



Everyday STEAM: Strategies for Your Staff

Here are some possible ways to make STEAM learning an integral part of program routines and activities. Choose strategies that fit your schedule, time, resources and students. You can use multiple strategies at the same time, or different strategies at different times. You don't have to do everything, and you don't have to do it all at once! Over the course of the year, for example, you may move from less intensive to more intensive STEAM programming.

Directions: Assess the strategies and techniques below as readily doable, somewhat complex, or challenging in terms of time, effort and resources. Commit to short- and long-term strategies to increase STEAM opportunities for your students.

	Readily doable	Somewhat complex	Challenging
Increase STEAM Exposure Through Everyday Activities			
Provide simple materials like blocks, boxes, measuring spoons, cups, graph paper, construction paper, scissors, shapes and puzzles.			
Set up activity centers for explorations with varied materials or structured activity kits.			
Use STEAM vocabulary regularly.			
Ask questions to probe for explanations and reasons.			
Talk to school-day teachers about STEAM activities and content.			
Provide measuring materials like scales, rulers, tape measures and thermometers, along with activity ideas and instructions.			
Provide materials like clocks, calendars, maps, charts, graphs, and word games related to weather, times and seasons.			
Provide construction materials like straws, toothpicks, sticks, tape measures, paper, tape, glue, and string, and create challenges for building and making.			
Schedule regular guessing games and mental puzzles.			
Create a "snack committee" to calculate quantities and create nutrition reports, taste surveys, budgets, etc.			
Create a program of field trips to outdoor sites.			
Create program of guest presenters on STEAM-related jobs.			
Schedule visits to libraries, museums and science centers.			
Obtain copies of textbooks and reading materials to keep available.			
Augment library and computer use with STEAM-related books, magazines and websites.			
Other:			





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	Readily doable	Somewhat complex	Challenging
Connect STEAM With School Content			
Set up contacts with students' school-day teachers in subject areas like science, math, technology and the arts.			
Obtain copies of standards or school goals for STEAM content.			
Work with staff to pinpoint standards to target in the program.			
Review program activities and projects for ways to include STEAM objectives based on state or district academic standards.			
Provide school-day teachers with evidence of students' STEAM activities in your 21 st CCLC program.			
Ask teachers to recommend websites, projects, materials and resources.			
Include program staff in STEAM professional development provided by schools.			
Get lists of key vocabulary words, concepts and questions to incorporate.			
Target oral vocabulary development for all, with particular attention to English learners.			
Obtain curriculum, textbooks, and other reading and reference materials used in schools.			
Let school-day teachers know that STEAM homework projects can be supported in your program.			
Attend school STEAM events, such as science fairs, and invite school-day teachers to your STEAM presentations and events.			
Observe what children are working on for STEAM homework, and look for opportunities to discuss STEAM ideas with students and ask for explanations and thoughts.			
Other:			





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Ways to Build STEAM Into Program Routines and Activities

Here are some ideas to consider:

- During snack time, committees can present weather and news reports (including vocabulary, measurement, data presentations, and explanations), conduct surveys, and manage distributions and menus.
- During homework time, students can do hands-on projects to supplement classroom learning, or homework time can begin with mental math contests, puzzles, or guessing games. Homework is also a good time for vocabulary expansion and questioning.
- Physical education can include sports stats, outdoor explorations, counting, and measurement.
- Enrichment time is wide open for a range of exciting options.

Jot down your ideas here:

Snack time	
Homework time	
Physical education	
Enrichment time	
Other	

You can plan to have STEAM activity centers available every day, with one day set aside for more in-depth projects or club time. Or you may have dedicated STEAM activity or project time two or more times per week. The key is to map out times and maximize opportunities to bring in STEAM. Jot down your ideas here, and see the next page for a sample activity schedule.

Monday	Tuesday	Wednesday	Thursday	Friday





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	Snack	Homework Time (for students who finish early)	Enrichment 1-2 times per week	Enrichment 3+ times per week; longer term	Physical Activity
Cooking/Food	<p>Activity: Taste test surveys and reports on preferences</p> <p>Skill: Make, read, and use graphs, charts, and diagrams</p>	<p>Activity: Snack committee meeting (to develop surveys, budget, and create snack menus)</p> <p>Skill: Listen and collaborate respectfully and effectively</p>	<p>Activity: Map local food establishments with student reviews and nutrition information</p> <p>Skill: Use coordinates to show locations on a map or graph</p>	<p>Activity: Plan and work in school garden; work with lunch staff to create healthy snacks</p> <p>Skill: Understand plant life cycles and development</p>	<p>Activity: Calculate calories burned and needed</p> <p>Skill: Add, subtract, multiply, and divide whole numbers, decimals, and fractions</p>
Weather/Seasons/Climate	<p>Activity: Daily student weather reports with predictions and recommendations for activities and clothing</p> <p>Skill: Describe and explain seasons and weather patterns</p>	<p>Activity: Activity center with make-your-own seasonal calendars</p> <p>Skill: Describe and explain seasons and weather patterns</p>	<p>Activity: Map each student's ideal living environment (e.g., features, climate, weather patterns)</p> <p>Skill: Explain the concept of "ecosystem" and the relationship of living things and the environment</p>	<p>Activity: Use Google Earth, Maps, and Sky to explore, research, and report on climate change</p> <p>Skill: Understand environmental change over time and through fast, catastrophic change</p>	<p>Activity: Create charts of activities for different types of weather, based on student surveys and rankings for preferences</p> <p>Skill: Make, read, and use graphs, charts, and diagrams</p>
Building/Engineering	<p>Activity: Number, measurement, and spatial puzzles and guessing games (e.g., How far from A to B? How many M&M's in the jar?)</p> <p>Skill: Calculate mentally, on paper, and with calculators</p>	<p>Activity: Activity center with mazes, puzzles, Sudoku, construction materials (sticks, paper, cardboard, glue, scissors, twine)</p> <p>Skill: Use the process of experimentation to solve problems</p>	<p>Activity: Redesign the afterschool space or do design-build challenges (e.g., tallest tower, strongest bridge, best parachute, furthest-flying paper airplane). Draw designs to scale.</p> <p>Skill: Use innovation to modify an existing product or structure</p>	<p>Activity: Learn about, plan for, and compete in local robotics, building, design, or Lego competitions</p> <p>Skill: Solving complex problems in teams</p>	<p>Activity: Design and build a race, skateboard, aerobic, or obstacle course; hold competitions</p> <p>Skill: Design, test, and build a system or process to meet desired needs within realistic constraints</p>