Fundamental 4: Encourage and enable students to be academic entrepreneurs and risk-takers who can choose to pursue academic passions and interests beyond traditional curriculum and beyond the traditional classroom environment.

As part of the Board’s annual planning calendar found in 1008P, this monitoring report focuses on Board Policy 2020, Fundamental 4, which states: “Encourage and enable students to be academic entrepreneurs and risk-takers who can choose to pursue academic passions and interests beyond traditional curriculum and beyond the traditional classroom environment.”

This report describes the work in our schools to meet Fundamental 4. The instructional team considered the superintendent’s interpretation of Fundamental 4, which was approved by the Board on February 24, 2015. The superintendent’s interpretation is attached for reference.

This report includes both quantitative indicators from the Developmental Asset Survey and the Educational Effectiveness Survey, as well as qualitative indicators from our schools. These indicators show the school district is meeting Fundamental 4. This monitoring has occurred annually since February 2015.

**QUANTITATIVE INDICATORS**

Quantitative factors from the Asset Survey (administered in the spring of 2012, 2014, and 2016) and the Educational Effectiveness Survey (administered every spring) were considered and previously approved by the board for monitoring Fundamental 4.

<table>
<thead>
<tr>
<th>Developmental Asset Survey Results – given to MIHS students in alternate years</th>
<th>SY 11-12</th>
<th>SY 12-13</th>
<th>SY 13-14</th>
<th>SY 14-15</th>
<th>SY 15-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of Developmental Assets (40 possible) reported by MIHS students</td>
<td>21.7</td>
<td>21.1</td>
<td>22.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of students reporting the Asset of “Youth Programs.”</td>
<td>81</td>
<td>80</td>
<td>80</td>
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<thead>
<tr>
<th>Educational</th>
<th>SY 11-12</th>
<th>SY 12-13</th>
<th>SY 13-14</th>
<th>SY 14-15</th>
<th>SY 15-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of students who agree</td>
<td>75</td>
<td>77</td>
<td>79</td>
<td>77</td>
<td>79</td>
</tr>
<tr>
<td><strong>Effectiveness Survey Results</strong> – given to student in grades 4 through 12</td>
<td>“My teacher(s) provide lessons and activities that challenge me to learn.”</td>
<td></td>
<td></td>
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<tr>
<td>% of students who agree, “My teacher(s) listen to my ideas and/or concerns.”</td>
<td></td>
<td>69</td>
<td>72</td>
<td>70</td>
<td>73</td>
</tr>
<tr>
<td>% of students who agree, “My teacher(s) help us learn in more ways than just talking in front of the class.”</td>
<td></td>
<td>66</td>
<td>69</td>
<td>70</td>
<td>69</td>
</tr>
<tr>
<td>% of students who agree, “Work I do in this school is useful and interesting to me.”</td>
<td></td>
<td>47</td>
<td>49</td>
<td>48</td>
<td>51</td>
</tr>
<tr>
<td>% of students who agree, “My teacher(s) help me learn by challenging me with interesting activities in class.”</td>
<td></td>
<td>55</td>
<td>57</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>% of students who agree, “My teacher(s) find other ways for me to learn things I find difficult.”</td>
<td></td>
<td>53</td>
<td>56</td>
<td>57</td>
<td>58</td>
</tr>
<tr>
<td>% of students who agree, “Setbacks don’t discourage me.”</td>
<td></td>
<td>68</td>
<td>67</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>% of students who agree, “I try things even if I might fail.”</td>
<td></td>
<td>76</td>
<td>74</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>% of students who agree, “I like to imagine new ways to do things.”</td>
<td></td>
<td>77</td>
<td>76</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>

The overall Developmental Asset number remains constant between 2011-2012 and 2015-2016. This data indicator suggests that the students continue to benefit from and receive support by the school district and surrounding community. The asset of *Youth Programs* (students who spend three or more hours per week in sports, clubs, or organizations at school and/or in community organizations) remains high at 80%. While this does not indicate exactly how many students participate in athletics, clubs, or activities at school, it is an indication that students are involved in activities that are of interest to them and potentially they have passion around.

The Educational Effectiveness Survey (EES) data provides a broader perspective from students in
elementary, middle, and high school. This data set reveals both areas of success in making strides towards the objectives in Fundamental 4 as well as areas to question.

