STEM Program for Columbus, MS Magnet Elementary Schools

	Franklin Academy - Medical Sciences and Wellness	Fairview Elementary - Aerospace and Science	Cook Elementary - Fine and Performing Arts	Stokes-Beard Elementary - Technology and Communication	Sale Elementary - International Studies (Language, Politics, and International Affairs)	Common Themes
Website	http://www2.columbuscityschools.org/franklin	http://www2.columbuscityschools.org/fairview/	http://www2.columbuscityschools.org/cook/aboutcook.htm	http://www2.columbuscityschools.org/stokes/columbuscityschools.org_stokes/About_Us.html	http://www2.columbuscityschools.org/sale/	
K	•A basic understanding of anatomy •Relationships between humans, plants, and animals •Relationship between healthy ecosystems and human health •Greenhouse activities •Basic first aid •Exposure to a variety of STEM fields in health and medicine •Colleges and universities •The importance of movement •Physical activity lessons	•A basic understanding of forces and motion •The difference between weather and climate •The scientific method •Exploration of vocabulary related to the universe and our solar system •Exposure to a vareity of STEM fields in aerospace and science •Colleges and universities •Physical activity lessons	•The relationship between fine and performing arts and STEM fields •Mathematical patterns in art •The scientific method in design applications •Definitions of art •Exposure to a variety of STEM fields with emphasis in architecture, design, lighting and other technical applications, etc. •Colleges and universities •Movement and dance •Physical activity lessons	•Definition and exploration of communication •Definition and exploration of technology •What makes technologies fun and interesting •Exposure to a variety of STEM fields with emphasis in communication technology, computer science, programming, etc. •Colleges and universities •Physical activity lessons	•Exposure to literature and arts from around the world •Worldwide geography, climate, and environmental systems •Languages and basic linguistics •Exposure to a variety of STEM fields with emphasis in business applications, international affairs, civics, etc. •Colleges and universities •The difference between weather and climate (PROG) •Physical activity lessons	•Foundational knowledge to be continued K-5 •Physical activity lessons to be continued K-5 •Exposure to STEM fields to be continued K-5 in a progressive manner •Colleges and universities to be continued K-5 in a progressive manner
NGSS	Forces and Interactions (Pushes and Pulls, Motion); Interdependent Relationships in Ecosystems; Weather and Climate; Cause and Effect; Systems; Scientific Method; Planning, Investigating, Analyzing Data, and Constructing Solutions/ Explanations; Science is Based on Evidence and Uses a Variety of Methods					
Grade 1	•K subjects continued •Microbial life and germs •Healthy diets and food systems	•K subjects continued •Space as a system •Measurements of time and space •Patterns and cycles of the universe	•K subjects continued •Science and the arts •Technology and the arts •Engineering and the arts •Mathematics and the arts •Art for Art's Sake •Arts in Everything	•K subjects continued •How and why communication technologies are made •Engineering and design methods •Patterns and communication •Patterns in language	•K subjects continued •Relationship between healthy ecosystems and human health •Enterprising math (business and entrepreneurship) •Patterns and communication •Patterns in language	•Emphasis on patterns and systems
NGSS	Waves (Light and Sound); Structure, Function, and Information Processing; Space Systems: Patterns and Cycles; Cause and Effect; Systems; Scientific Method; Influence of STEM on Society and the Natural World; Planning, Investigating, Analyzing Data, and Constructing Solutions/ Explanations; Argument from Evidence					
Grade 2	•K-1 subjects continued •Models of the human body •Symbiotic systems between plants and animals •Geology and the environment •Science topics in health	•K-1 subjects continued •Models of the solar system •Gravitational fields •Geology and the environment •The importance of space exploration	•K-1 subjects continued •Chemistry in the arts •Biology in the arts •The mechanics of models •Interpreting the natural and material world •Modeling systems	•K-1 subjects continued •"Green" technologies •Global issues in technology •Technologies in laboratory and field science •Modeling inventions and ideas	•K-1 subjects continued •Models of human networks and international politics •Global issues in technology •International civics •Conflict resolution: methods and practices •Language/ area focus	•Development and use of models •Scientific method
