from research results.
- Science skills to break down a complex scientific system into smaller parts, recognize cause and effect relationships, and defend opinions using facts.
- Mathematic skills for calculations and measurements.
- Attention to detail to follow a standard blueprint, record data accurately, or write instructions.
- Technical skills to troubleshoot the source of a problem, repair a machine or debug an operating system, and computer capabilities to stay current on appropriate software and equipment.

Think STEM is just for geeks? Not true! Many workers in STEM fields use "soft" skills at work as much as they use math and science. These soft skills include:

- Communication and cooperation skills to listen to customer needs or interact with project partners.
- Creative abilities to solve problems and develop new ideas.
- Leadership skills to lead projects or help customers.
- Organization skills to keep track of lots of different information.

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<sup>3</sup> <https://careerwise.minnstate.edu/careers/stemcareers>

<sup>4</sup> <http://careerwise.minnstate.edu/careers/stemskills.html>



## Project Based Learning (PBL) Instructional Model

The STEM program teaches and tests the state curriculum known as the Texas Essential Knowledge and Skills (TEKS) for each content area as well as College & Career Readiness Standards to equip students with 21st century skills. These 21<sup>st</sup> century skills include oral and written communication, teamwork, collaboration, creativity, technology use, and work ethic.

To accomplish this, the STEM program uses the Project Based Learning (PBL) instructional method. <sup>5</sup>PBL is a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging and complex question, problem, or challenge.

<sup>6</sup>In Gold Standard PBL, projects are focused on student learning goals and include Essential Project Design Elements:

- **Key Knowledge, Understanding, and Success Skills** - The project is focused on student learning goals, including standards-based content and skills such as critical thinking/problem solving, communication, collaboration, and self-management.
- **Challenging Problems and or Questions** - The project is framed by a meaningful problem to solve or a question to answer, at the appropriate level of challenge.
- **Sustained Inquiry** - Students engage in a rigorous, extended process of asking questions, finding resources, and applying information.
- **Authenticity** - The project features real-world context, tasks and tools, quality standards, or impact – or speaks to students’ personal concerns, interests, and issues in their lives.
- **Student Voice & Choice** - Students make some decisions about the project, including how they work and what they create.
- **Reflection** - Students and teachers reflect on learning, the effectiveness of their inquiry and project activities, the quality of student work, obstacles and how to overcome them.
- **Critique & Revision** - Students give, receive, and use feedback to improve their process and products.
- **Public Product** - Students make their project work public by explaining, displaying and/or presenting it to people beyond the classroom.

### Essentials for Project Based:

- Standards driven
- Creates need-to-know content & skill
- Organized around an open-ended, clear & compelling driving question
- Integrates 21<sup>st</sup> century competencies
- Requires in-depth inquiry to inspire learning & creativity
- Incorporates critique and revision
- Culminates with a product and presentation for public audiences

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<sup>5</sup> [http://www.bie.org/about/what\\_pbl](http://www.bie.org/about/what_pbl)

<sup>6</sup> [http://www.bie.org/about/what\\_pbl](http://www.bie.org/about/what_pbl)



## Marshall ISD STEM Program

Marshall ISD STEM Program commences in Kindergarten at Sam Houston Elementary Magnet School and continues to Marshall Junior High School. The STEM program will be expanding to Marshall High School in the 2019-2020 school year. The enrollment process varies slightly from year to year; however, these guidelines reviewed, revised and approved by the STEM Impact Committee and are designed to help strengthen the STEM program and streamline the application and acceptance process for students entering the Marshall ISD STEM program. These guidelines also provide the information needed for parents wishing to get his/her child registered and enrolled in the STEM program. All parents/guardians of students entering Kindergarten in the upcoming school year must apply by March 19th. Students in grades K, 1, 2, 3, 4, (Sam Houston Elementary School) and grades 6 and 7 (Marshall Junior High) who are currently enrolled in the STEM program **DO NOT** have to take the districts' assessment to move on to the next grade level but must adhere to the behavior, attendance, and grading contract to remain in the program. Students in 5<sup>th</sup> grade who wish to continue in the STEM program **MUST** register and meet the minimum requirements needed to take the district's assessment prior to entering 6<sup>th</sup> grade at Marshall Junior High School.

