Imagine This...

A middle school student is studying slope in her math class and the classroom conversation centers around the relationship between predators and prey, a topic she is reviewing in her science class, to further explain the trends shown on the graph. Another student – in a visual arts class – is displaying his artwork: a piece that illustrates the beauty of the inner parts of a cell. These examples – and more – are real experiences Metro Nashville Public Schools (MNPS) middle school students will have daily throughout all of their classes.

Middle school is a pivotal time in a child’s education – a time when students need a high-quality, interdisciplinary education that sparks their curiosity and challenges their thinking. Just like any career a student will find after school, students need experiences that let them merge traditionally independent subject areas and skillsets, like math and science and art, into one comprehensive learning experience.

That’s why MNPS is undertaking a teaching and learning transformation in each of our middle schools. Starting this year, MNPS will begin implementing STEAM (science, technology, engineering, arts, and math) curriculum into all middle schools.

Educators will break down the traditional subject-based classroom barriers and purposefully integrate all areas of STEAM curriculum into their classroom. Through a collaborative planning approach, educators will challenge students to think critically, be creative, communicate and collaborate with their peers while empowering them to better understand how their skills fit into our complex world. There is no better place for this to happen than in Nashville – where technology, arts and science blend together throughout our community to create a vibrant and thriving economy. And now, the middle school classroom will reflect that environment.

What does STEAM mean?

In a STEAM learning environment, powerful critical thinking and exploration practices commonly used in high-performing science, technology, engineering, arts and math classrooms will be drawn across disciplines and connected by a common or transdisciplinary theme, allowing students to:

» Ask thoughtful and complex real-world questions
» Collaborate with their peers
» Arrive at meaningful conclusions
» Explore STEAM careers
» Access supplemental educational resources, like digital textbooks

What will STEAM prepare our students for?

Careers like these – and many more.

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<thead>
<tr>
<th>Graphic Designer</th>
<th>Computer Network Architect</th>
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<tr>
<td>Chef</td>
<td>Cartographer</td>
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<td>Software Developer</td>
<td>Ship Captain</td>
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<td>IT Manager</td>
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<td>Video Game Developer</td>
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<td>Meteorologist</td>
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<td>Web Developer</td>
<td>Radiation Therapist</td>
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<td>Animator</td>
<td>Dental Hygienist</td>
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<td>Fashion Designer</td>
<td>Computer Support Specialist</td>
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<td>Park Ranger</td>
<td>Interpreter</td>
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Partnership with Discovery Education

Transforming the district’s curriculum is no easy task, which is why MNPS is committed to engaging with a variety of local and national partners to ensure this transformation is a success.

Discovery Education will work with Metro Schools to design this curriculum offered in our middle schools and will provide on-going support with our school leaders, including principals and teachers.

This partnership includes:

» Robust STEAM professional development opportunities
» Job-embedded, on-site professional development
» Administrative leadership support
» Access to Discovery’s network of teaching resources, like Science Techbook, Social Studies Techbook and Streaming Plus
» Support with creating transdisciplinary lessons and units

Community Involvement

How do we inspire students to picture themselves in future careers and continue to build their community pipeline? Creating a sustainable STEAM teaching and learning environment takes a community of invested stakeholders, willing to visualize and help create pathways for students that intentionally connect to future careers. Our schools need STEAM partners who can show students how their coursework connects to real jobs. We are looking for partners who can:

» Provide job shadowing opportunities
» Work in the classroom with students
» Provide content expertise to educators
» And more!

We want to learn about how you can support this teaching and learning transformation. If you – or your organization – would like to learn more about how to partner with MNPS to deliver the highest quality STEAM education in the nation, please visit: www.mnps.org/steam

STEAM In Tennessee

» Tennessee has seen, on average, a 25% increase in STEAM careers.
» In Nashville, approximately one-third of the new jobs created every year are in a STEAM field.

Careers In STEAM

» There are over 9 million STEAM jobs in the United States – and that number is growing every day.
» STEAM careers are growing faster than all other occupations and pay more than double the national media wage of $35,000.

Regardless of a student’s after high school path, STEAM will prepare our students to solve real-world complex problems and will open their minds to a variety of new careers in industries they may not have considered.

“Any well-rounded 21st century student needs to be able to think critically, develop innovative solutions to problems, have an appreciation for the arts, and recognize the beauty and wonders of nature. Through the lens of STEAM, our students will see how they fit in to our complex world and develop self-confidence by seeing the value they bring.”

Dr. Shawn Joseph
Director of Schools - Metro Nashville Public Schools