NGSS	Structure and Properties of Matter; Interdependent Relationships in Ecosystems; Earth's Systems (Processes that Shape the Earth); Cause and Effect; Systems; Scientific Method; Influence of STEM on Society and the Natural World; Stability and Change; Science Addresses Questions about the Natural and Material World; Planning, Investigating, Analyzing Data, and Constructing Solutions/ Explanations; Argument from Evidence; Developing and Using Models					
Grade 3	•K-2 subjects continued •Models of the brain and central nervous system •Skeleton and osteology •Animal behavior •Variation of traits •Topics in anthropology	•K-2 subjects continued •History of our planet •Human effects on climate and climate change •Biological life and the universe •Space exploration technologies •Machines and biomimicry	•K-2 subjects continued •History of the arts and human technologies •Global applications of the arts and STEM •Arts in problem solving, conflict resolution, and communication •Improvement and usability of technologies •Kinesthetics	•K-2 subjects continued •History of communication and human technologies •Global applications for communication technologies •Technologies for problem solving, conflict resolution, and communication •Machines and biomimicry •The future of technology •Marketing	•K-2 subjects continued •World history and STEM applications •World ecosystems •Technologies for problem solving, conflict resolution, and communication •Arts in problem solving, conflict resolution, and communication •Marketing	•History and global applications •Problem solving and conflict resolution •Concrete skills
NGSS	Forces and Interactions; Interdependent Relationships in Ecosystems; Inheritance and Variation of Traits and Life Cycles; Weather and Climate; Interdependence of STEM (discoveries lead to new technologies); Scale, Proportion, and Quantity; Systems and System Models; Consistency of Patterns in Natural Systems; Science Affects Everyday Life; Planning, Investigating, Analyzing Data, and Constructing Solutions/ Explanations; Argument from Evidence; Developing and Using Models					
Grade 4	•K-3 subjects continued •Anatomical functions of human organs •Laboratory science topics in health and medicine •Global topics in health and medicine •Health and everyday life •Service learning	•K-3 subjects continued •The basics of fluid dynamics •Aerodynamics topics in health and medicine •Applied science and engineering in aerodynamics •Effects of technologies on everyday life •Science in service learning	•K-3 subjects continued •Performing science: re-imagining science topics •Physics in the arts •Basics of photography •Art in everyday life •Art in service learning	•K-3 subjects continued •The mechanics of radio waves, television, and other energy streams •The history of computers and the internet •Science topics in social media •Hardware and software •Programming languages •Technology and everyday life •Technology and service learning	•K-3 subjects continued •Urban ecosystems •Urban planning and green infrastructure •Critical global issues •Topics in anthropology •Conflict resolution in everyday life •Service learning	•Application to everyday life •Opportunities for application to service learning/ community engagement activities •Relevance of topics
NGSS	Energy; Waves (Waves and Information); Structure, Function, and Information Processing; Earth's Systems (Processes that Shape the Earth); Interdependence of STEM (discoveries lead to new technologies); Scale, Proportion, and Quantity; Systems and System Models; Consistency of Patterns in Natural Systems; Science Affects Everyday Life; Planning, Investigating, Analyzing Data, and Constructing Solutions/ Explanations; Argument from Evidence; Developing and Using Models					
Grade 5	•K-4 subjects continued •Mathematics and quantitative skills used in medical science and health •Science fair •Capstone project	•K-4 subjects continued •Energy and Matter •Energy sources •Modeling clean energy •Modeling atomic energy •Capstone project	•K-4 subjects continued •Mixed media •Language and literature •Film technology •Capstone project	•K-4 subjects continued •The psychology, physics, and mechanics of video games •The social and environmental applications of video games and software •Game design •Capstone project	•K-4 subjects continued •Business ethics •International trade and labor •How to plan and design a business, non-profit, or research endeavor •Communication and presentation skills •Capstone project	•Development of advanced, focused skills •Documentation, presentation, and peer review •Engaging in independent and collaborative work
NGSS	Structure and Properties of Matter; Matter and Energy in Organisms and Ecosystems; Earth's Systems; Space Systems (Stars and the Solar System); Interdependence of STEM (discoveries lead to new technologies); Scale, Proportion, and Quantity; Systems and System Models; Consistency of Patterns in Natural Systems; Science Affects Everyday Life; Energy and Matter in Systems; Using Models, Investigation, and Computation					