Parents of students entering grades 1, 2, 3, 4, and 5 and are interested in attending Sam Houston Elementary Magnet School must apply by the application deadline, meet the minimum requirements, take the district's assessment, and must score in the top quintile. Due to limited seats, students will be ranked based on their assessment results. The top ranked performing students will be admitted into the program.

Parents of students entering 6<sup>th</sup> grade and are interested in becoming a part of the STEM cohort at Marshall Junior High School must apply by the application deadline, meet the minimum requirements, take the district's assessment and score in the top quintile. Due to limited seats, students will be ranked based on their assessment results. The top ranked performing students will be admitted into the program. Please review the guidelines and forward any questions or concerns to the STEM Coordinator of Marshall ISD.



## Student Application, Assessment, Identification & Notification Process How to Apply: Grades K – 8

Applications for the K – 5 elementary STEM programs are posted on the MISD website from January 23rd through March 19th of the school year prior to enrollment. Applications are available in English and Spanish and are updated each year. All applicants must apply online.

<b>Timeline</b>						
<b>Date</b>	<b>Event</b>					
January 23, 2018	Application can be completed online at <a href="http://www.marshallisd.com">www.marshallisd.com</a> (Preferred) Application can be downloaded online at <a href="http://www.marshallisd.com">www.marshallisd.com</a> Applications are also available at <b>Marshall ISD Central Office located at 1305 E. Pinecrest Drive, Marshall, TX 75670.</b>					
January 23, 2018 – March 19, 2018 – 4:30 p.m. paper applications  Midnight for online applicants.  All supporting documents for out of district applicants (see grade level scoring rubric) are due in MISD Central Office by 4:30 p.m.	Applications are <b>ONLY</b> accepted at the following places: (i.) <b>Online</b> (ii.) <b>Marshall ISD Central Office located at 1305 E. Pinecrest Drive, Marshall, TX 75670</b> for all Grades*.  *Kindergarten and 6 <sup>th</sup> Grade – Open spots are available, students must take the assessment and meet ALL Marshall ISD requirements to be accepted.  *Grade 1 – 5 and 7- 8 limited spots are available.  *Application period for students entering grades K-8.					
February 6, 2018  5:00 p.m. – 6:30 p.m.	Marshall ISD STEM Night: Sam Houston Elementary School - 2905 East Travis St., Marshall, TX 75672					
February 8, 2018  5:00 p.m. – 6:30 p.m.	Marshall ISD STEM Night: Marshall Junior High School 2710 E. Travis St., Marshall, TX 75672					
March 12-16, 2018	Spring Break					
April 23-27, 2018	Tentative Elementary STEM Testing <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; text-align: center;">April 23</td> <td style="width: 20%; text-align: center;">April 24</td> <td style="width: 20%; text-align: center;">April 25</td> <td style="width: 20%; text-align: center;">April 26</td> <td style="width: 20%; text-align: center;">April 27</td> </tr> </table> Testing Location: <b>Marshall ISD Central office located at 1305 E. Pinecrest Drive, Marshall, TX 75670</b>	April 23	April 24	April 25	April 26	April 27
April 23	April 24	April 25	April 26	April 27		
May 21-28, 2018	Perspective Kindergarten parents will be notified by email and/or mail of acceptance into the STEM program.					
May 21-28, 2018	Perspective Grade 1 - Grade 5 parents will be notified by email and/or mail of acceptance into the STEM program.					