Positive Indicators

- Consistent over five years, students perceive the lessons taught by teachers to be challenging. This may indicate that students feel the instruction is differentiated and meeting the academic needs and interests of the learners in the classroom.
- Over the past four years the percent of positive responses by students to “my teachers listens to my ideas/concerns” has increased.
- About three-fourths of the students show perseverance by continuing to try things even if they might fail. This is further evidenced by nearly three-fourths of the students who reported that setbacks are not discouraging.

Areas to Question

- Whereas 79% of students feel challenged, only 50% find the learning in school useful and interesting. This disconnect is something that can be explored by schools to learn more about student interests and motivation.
- Again, students find the learning challenging, but the percent of students who feel that teachers find other ways to help when the learning is difficult has stayed between 53% and 59% over the past five years.
- Over time there has been a drop in the percent of students who “like to imagine new ways to do things.” This downward trend should be investigated with school teams further to determine if specific learning experiences have been eliminated or if opportunities might be offered or changed to promote imagination.

QUALITATIVE INDICATORS:

The following qualitative data provide snapshots into Fundamental 4 – Encourage and enable students to be academic entrepreneurs and risk-takers who can choose to pursue academic passions and interests beyond traditional curriculum and beyond the traditional classroom environment. The Fundamental has been divided into three themes:

- **Theme 1: Academic entrepreneurs and risk-takers**
- **Theme 2: Pursue academic passions and interests**
- **Theme 3: Beyond traditional curriculum and beyond the traditional classroom environment**

Several of the following exemplars, but not all, will be highlighted at the February 9, 2017 board meeting.

**Theme 1: Academic entrepreneurs and risk-takers**

**Second Grade Marketplace** - Marketplace is a simulation-based opportunity for students to apply the concepts they have learned in several subjects including social studies, writing and math. Using their
understanding of producers/consumers, goods/services, supply/demand, wants/needs and raw/capital materials, students decide what they could create at school that would be a success in the classroom marketplace. Using math skills such as graphing and surveying, students determine whether or not there is a demand for the products they design. They decide on an initial price for their creations, create advertisements (persuasive writing) and maintain accounting ledgers to document sales. Participants take turns being bankers as a simulated currency is exchanged in the marketplace and wages are paid to employees.

Highly Capable Marketplace and Merchants with a Cause - Students in the highly capable program at West Mercer study and apply economics in a simulation-based activity called Marketplace. The students learn about supply and demand and how entrepreneurs need to be able to respond to a changing market environment. The students brainstorm and develop their own ideas for products or services to sell. They have a few program restraints that they have to take into account. Once they have come up with an idea, they complete a business plan for teacher approval. When the product or service has been approved, they work at home to create the product. They are also encouraged to package and/or market the product in a creative and engaging manner. A live Marketplace is then held in the classrooms, with parents, students, and staff acting as consumers. Data is collected after each marketplace, and the students discuss the shopping trends observed. Each student is free to use this information as he/she prepares a product for the next marketplace.

Lakeridge’s Highly Capable students experience a comparable program called Merchants with a Cause. Students identify a local, regional, or global cause they care deeply about. They investigate an organization (with support of family) that they further research through interviews and literature reviews. To raise awareness of and support the organization, students create a product that will in essence raise money for that cause. Visitors to the event are asked to make a voluntary donation to the event and all proceeds are divided and sent to the organizations.

Giraffe Club - Each year, second grade students are asked to participate in the “Giraffe Club.” The second grade teachers encourage students to learn to “stick their neck out” to help try to solve a problem or support a cause in their community. The students are exposed to biographies of famous Americans who made a difference as a part of the social studies curriculum. Through that learning, students then determine something that they can do to make a difference. Projects have included cleaning up garbage in a local park, collecting books or supplies for local organizations, or making money to donate to a specific cause. The students then share out their project through an oral presentation to their class.

Online Publishing - In fourth grade, teachers work to empower students to take ownership in their learning and pride in what they do. Students are encouraged to be the drivers in making decisions that show their independence and application of concepts and skills taught in class. This fits well with the district’s 2020 vision. For the past few years, fourth grade students have created Weebly webpages. These are personal student webpages that students build step-by-step, including various
pages that are linked off of their home page. Some of the pages include an "About Me" or "Interests" page; "School Work" page; "Book Reviews" page; and often a page that includes their own personal "Blog" or "Surveys" for others to complete. The "School Work" page is a site for students to share and showcase their learning projects and writing pieces with a greater audience, often sharing the link with family members and friends who don’t live near. It is a great forum for students not only to learn more about website design and appropriate digital citizenship, but also to allow them to take pride in finding ways to display their growth as students and individuals. In the digital era, students are experiencing real-world collaboration and feedback by taking risks in presenting their work to a wider audience. Students enjoy the process of personalization involved in creating their Weebly webpage. This project is an evolving work-in-progress, and one in which students can demonstrate perseverance and the opportunity to push themselves in ways they hadn’t imagined before.

