CARROLLTON CITY SCHOOLS

THE GOLD STANDARD

Grade level/ Dept	Implementation Time/ STREAM Theme	Standard(s) of focus	STREAM Inclusion	Status
Kindergarten	Jan-May 2020/ Earth Science	• Ask and answer questions • Rocks, soil, water	• 20 Questions game to generate asking and answering questions about STREAM visit • Rock collection and sort	Written Written
	Life Science			None
	Sept- Dec 2019 Physical Science	• Observation skills • Physical properties of materials	• STREAM visit to develop awareness • Sorting materials by composition • Sink/Float Experiments	Complete Complete complete

1st Grade	CES Academies ½ grade each semester	• Weather- observe and document data
		• Identify patterns
			• Recognize weather
			• Creek rain gauge collection
			• Creek visit - turbidity
			  ○ STEM teacher video explanation
			  ○ Sensory writing
			• Temperature patterns and results on creek
			• Record data in mass. Bridge data
				Complete

2nd Grade	1st 9 weeks with follow-up	• Seasons	• Shadow Observations • Teacher built sundial ○ Students construct a sundial	Complete

3rd Grade		• Water and wind-change in rock and soil over time	• Buffalo Creek
			  ○ Find soil exposure
			  ○ Awareness
			  ○ Compare rock in nonwater/water setting
			  ○ Making mud with rock tumbler
			  ○ Weight of rocks
			  ○ Map skills
			  ■ Map the creek with compass
				In Progress

CES STEM Labs	Oct. 2019
	Buffalo Creek Nature walk
		• Experiential
		  ○ Earth's tilt - seasons
		  ○ Trees and soil
			• Nature Walk
			  ○ Nature journals
			  ○ Physical attributes-K
			  ○ Sun pattern- 1
			  ○ Position of sun/moon and effect on Earth- 2
			  ○ Physical attributes of rock- 3
			• Students use "field guide" to lead thinking
				Complete

	Nov. - Dec. 2019
	Buffalo Creek Watershed
		• Motion
		• Effects of precipitation
		• Cause and effect of change to an environment
		• Effects of pollution
			• Topographical Maps
			• Topographical Relief Maps
			• Google Maps
			  • Students locate the Buffalo Creek
			  • Students locate the Buffalo Creek Watershed
			  • Students follow the flow of Buffalo Creek to the ocean
			• Interactive Augmented topo sandbox
				Complete

			○ Students will interact with precipitation and topography ○ Students will observe and discuss the effects of precipitation on topography	
4th Grade	1st 9 Weeks- 3rd 9 Weeks	● Weather	● Literacy tie-in ○ Summarize and main idea- RiparianBuffer Zone ● Compare 3 sites, 6 times over the year for plant life changes ● Graphing information ● Paper slide	In progress
5th Grade	Oct- December 2019	● Erosion	● Measure “posts” for erosion ● Save the Bank Erosion Activity ● Flow meter probe in water ● Drone footage ○ Observation and writing activity ● Write genre choice- construction/deconstruction forces	Complete
6th Grade	3rd & 4th Quarter	● Role of water in Earth Processes	Social Studies ● Maps of Europe ○ minerals w/i county ○ Trade in counties ■ Location of man-made and natural resources ■ Acid rain in Germany	Completed

		● Earth's surface formed	■ Weather patterns in Germany with data Science ● STREAM visits to observe with focus on exemplar from previous visit ● Model of creek ○ Student made ○ Intro natural processes to simulate a rain storm ELA ● Data from chart to create argumentative letter to local politician/ community leader ● Develop claim from data- pollution ● Use of Virtual Table- possibility	Completed Completed Completed
7th Grade	1st Semester	● Ecology ● Classification	● Abiotic/Biotic ● iNaturalist app ● Intro to Stream Equipment ● Scoop Day ● ID organisms to make food web	Completed Completed Pending Pending Pending
8th Grade	1st Semester	● Chemical Property Changes ● Soil moisture base changes	● STREAM Problems ● Site visit- soil/water samples ● Observations and data collection ● Complete across all classes ● Weight over time ● Phase changes ● Base Changes	

Ecology		• Biology - Classification - Biodiversity - Cladogram • Water quality (cycles of matter)	Macroinvertebrate Classification Lab - Biodiversity Introductory levels: Cross sections (flood potential) Surveying (measurement tools - topography) Water Quality Perception Lab - See Environmental Science lessons. Many have been scaffolded down to this entry level. - Macroinvertebrates (water quality / pollution) - Water Pollution (debris analysis)	Complete Complete Complete Complete Complete
Biology		• Classification & Evolution	• Cladogram / classification combo lab	Written Implementation in Dec
Environmental Science		• Human impact on the environment including Georgia aquatic systems	• Pit traps (insect biodiversity) • Camera Study(biodiversity) Level 2 introductory • Cross sections (flood potential) • Surveying (measurement tools - topography) • Macroinvertebrates (water quality / pollution) • Water Pollution (debris analysis) • Water quality analysis: pH, Dissolved Oxygen, Nitrogen, particulate matter	Complete In progress Complete Ongoing Complete Ongoing Ongoing
Algebra		• Physical Science ○ Velocity ○ Intensity ○ Resistance	• Ohm's Law • STREAM- boat float experience ○ Distance ○ Current difference	Ongoing

STEM- CHS		• Earth Racer
		
		• Physical
		
		• Architectural Drafting Skills
		
		• Instruction
			• Paper elevation for brick
			  ○ Draw paper
			• Elevation of creek
			
			• Creek- 1 plant
			• Auto CAD
			  ○ Inventor
			  ○ Model
			  ○
			• Maps
			• Sketching
			• Autocad
			• Engrave wooden riffle, runs, pools
			
			• Engraving
			• Professional Civil Engineer
			  ○ Creeks, bridges, dams	