June 8, 2018	Kindergarten acknowledgement of acceptance and registration deadline for Sam Houston Elementary School.																				
June 18, 2018 <sup>i</sup>	Grade 1 - Grade 5 acknowledgement of acceptance and registration deadline for Sam Houston Elementary School.																				
May 21-25, 2018	<table border="1"> <thead> <tr> <th colspan="5">Tentative Secondary STEM Testing Dates</th> </tr> <tr> <th>May 21</th> <th>May 22</th> <th>May 23</th> <th>May 24</th> <th>May 25</th> </tr> </thead> <tbody> <tr> <td>9-12</td> <td>9-12</td> <td>9-12</td> <td>9-12</td> <td>9-12</td> </tr> <tr> <td colspan="5">Tentative Location: <b>Marshall ISD Central office located at 1305 E. Pinecrest Drive, Marshall, TX 75670 and Various Elementary Schools</b></td> </tr> </tbody> </table>	Tentative Secondary STEM Testing Dates					May 21	May 22	May 23	May 24	May 25	9-12	9-12	9-12	9-12	9-12	Tentative Location: <b>Marshall ISD Central office located at 1305 E. Pinecrest Drive, Marshall, TX 75670 and Various Elementary Schools</b>				
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May 21	May 22	May 23	May 24	May 25																	
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Tentative Location: <b>Marshall ISD Central office located at 1305 E. Pinecrest Drive, Marshall, TX 75670 and Various Elementary Schools</b>																					
June 18-25, 2018	Perspective Grade 6 - Grade 8 parents will be notified by email and/or mail of acceptance into the STEM program.																				
July 9, 2018 <sup>ii</sup>	Grade 6 thru Grade 8 registration deadline for Marshall Junior High School STEM Students.																				
July 16, 2018	Second round of notification emails and letters will be sent out to parents of Grades K-8 <sup>th</sup> students who have been accepted into the STEM program.																				

## How Applicants Entering Grades K – 9 Are Evaluated

### *Applicants Entering Kindergarten*

Each applicant entering kindergarten will be assessed using the Cognitive Abilities Test (CogAT) for the entrance grade level. **The CogAT (Cognitive Abilities Test)** is a reasoning and problem-solving test commonly used by educators for qualifying kindergarten through 12th grade students for gifted and talented programs. The test is published by Houghton Mifflin Harcourt and is comprised of a verbal battery, quantitative battery, and nonverbal battery. Each battery consists of three different subtests that require a focus on specific areas of cognition<sup>7</sup>.

### *K – 5 – Pre-Qualification*

All kindergarten applicants who apply by the deadline are tested. Each applicant entering grades 1 – 5 is pre-evaluated based upon official school records pertaining to grades, attendance (no more than 9 absences in current or previous school year), behavior (no more than two referrals), reading and math diagnostic assessments (Star Renaissance) where applicable, and State test scores - passing (in applicable grade levels). If an applicant is coming from a program, In-State or out of State, which does not administer a state test, students are responsible for registering and taking the grade appropriate Star Renaissance assessment and submit the scores to Marshall ISD STEM Coordinator. Upon successful completion of the Star Renaissance, the students will be eligible to take the CogAT standardized Assessment of appropriate Grade Level administered by Marshall ISD. All applicants must test on the district’s assigned test date.

Pre-qualification for testing is based solely upon information obtained from official school records, please mail copies of all records to **Marshall ISD Central Office, 1305 E. Pinecrest Drive, Marshall, TX 75670 Attn: STEM Coordinator**. If you are not a student of Marshall ISD, be sure to include the most recent report card, behavioral report and student’s Star Renaissance Scores if available. If an applicant is missing one or more of the required

<sup>7</sup> <https://www.testingmom.com/tests/cogat-test/>



records, no invitation to test will be issued. All current students of Marshall ISD do not have to mail-in additional information. For example, if an applicant does not have Star Renaissance Reading and/or Math diagnostic scores, the student will not be able to take the required test for entrance into the STEM program.