**IMS 6th Grade Social Studies** - At the beginning of each school year teachers begin social studies instruction with a unit about what social studies is as a discipline and how we study it. Students create posters and research different concepts, topics, and careers that relate to social studies content as a way to help them realize how studying history, geography, government, economics ties in with other content areas and interests they have. They explore specific methods of archaeology and historiography throughout the unit and discover they, too, are social scientists, cataloging their own lives through social media, family photos, diary entries, school work, and so on. There are two culminating projects for this unit:

1) Interactive Timeline: students take what they have learned about their own past/family and match that with world events that took place during the same time frame. They collect their own history acting as historians, exploring who they were/are, what they enjoyed then/now, and what was happening around them as they did it all; and

2) The IMS Archaeological Dig: students work as archaeologists collecting information about items they find on campus. They use skills from classes such as science and math to study an object or feature of their choosing on campus and then use their knowledge of archaeology and historical research to tell them make connections and piece together the information. They find items/features that speak to them and explore their curiosity through a social science lens, choosing their own roles within the group and approach what is called essential questions they must answer.

When it came time to begin the next unit in social studies, students were given two more opportunities to explore their own passions and reach beyond the classroom environment. First, students used their knowledge of the six elements of a civilization to develop their own original society. Students were given freedom to create any society they chose as long as they represented each element discussed in class (government and armies; social structure; highly developed written language; highly developed way of life; belief system/religion; and stable food supply). Students learned a great deal about types of government, political offices, various jobs necessary for a society to function, geography for defense and food, cultural traditions around the world, and the human
element of society (emotions and spiritual beliefs). They determined city layout and culture based on what they thought a civilization should value. Next, students studied geography by learning about the five themes of geography: place, location, region, movement, human and environment interaction.

Using these themes, students decided to tackle an existing environmental problem, The Great Pacific Garbage Patch, and developed a realistic solution. Students made PSA posters educating others about the patch, describing what should be done to solve it. They learned about environmental lobbyists, the United Nations, environmentalists, NOAA, and so much more.

**IMS Science Projects Options** - Many science projects at IMS give students the opportunity to be academic entrepreneurs and risk-takers in creatively representing their ideas and/or making their work public. For example, the Google Science Fair initially resembles the Independent Research Project described below. However, students are challenged to design experiments that test a solution to a problem, showcase the experiment and its results in a two-minute video, and (with parent support) be submitted online to an external panel of judges. In another project, students were given the option to use a creative format to capture and communicate the relevance of new life forms, extinct life forms, and major geologic events of one specific time period. Students wrote, composed, and performed their own pieces of music. On a different assignment when given the option to research earthquakes or other catastrophic events, some students committed to long-term writing, editing, and publishing of blog entries. In an authentic way, they learned as much about writing for an audience and maintaining a theme between entries as they learned about the topic of earthquakes.

**IMS Band- Small Ensemble** - Many band students at IMS perform in small chamber ensembles (duets, trios, quartets, etc.) Students are strongly encouraged to participate in small ensembles at Islander. With guidance, students choose their own literature and playing partners to rehearse and perform chamber music. A structure is in place to give students their best opportunity for success in this endeavor. Teacher support is provided for group configuration and a selection of quality literature. Class time is utilized, and instruction on methods and techniques for successful student-run music rehearsals is provided. In this experience, the bulk of rehearsal, problem solving and collaboration is student initiated and executed. Independence and accountability are inherent features, as chamber groups are typically configured as one player per part. Each student is reliant on all other students to execute their part accurately for the group to succeed. The six practice rooms, and four alternate convertible spaces at the new IMS building provide excellent rehearsal spaces to facilitate a positive growth opportunity for this experience. Students have a forum to present their performances for peers at school, at a regional solo and ensemble festival, and in informal opportunities in our community such as district concerts or retirement centers.

