UDL Supports in STEM

Engagement The "WHY" of Learning	Representation The "WHAT" of Learning	Action & Expression The "HOW" of Learning
Recruiting Interest ❑ **Start with the Phenomenon** ❑ Provide individual choice an *example: menus or choice boards* ❑ Relevance and value (Why is this important to me?) ❑ Minimize distractions in the classroom	**Perception** ❑ Provide different ways to present or display information being taught ❑ Provide different ways for auditory learners (captions, charts, diagrams, and manipulatives) ❑ Provide different ways for visual information (verbal instruction, physical models, and snap&read)	**Physical Action** ❑ Provide varying methods for response and navigation (provide more time for response 6-Second Pause, physical manipulatives, and technology integration, response cards, white board response, and think-pair-share) ❑ Provide optimum access to tools and assistive technologies (alternate keyboards, overlays, text-to-speech, word prediction software Co-writer, Braille)
Sustaining Effort & Persistence ❑ Collaboration ❑ Display goals and weekly agendas on the board ❑ Build classroom community ❑ Provide quality feedback	**Language & Symbols** ❑ Clarity for vocabulary and symbols (glossaries, word wall, highlight vocabulary, pictures, hyperlinks definitions, connection to prior knowledge) ❑ Annotated example math problem, flash cards, partner reading, concept videos in science ❑ Support decoding of text, mathematical notation and symbols	**Expression & Communication** ❑ Provide multiple modes of media for communication (solve problems using a variety of strategies, manipulatives, 3D models, Jigsaw, number lines, subset of a problem) ❑ Provide multiple tools for construction and composition (spell check, grammar check, word prediction, text-to-speech, calculators, pre-formatted graphs, sentence starters or strips, concept mapping tools, algebra blocks, animation, dice, geoboard, math

	(snap&read, digital math notation Math ML, Text-To-Speech)	games, playing cards, math dictionary) ❑ Provide supports to build fluencies with levels of practice, performance, and meaningful teacher feedback
Self Regulation ❑ Provides expectations to motivate students (checklists, rubrics, self-reflection, reminders) ❑ Providing personal coping skills and strategies (modeling self-regulatory skills, scaffolding to meet challenges, feedback) ❑ Student self-assessment and reflection (check-ins SEL or progress monitoring) ❑ Scaffolding ❑ Revising or returning to Community Agreements as needed	**Comprehension** ❑ Anchor prior knowledge by using visuals, concepts models, KWL, science journals/notebooks, concept maps, demonstrations, bridge concepts with analogies, (cross-curricular connections to math concepts) ❑ Provide highlight patterns, critical features, big ideas, and relationships, consensus models (graphic organizers, formulas, diagrams, outlines, key ideas and relationships, 3-Act Math, fraction strips, paragraph template, concept sorts) ❑ Provide guided information for processing and visualization (interactive models, scaffolds to support processing, chunking information, remove unnecessary information, labeled diagram, math exemplar, multiplication chart, number lines, manipulatives, sticky notes concept sort) ❑ Provide real world, community relevant application of math projects, and science investigations	**Executive Functions** ❑ Guide appropriate goal-setting (scaffolds the goals short-term, middle range, and long-term, problem solving checklist, schedules) ❑ Support planning and strategy development (stop and think, show and explain portfolio, project checklist, sequence or steps, long term goals to short, vision boards) ❑ Facilitate managing information and resources (graphic organizers, templates for data collection and organizing information, categorizing, checklists, anchor charts, KNWS chart or KWL, math exemplar, open notes, science notebooks, T-charts) ❑ Enhance capacity for monitoring progress (reflection, visual representation of progress graphs charts, rubrics, peer feedback, problem solving checklists, task analysis, learning logs)