**The following rubrics will be utilized to evaluate applicants:**

<b>Scoring Rubric: Kindergarten</b>		
<b>Student Name:</b>		<b>Grade Level: Kindergarten</b>
Cognitive Abilities Test (CogAT)	Verbal Battery: Picture analogies: ____/3 Sentence Completion: ____/3 Picture Classification: ____/3  Quantitative Battery: Number Analogies: ____/4 Number Puzzles: ____/3 Number Series: ____/3  Non-Verbal Battery: Figure matrices: ____/2 Paper Folding: ____/2 Figure Classification: ____/2  Total: ____/25	Actual Score <sup>iii</sup>
Handwriting	First and Last Name w/appropriate capitalization = 10 First and Last Name w/o appropriate capitalization = 8 First name w/appropriate capitalization = 6 First name w/o appropriate capitalization = 4 No writing/ Name illegible = 0	
MISD Resident	Yes = 5 No = 0	Only considered in the event of a tied entry assessment score
MISD full-time/ part-time employee (part-time employees must be employed with Marshall ISD for more than 1 year)	Full-time Yes = 5 Part-time Yes = 2 No = 0	
Sibling in Sam Houston Elementary	Yes = 5 No = 0	
<b>Total Student Points</b>		
In coming kindergarten students will be tested in groups of two during testing. For parents of student(s) <b>NOT</b> currently enrolled in Marshall ISD, you are responsible for submitting the following with your application: <ul style="list-style-type: none"> <li>• Proof of MISD Residency – a copy of a utility bill or Apartment lease</li> <li>• Proof of employment with Marshall ISD</li> </ul>		



<b>Prequalification Scoring Rubric: Grades 1<sup>st</sup> – 3<sup>rd</sup></b>		
<b>Student Name:</b>	<b>Grade Level:</b>	
STAR Renaissance Reading Assessment *Score based upon Grade Level Equivalency	Above GE by more than .5= 20 Above GE by .1 - .5 = 10 At GE = 5 Below GE by .1 -.5 = 1 Below GE by greater than .5 = 0	Must score a <b>five</b> or higher to qualify for testing
STAR Renaissance Math Assessment *Score based upon Grade Level Equivalency	Above GE by more than .5= 20 Above GE by .1 - .5 = 10 At GE = 5 Below GE by .1 -.5 = 1 Below GE by greater than .5 = 0	Must score a <b>five</b> or higher to qualify for testing
Academic Record *Average of current year's core academic courses	100% – 90% = 20 89% – 80% = 10 79% – 70% = 5 69% – or below = 0	Must score a <b>five</b> or higher to qualify for testing
Attendance	0 – 1 absences = 15 2 – 3 absences = 10 4 – 6 absences = 5 7 – 9 absences = 1 10 or more absences = 0	Must score a <b>one</b> or higher to qualify for testing
Behavior	0 – 1 referrals = 10 2 -3 referrals = 5 More than 4 referrals = 0	Must score a <b>five</b> or higher to qualify for testing
MISD Resident	Yes = 5 No = 0	Only considered in the event of a tied entry assessment score
MISD full-time/ part-time employee (part-time employees must be employed with Marshall ISD for more than 1 year)	Full-time Yes = 5 Part-time Yes = 2 No = 0	
Sibling in Sam Houston Elementary	Yes = 5 No = 0	
<b>Total Student Points</b>		
<p>For parents of student(s) <b>NOT</b> currently enrolled in Marshall ISD, you are responsible for submitting the following with your application:</p> <ul style="list-style-type: none"> <li>• STAR Renaissance reading and mathematics scores</li> <li>• Academic record for first semester as well as the 4<sup>th</sup> sixth week grades or most recent.</li> <li>• Attendance record</li> <li>• Behavior record</li> <li>• Proof of MISD Residency – a copy of a utility bill or Apartment lease</li> </ul>		