**MIHS Academic Contests** - Students at MIHS are provided a variety of opportunities to pursue academic challenges and risk-taking by entering academic contests. Examples of these opportunities include local, state, and national DECA competitions; the New York Times’ “Year in Rap” contest; and the national DriveSmartNow.com contest.
• On January 5, 2017 179 MIHS students competed in the Area 3 DECA competition. To date, at least 61 of the students qualified for the State DECA competition and this number will climb once the 31 advanced projects are evaluated (results not available at time of submission). Students participated in a multitude of categories including, but not limited to: travel and tourism, business law and ethics, human resources, business services, retail and marketing, and innovation plans.

• In Jane Stafford’s English classes students are encouraged to write a rap about the news that mattered most to them in the previous year. They choose to write about international or national news, politics or education, sports, science or technology, or the arts or fashion and submit their rap for review to the NYT staff and the educational hip-hop experts at Flocabulary.

• In the Physics 2/Physics 2 Honors classes at MIHS, teachers weave a theme of safe-driving through the units of motion, forces, and momentum. Within the motion unit students derive the stopping distance equation and extend that to implement the concept of friction within the forces unit. In the momentum unit the classes build and test paper bumpers attached to carts to reduce impulse and maximum force. As a culminating project students make a Public Service Announcement (a short video) regarding the dangers of distracted driving and have students submit to a national contest: DriveSmartNow.com. Although not a requirement of the contest rules, MIHS students include evidence of their learning in physics in each of the videos they submit. Several students recently received national recognition for their PSAs.

MIHS Civic Action Campaign - The MIHS Social Studies Department collaborated to create a “Civic Action Project” for all students enrolled in the new Civics class to complete. The project requires students to work and think independently to try to solve a community issue by applying concepts they learned in class. This project encourages students to take risks and work in the real world with the real world consequences of “failing.” The five criteria for the project: 1) interact with others in the political system to create change outside of MIHS; 2) stay consistent with the educational mission of MISD; 3) work to contribute an on-going and authentic impact; 4) scope the project to be broad enough to make an impact and narrow enough to complete in a semester (approved by teacher); 5) ensure the project is verifiable.

During the project students are accountable for researching, acting, documenting, and publishing information and results. Additionally, students reflect not only on their learning in the class, but also on their impact in the community beyond MIHS.

Theme 2: Pursue academic passions and interests

Elementary After School Clubs and Activities - All four Mercer Island Elementary Schools encourage students to pursue their interests through before and after school programs that are sponsored by MISD staff, the PTA or private vendors. A wide selection of offerings include: gardening clubs, art and craft groups, chess clubs, karate, Sponge Language Programs, BOKS Fitness club, Lego, running club, rocketry, coding clubs, and many more. Additionally, music programs such as Steel Drum Band,
Ukulele Club, Drum and Mallet Club, Choir, Band, and Orchestra allow students the opportunity to select to participate in activities that expand their horizons and allow them to develop new passions.

**Elementary Musicals/Operettas/Talent Shows** - Each year, all four elementary schools put on several productions and concerts to showcase their music programs and allow students to develop their own talents through performances. At Lakeridge, these performances include the 5th Grade Operetta, Veteran’s Day Assembly, All School Musical, and three choir and steel drum band concerts. At Island Park the annual 5th grade play and a choral concert by each grade level throughout the year are highlights. At West Mercer, students perform for their peers displaying their musical interests through the Musical or Talent Show, the Drum Club, the Orff Club, and the intermediate choir. At Northwood, students explore their performance interests through the Choir and Drum and Mallet Club, as well as through the Spring Musical. Finally, all four elementary schools showcase student interests in the Fine Arts Showcase through art and musical performances by students.

**Science Fairs & Science Fun Nights** - Each of our four elementary schools partner with the PTAs to engage students in scientific inquiry and exploration, culminating in a community Science Fair or Science Fun Night. Students who engage in a science project are provided with guidelines and information about using the scientific method to ask a question and engage in an experiment in search of an answer. Student participation is voluntary and self-directed. Students are encouraged to pursue a question of interest to them, and each year the fairs display a wide range of scientific interests and topics. The science fairs occur in the evening, and students who attend are provided with a various supports that encourage them to ask clarifying questions of the presenting scientists and record the learning they gain from exploring the various scientific presentations. Outside agencies with a scientific focus—Pacific Science Center, Issaquah Salmon Hatchery, the Seattle Children's Museum, or the Reptile Man—are often invited to participate in the evening event.

