



STEM -- Science, Technology, Engineering and Math

Gateway – Curriculum

at Brookwood Junior High School

### Foundation Units

**Design & Modeling:** Students apply the design process to solve problems and understand the influence of creativity and innovation in their lives. They work in teams to design a playground and furniture, capturing research and ideas in their engineering notebooks. Using Autodesk® design software, students create a virtual image of their designs and produce a portfolio to showcase their innovative solutions. Students in seventh grade will be engaged in this module during the second semester of the school year. Students in eighth grade will be engaged in this module during the first semester of the school year.

**Automation & Robotics:** Students trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. Students use the VEX Robotics® platform to design, build, and program real-world objects such as traffic lights, toll booths, and robotic arms. Students in seventh grade will be engaged in this module during the first semester of the school year. Students in eighth grade will be engaged in this module during the second semester of the school year.