## Prequalification Scoring Rubric: 4<sup>th</sup> – 5<sup>th</sup>

Student Name:	Grade Level:	
STAR Renaissance Reading Assessment *Score based upon Grade Level Equivalency	Above GE by more than .5 = 20 Above GE by .1 - .5 = 10 At GE = 5 Below GE by .1 - .5 = 1 Below GE by greater than .5 = 0	Must score a <b>five</b> or higher to qualify for testing
STAR Renaissance Math Assessment *Scope based upon Grade Level Equivalency	Above GE by more than .5 = 20 Above GE by .1 - .5 = 10 At GE = 5 Below GE by .1 - .5 = 1 Below GE by greater than .5 = 0	Must score a <b>five</b> or higher to qualify for testing
Academic Record  *Average of current year's core academic courses	100% – 90% = 10 89% – 80% = 5 79% – 70% = 2 69% – or below = 0	Must score a <b>five</b> or higher to qualify for testing
STAAR Reading Test Results from Spring of Year Applied	Exceeds Standard = 10 Meets Standards = 5 Does Not Meet Standard = 0	Must score a <b>five</b> or higher to qualify for testing
STAAR Math Test Results from Spring of Year Applied	Exceeds Standard = 10 Meets Standards = 5 Does Not Meet Standard = 0	Must score a <b>five</b> or higher to qualify for testing
Attendance	0 – 1 absences = 10 2 – 3 absences = 5 4 – 6 absences = 2 7 – 9 absences = 1 10 or more absences = 0	Must score a <b>one</b> or higher to qualify for testing
Behavior	0 – 1 referrals = 10 2 -3 referrals = 5 More than 4 referrals = 0	Must score a <b>five</b> or higher to qualify for testing
MISD Resident	Yes = 5 No = 0	Only considered in the event of a tied entry assessment score
MISD full-time/ part-time employee (part-time employees must be employed with Marshall ISD for more than 1 year)	Full-time Yes = 5 Part-time Yes = 2 No = 0	
Sibling in Sam Houston Elementary	Yes = 5 No = 0	
<b>Total Student Points</b>		
For parents of student(s) <b>NOT</b> currently enrolled in Marshall ISD, you are responsible for submitting the following with your application: <ul style="list-style-type: none"> <li>• STAR Renaissance reading and mathematics scores</li> <li>• Academic record for first semester as well as the 4<sup>th</sup> sixth week grades or most recent.</li> <li>• Attendance record</li> <li>• Behavior record</li> <li>• Proof of MISD Residency – a copy of a utility bill or Apartment lease</li> </ul>		



## Evaluation of K – 8 Applicants with tied scores where applicable

**STEM Applicant Tied Score Evaluation**

*If several students have the same score on the STEM Rubric, use this form to order students.*

*Directions: Using official school records, order applicants for each category with 1 being the best, 2 being 2nd best, etc. In case of a tie, check the application date.*

Grade Level: \_\_\_\_\_

Student Name	Star Ren Reading	Star Ren Math	Grades	Behavior	Attendance	STAAR Reading	STAAR Math	Total <small>(lowest scoring applicant should be accepted)</small>

**In the event of a tie when scoring assessments, student records will be ranked according to performance in each category using this form.**

Applicants will be ranked based on their final score on the district’s CogAT grade equivalent assessment results. In the event of a tie, applicants will be ranked according to the total score obtained from each category based upon data obtained from official school records. Specifically,

- *STAR Renaissance Reading and Math:* Using the appropriate grade level rubric, students will be awarded points by looking at the grade level equivalency on the STAR Renaissance Reading and Math reports and comparing the reported grade level equivalency with the expected grade level equivalency upon the date of test administration.
- *Grades:* Using the appropriate grade level rubric, students will be awarded points by averaging of all grades for all grading periods to date in core content classes (reading, math, science, social studies, and writing).