**IMS Independent Research Project (IRP)** - Pursuing academic passions and interests is what inspires students to engage in the instructional materials and make connections to the world outside the classroom. One such example in eighth grade science is the Independent Research Project (IRP). First, students generate their own investigative question related to their hobbies, interests, and curiosities. Independent Research Project topics selected by our students range from lacrosse, football, and soccer to music, art, and even other disciplines of science (chemistry, physics, aerospace, etc.) depending on student preference. Once a question has been selected, students analyze and interpret current research to create a hypothesis/claim that answers their question. Following the scientific method, students then design and conduct their own experiment, collect and analyze data, and use that data to support or refute their original claim.

Students also strive to apply their results to other real world scenarios and identify and discuss potential sources for error in their experiments. While the skills needed for this rigorous work start much before eighth grade, this is often the first time they are asked to put all the skills together into one product. In preparation, students practice these critical thinking/problem solving skills with many scaffolded lessons and labs based on earth science topics we learn throughout the year, giving them
the support needed to master necessary skills. Then when ready, the IRP offers students the academic freedom to explore what matters to them while applying those skills. In the process we get to make more meaningful connections with students by learning about what is important to them and they, in turn, gain a deeper, long-lasting understanding of how science is prevalent in their world.

**IMS Jazz Band Club** - From seventh grade forward, any student who participates in band or orchestra has the opportunity to pursue jazz, playing in large and small ensembles. The jazz band experience consists of approximately two days per week of instruction and playing opportunities for students who choose to participate. The group instrumentation is configured differently than a traditional concert band or orchestra, and the musical literature is quite different as well. Swing, Bebop, Afro-Cuban, Brazilian, Funk and Rock styles are typically among the performance repertoire of the group. A central and defining feature of jazz is that of individual and group improvisation. Improvisation involves students spontaneously creating improvised melodies within the context of a formal structure and a defined harmonic process. While it is true that a student can play anything they want during their solo, experience and instruction will lead them to the conclusion that certain note choices and rhythmic patterns sound better than others. This very fact provides a never ending puzzle of trying to find melodic motifs that sound better and better as the student progresses. The problem solving and innovation that results is in effect a spiraling curriculum that provides a continual challenge for growth. A beginning student can successfully negotiate a set of chord changes to create a solo that sounds great and “fits.” A top tier professional would play a solo over the same structure that would be tremendously more complex and highly expressive. The result of this experience is inspiration for students to engage in jazz playing opportunities both in school and beyond that are limited only by imagination and initiative.

**Middle School Electives** - IMS spotlighted three of its electives to illustrate the pursuit of passions and interests. These electives capture student interest, choice, and ownership.

- **Aerospace** is a great avenue for students who have a strong interest in science and engineering. To first learn about flight, the class explores concepts that include the physics of air pressure, Bernoulli’s principle, density and buoyancy. Students conduct hands-on demonstrations to investigate these concepts while working in small groups. Next, students use this knowledge to build several different types of airborne objects including parachutes, hot air balloons, gliders and rockets. Students spend most of their class time designing, creating, testing and reengineering their projects. The teacher’s role during this process is to facilitate success without “giving out the answers” so that students can apply their knowledge, creativity and vision, while making use of the engineering design process to test ideas and accomplish a task.

- **Social Justice** is a new elective at IMS and has received enthusiastic feedback from its participants. The purpose of Social Justice is to examine the identity-related inequalities that exist in American society. Topics include sex and gender, race and ethnicity, religion, sexual identity, and class; these topics are an interconnected web that also lead to discussions of language, politics, education, housing, and more. This class is discussion based and invites
reflective, courageous students who are eager to step outside of their comfort zones in order to begin to understand the experiences of others and to share their own experiences. Discussions (based on readings, lessons, guests, personal experience, audiovisual materials, etc.) occur in both small and large group settings and are frequently passionate! Students often take these ideas and questions home with them, where they inform dinnertime conversations, discussions between friends, and provide a different lens through which they view everything from media to politics to personal interactions. Feedback from one student, when asked about the impact of the class: "It had a huge impact, so big that I can’t even explain it in words. It opened my eyes, made me see the world as the good and bad, not just through the small tunnel I was looking through before. It changed how I see everything."