- *Behavior:* Using the appropriate grade level rubric, students will be awarded points on behavior according to the number of referrals officially recorded. If a student has no referrals, the actual conduct grades for the year will be used to determine the student's ranking.
- *Attendance:* Using the appropriate grade level rubric, students will be awarded points based upon the number of absences. A favorable ranking will be awarded to students with excused absences as opposed to unexcused absences.
- *State Assessments Reading and Math:* Using the appropriate grade level rubric, students will be awarded points based on their state assessments results in the areas of reading and math or performance on an approved assessment if an official state assessment is unavailable.

## Marshall ISD STEM Program – Marshall Junior High School

### Entry requirements for students entering Grades 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup>

Entry into the Marshall Junior High school is **NOT** an automatic transition from Sam Houston Elementary School, and all qualifying students are required to take and pass the appropriate entrance exam for entry into the STEM program. All students who were successful in passing the STAAR assessment at 'meet standard level' during the current school year and wish to become a cohort member in the STEM program at Marshall Junior High (MJH) School will have to apply, meet all the minimum requirements and successfully meet and exceed the assessment standard. Space is limited, and that entry will be determined by the student's ranking among his/her pairs.

### Entry Requirement – Out of District Requirements

Students entering grades 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> who DID NOT take the STAAR test nor the STAR Renaissance are required to take and pass a pretest provided by the district which comprises of Math, Science, Reading, and Writing. Students are required to pass the district's provided pretest, meet and exceed the minimum entry requirements to be considered for the district's entry assessment. Students must have a favorable ranking in order to be selected for the STEM cohort.

The following cohorts have been established at Marshall Junior High campus - see *Table 1*:

**Advanced Academic Coursework:** Advanced Academic courses and coursework for high school credit with STEM Principles and

**Engineering Design Process:** Interdisciplinary challenge-based projects with an emphasis on the engineering design process, hands-on builds, and tech integration

**Project Based Learning:** Collaborative projects in which students work to solve an open-ended problem in one or more content areas

**Real World Application of Content:** Exploration of content in authentic contexts

**Global Connections:** Connect with content experts, industry leaders, and other students around the globe to gain a better understanding of how content relates to the world beyond the classroom



	Advanced Academic Coursework	Focus on STEM Principles and the Engineering Design Process	Project Based Learning	Real World Application of Content	Global Connections
Advanced Academics	X	X	X	X	X
STEM Specific		X	X	X	X
General			X	X	X

Table 1: Shows three cohorts at Marshall Junior High School and their focus.

### **MJHS STEM Specific**

All students wanting to be a part of the STEM cohort must complete the Marshall ISD STEM application, take the Marshall ISD approved entrance exam. Students will be ranked based on their performance due the limited number of available spots. The following students can apply to become a member of the STEM cohort at Marshall Junior High School upon completion of all requirements and attainment of an appropriate ranking upon completion of the entrance exam;

- (A) All fifth-grade students who currently attend a Marshall ISD Elementary school.
- (B) All fifth-grade students not currently attending a Marshall ISD Elementary school.
- (C) All middle school students currently enrolled in grades 6<sup>th</sup> and 7<sup>th</sup> within Marshall ISD or out of the district who wish to be a part of the STEM cohort.
- (D) All students must pass Reading, Mathematics, Science (5<sup>th</sup> Grade) and Writing (4<sup>th</sup> and/or 7<sup>th</sup> Grade) STAAR or have a passing grade on the STAR Renaissance as determined by Marshall ISD.

### **Advanced Academics**

Students can be a member of the Advanced Academics cohort by identification and then fulfilling the Marshall ISD gifted and talented entry requirements.

### **How to Apply: Grades 6 – 8**

Applications for the STEM-specific cohort at Marshall Junior High School are posted on the MISD website from January 22 through March 19, 2018 of the school year prior to enrollment. All applicants must apply online. Application(s) and supporting documents are due on March 19<sup>th</sup> by 4:30 p.m. for paper applications, and midnight for online applications.

### **How Applicants Entering Grades 6<sup>th</sup> – 8<sup>th</sup> Are Evaluated**

Each applicant entering grades 6 – 8 and is interested in joining the STEM cohort will be assessed using the appropriate grade level CogAT. Ranking will be based upon test scores which will be administered from May 21



through May 25, 2018. Current STEM students need not apply; however, students wanting to get into the program must apply, meet all minimum requirements prior to testing in.

**The following rubric will be utilized to prequalify applicants entering grades 6<sup>th</sup> -8<sup>th</sup> Grades:**

<b>STEM Prequalification Scoring Rubric: Grades 6<sup>th</sup> – 8<sup>th</sup></b>	
<b>Student Name:</b>	<b>Grade Level:</b>
Student passed grade-level STAAR tests at <b>Met Standard</b> . Math English	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
Student has a final average of 80% or higher in core academic classes: English, mathematics, science, and social studies.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Student has a 95% or higher attendance rate (missed no more than 9 days in previous school year with the exception of extenuating circumstances such as illness or death in the family).	<input type="checkbox"/> Yes <input type="checkbox"/> No
Student has 0 – 1 referrals during current school year.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Student pre-qualifies for the STEM-specific cohort entrance assessment.</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
For parents of students <b>NOT</b> currently enrolled in Marshall ISD, you are responsible for submitting the following information with your application: <ul style="list-style-type: none"> <li>• STAR Renaissance reading and mathematics scores</li> <li>• Academic record for first semester as well as the 4<sup>th</sup> sixth week grades or most recent.</li> <li>• Attendance record</li> <li>• Behavior record</li> <li>• Proof of MISD Residency – a copy of a utility bill or Apartment lease</li> </ul>	



# Marshall ISD STEM Program – Marshall High School (MHS)

## MHS STEM Specific (Tentative Fall 2018)

All students wanting to be a part of the STEM cohort must complete the Marshall ISD STEM application, take the Marshall ISD approved entrance exam. Students will be ranked based on their performance due to the limited number of available spots.

The following students can apply to become a member of the STEM cohort at Marshall High School upon completion of all requirements and attainment of an appropriate ranking upon completion of the entrance exam;

- (B) All ninth grade students who currently attends Marshall Junior High School.
- (C) All ninth grade students not currently attending Marshall Junior High School.
- (D) All ninth grade students currently enrolled in Marshall ISD who does not have an endorsement plan or out of district student who wishes to be a part of the STEM cohort as a ninth grader.
- (E) All student must pass Reading, Mathematics, Science (8<sup>th</sup> Grade) and Writing (7<sup>th</sup> Grade) STAAR or have a passing grade on the STAR Renaissance as determined by Marshall ISD.

## STEM – State Board of Education (SBOE) Rule – HB-5

A student attending Marshall High School may earn a STEM endorsement by completing foundation and general endorsement requirements including Algebra II, Chemistry, and Physics and:

- (A) A coherent sequence of courses for four or more credits in Career and Technical Education (CTE) that consists of at least two courses in the same career cluster including at least one advanced CTE course which includes any course that is the third or higher course in a sequence. The courses may be selected from courses in all CTE career clusters or CTE innovative courses approved by the Commissioner of Education. The final course in the sequence must be selected from the STEM career cluster.

A student may earn a STEM endorsement by completing foundation and general endorsement requirements including Algebra II, Chemistry, and Physics and:

- (C) A total of five credits in mathematics by successfully completing Algebra I, Geometry, Algebra II and two additional mathematics courses for which Algebra II is a prerequisite
- (D) A total of five credits in science by successfully completing Biology, Chemistry, Physics, and two additional science courses
- (E) In addition to Algebra II, Chemistry, and Physics, a coherent sequence of three additional credits from no more than two of the areas listed in (A), (C), and (D)

## Verification

In an effort to maintain authenticity of Magnet and STEM program admission processes, all scores will be verified by the STEM Coordinator, School Principal, and Marshall ISD's Assistant Superintendent of Curriculum and Instruction prior to notification.