• Marine Biology is a dynamic elective course, broken down into 3 main units: Introduction to Marine Biology (History of Marine Biology, Properties of Seawater, and Seafloor Features), Organisms of the Sea, and Humans and the Sea. Students explore famous historical figures in the fields of Oceanography and Marine Biology, investigate water chemistry (salinity, pH, and density), utilize microscopes in order to observe microscopic organisms from Puget Sound, actively participate in 5 dissections (pickle, sea cucumber, sea star, squid, and skate), and engage in both individual and group projects (including digital presentations). Ultimately students design an action project that seeks to raise awareness of a current environmental issue in Puget Sound through research, action, and effective community engagement.

IMS Clubs:

• Books, Brownies, & Beyond- this after school book club is a unique opportunity for students to pursue a passion for reading while spending time with other students who share this interest. In the fall, the club begins with small groups of student-selected titles. This is followed by the group’s participation in the Mock Newbery, sponsored each year by the King County Library System. Students read selected titles and discuss them in small groups, evaluating the titles according to the Newbery criteria. After the Newbery is announced in January, the students focus on reading books for Black History Month, participate in March Book Madness with a focus on middle grade novels, plan a school wide celebration for Poetry month in April, and conclude the year with small group book clubs of student-selected titles. The book club typically plans for summer reading and meets twice during the summer at the public library.

• Destination Imagination - Destination Imagination is a worldwide organization that sponsors creative problem solving competitions for students from kindergarten through university. This year IMS has 11 Destination Imagination teams. Each team is made up of 5-7 students and is tasked with creatively solving one of five complex problems and a surprise Instant Challenge. The general topic areas of the challenges are Engineering, Scientific, Improvisation, Fine Arts, and Technical. For example, one of this year’s Technical challenges is as follows:

The team will present a show that includes an opening act and a headlining act. They will design and build a stage on which the acts take place and that will move at least one team member from one location to another. Each act will be enhanced with
technical effects to amaze the audience. The team will also create and present two team choice elements to show off the team’s interests, skills, areas of strength, and talents.

It is important to note that the team’s solutions must be created entirely by the team. Any outside input, ideas, or direction could cause the team to lose points or to be disqualified completely. The adult coaches may only provide organizational and team-building support.

**MIHS Noise Cancellation Device** - Seniors Kaes Vanderspeck and Nathan Wacker are independently constructing a noise-cancellation device using first principles (wave interference) with the support of science teacher, Aaron Noble. The project began last spring when Kaes envisioned a machine to track bodies through three-dimensional space and then analyze ambient noise levels to generate frequencies, which, through the manipulation of their phase displacement, will form a “cone of silence” around an entity of the user’s choosing. Kaes then wrote an algorithm for the project (which began as an AP Physics final project). Upon realizing he had reached a point where he needed some coding support, Kaes connected with friend Nathan Wacker for help. The two students collaborated in the design by taking a micro computer, speakers, an amplifier, a Lab Quest, and microphones and worked to match frequencies to cancel out the noise from one speaker before it reached the other speaker. This work required Nathan to significantly expand his programming capabilities. The two students meet daily to work on this independent project in addition to the classes they are enrolled in. To date the students have been able to reduce the sound from one speaker to the other by approximately 40% using wave interference to match frequencies. The students intend to stick with the project until they reach 100% noise cancellation. When asked if there was a certain reason for this goal or device, Nathan responded that it’s just a fun challenge that started as a school project but has turned into a personal interest that is allowing him to hone his skills for a future in engineering. Kaes hopes to prove the concept can be achieved and then market the machine to tech companies.

**MIHS Biotechnology Projects and Field Mentors** - Jamie Cooke’s Biotechnology students are researching and producing a project related to a biological topic of their choosing. As a component of the project, they are also collaborating with a mentor scientist. The projects include a research paper along with another way of demonstrating their knowledge, often in a creative way (art, multimedia, journalism, model building, lab research). This year, two of Mr. Cooke’s students are developing and conducting their own lab research with the help of their science mentors, both at the University of Washington. One of these mentor scientists is a past student of Mr. Cooke’s from MIHS! Mr. Cooke’s current students will be working in the lab at the UW and will also be using the lab equipment at MIHS to complete their work.

**MIHS Multigenre Projects** - English teacher Kati McConn is challenging her students to think beyond traditional forms of essay writing and explore a researchable, argumentative topic of interest and then create a multigenre project/essay to demonstrate their knowledge. What is a multigenre a project/essay? It’s a collection of pieces written in a variety of genres, informed by students’ research on a particular topic of interest, that presents one or more perspectives on a topic. Done effectively, this accomplishes the same goals as a traditional essay, but in a more expansive way. For this particular assignment, students will use different genres to create a paper that leaves the reader with a
clear idea about the student’s answer(s) that guided the work, and these answers will be informed by the student’s understanding of their chosen topic. These ideas will be presented in a highly creative way that capitalizes on the complexity of ideas rather than trying to distill them into a single thread that they would typically present in a highly structured traditional essay.