# MARSHALL ISD STEM PROGRAM BEHAVIOR/ATTENDANCE/GRADES PROBATION CONTRACT

Date: \_\_\_\_\_ Grade: \_\_\_\_\_

Student Name: \_\_\_\_\_

*Note: If your child does not maintain requirements of the STEM program in any of the criteria listed below, they may be recommended for removal from the program for one academic year. A new application for enrollment will be considered after the one year has been completed.*

## **<< >>Behavior**

A positive environment is the building block in developing a learning atmosphere in which all students can succeed. The STEM program in Marshall ISD is committed to providing an environment of learning in every classroom. All students are expected to behave in a manner, so as not to inhibit their own or other's learning. Any additional behavior infraction will require an immediate parental conference that may result in suspension or expulsion from the STEM program.

## **<< >>Attendance/Tardies**

It is important for students to be present and on-time in the classroom to maximize learning. STEM students are expected to attend school regularly. Students must maintain an attendance rate of 95%, which equates to accumulating **no more than 9 absences** per school year. School-sponsored activities do not count against a student's attendance. The PEIMS office will keep the official record for each student. Failure to attend and to be on-time will result in parent conference and may result in suspension and or expulsion from the program.

## **<< >>Grades**

Your child's academic success is our utmost priority. We will do our part to provide adequate academic support using well defined and proven teaching techniques for ALL students. However, in order to remain in the STEM program, your child MUST maintain an average score of 80% or higher during the previous six weeks in ALL of his/her core courses (English, math, science, and social studies). A parent conference will be forthcoming when our students are under performing.

***Parents and student sign below and return this form to the Principal's Office at your respective campus within one week of receiving this form. Please be aware that if your child is dismissed from the STEM program due to any of the above reasons, they will be ineligible to participate the following school year and will need to re-apply to regain admission into the program.***

Student Signature \_\_\_\_\_ Date \_\_\_\_\_

Parent Signature \_\_\_\_\_ Date \_\_\_\_\_

Administrator Signature \_\_\_\_\_ Date \_\_\_\_\_



## Parent Partnership Agreement

In the event my student is accepted into the Marshall ISD STEM program, as the parent/guardian of the student, I understand that I play an important role in the academic success of my child. I will partner with the school to ensure my child's success by agreeing to the following:

- I will value the school day and will make certain that my child is in regular attendance and arrives on time.
- I will maintain communication with the school by checking and signing my child's student agenda.
- I will make certain that homework assignments are complete, and I will review them with my child.
- I understand that students who are not able to maintain passing grades may not be permitted to continue in the program.
- I will guarantee that my child has mastered (memorized) the appropriate grade level core subject facts. An adult member of my family will attend parent nights, open houses, and other school activities that pertain to my child.
- An adult member of my family will fulfill the parental participation requirement by selecting from a variety of activities available at the STEM Program.
- I will actively support inquiry and project-based learning activities in the classroom that may require additional help from home.
- I will allow my child to participate in learning activities that may involve vertical teaming across grade levels with students in other accelerated classes.
- I will support the STEM emphasis of Science, Technology, Engineering, and Mathematics concepts that will be part of the accelerated program.
- I understand that students accepted into the STEM program will be involved in a challenging curriculum. Students must be self-motivated, interested in learning, willing to work cooperatively to solve problems, and interested in making connections between what they are learning and the world around them.

I agree to partner with the Marshall ISD STEM Program. I accept the Parent Partnership Agreement and would like for my child to participate in the program. I understand that failure to comply could result in the removal of my student from the Program.

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Parent/Guardian

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Date



## Update Log

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<sup>i</sup> Time Line update page 12 – Change May 18, 2018 to June 18, 2018

<sup>ii</sup> Time Line update page 12 – Registration deadline for grade 6 - Grade 8 is July 9<sup>th</sup> 2018

<sup>iii</sup> Change interval score to actual score page 13



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**The End**