**Theme 3: Beyond traditional curriculum and beyond the traditional classroom environment**

Third-grade Pilot with *Empatico*- this spring several third grade classes will be partnering with *Empatico* to further explore one of the core third grade social studies concepts: cultures. Translated into English, empatico means empathy. *Empatico* is a relatively new, global organization helping to connect tens of millions of kids with empathy skills and sparking conversations between students that forge a movement rooted in shared human values and interests. Third-grade students on Mercer Island will connect with other classrooms in the United States and abroad to discuss cultural problems and challenges that the various classrooms have been learning about and discussing.

**IMS Musical Performance opportunities outside of school** – As students mature, musically and personally, the opportunity for them to perform in front of live audiences away from school provide invaluable experiences to continue the formation of their musicianship, citizenship and personal growth. These performances have included the Seattle Center for Winterfest, Jazz band performances at Crossroads Mall, performances at MISD elementary schools and Festival performances at schools in other school districts. Traveling outside of school affords students the perspective of representing something greater than themselves, and beginning to understand the changes to their daily behavior and its context that are necessary for these performances to be successful. Many of these performances also provide the opportunity to observe and listen to peers from other communities perform in musical ensembles similar to their own. Relationships gained with students from outside of the Mercer Island community and culture informs understanding of commonality and differences in an organic and fun way for students. The perspective gained from these comparisons catalyzes growth and understanding in a real life context. The process of loading, unloading, setting up equipment and other logistical necessities provide students a sense of ownership and responsibility to their group. The reality of being identified with their community and school as they perform provides the perspective of how they might live in a world filled with different people and cultures. As students progress through the band program, the performance opportunities increase to meet the need for continued growth. The “stages” become bigger, and are frequently further from Mercer Island in terms of physical distance as well as the cultural environment they represent. Further, whenever possible these performance experiences are designed to include some sort of exchange or interaction with students of similar age playing music in an ensemble in a different place and/or culture. This approach to travel and outside performance provides opportunity for personal growth and global understanding for our students in collaborative groups that require them to think and act beyond themselves. It is an important component of the curricular design of the band program.
IMS 6th grade LORAX integrated unit – During a two-week unit, sixth-grade students explore the topics involved in environmental issues through a study of Dr. Seuss’s book *The Lorax*. *The Lorax* is a story about destruction of the environment due to the growth of industry. The unit includes work in language arts, math, and science as students gather background information to develop land management plans that would re-write the end of the story to be more eco-friendly. Throughout the unit they work in three different small groups to help strengthen their teamwork skills. The lessons include: reading and sharing articles of real environmental problems and how those situations were handled; understanding that different stakeholders can have different points of view based on their wants and needs; and looking at the environmental impact of various activities and choices. The project allows each group to focus and do research on the features of the management plan that interest them most - renewable energy sources, innovations in transportation, minimizing pollution or even the economics of land management. Each group develops and then shares a clear, concise presentation of their plan. This project is an opportunity for students to apply their creativity while becoming more aware of real-life problems that affect the world we live in.

MIHS Advanced Radio - Students in Joe Bryant’s advanced radio broadcasting class are challenged to communicate, interview, and network with professionals accomplished in the fields they hope to pursue for careers. Students must reach beyond the school walls to find guests, request interviews, and network with people who may serve as valuable mentors down the road. Recent interviewees include: Alan White the drummer for YES; John Lennon and George Harrison; Mariner’s Broadcaster Aaron Goldsmith; and Jeff Vetting, the Executive Director of the Upstream Music Festival and Summit.

Music lover Daniel Sundholm interviewed Alan White about his love of music and his Rock and Roll Hall of Fame nomination. Max Tanzer hosted Aaron Goldsmith and learned what it takes to become a Major League Broadcaster. Leah Raissis met with Jeff Vetting to discuss her work and the vision for KMIH. Vetting, who works for Paul Allen and Vulcan, shared that the Vulcan people are “thrilled” with her work and the refresh of KMIH. These students will work with these mentors in the field as they continue to network and develop their skills around their passions and find ways to extend their learning beyond the traditional schoolhouse walls.