

All staff should support STEM in the program. Some staff may contribute by using STEM vocabulary and providing everyday STEM activities. Others may be comfortable leading projects; others may have knowledge and expertise they are eager to share.

Discuss with staff what you will be looking for, what they are looking forward to and challenged by, and how and when you and staff can review and discuss.

#### Integrating STEM Checklist and Review

#### **Spark Interest, Expand Horizons**

#### **Do Staff**

- Maximize time in the program to bring in STEM vocabulary, materials, or opportunities
- Create activity centers to facilitate independent exploration
- Listen for and tap into youth interests
- Create opportunities for STEM-centered field trips
- Deliberately use math and science vocabulary (*See: STEM P's and Q's Tool and Training Starter*)
- Provide materials that support math and science concepts and exploration
- Encourage children and youth to make presentations
- Form student committees for STEM activities and projects

#### **Connect with School Content**

- Staff can explain where STEM content is incorporated
- Staff know names and contact information for school teachers, especially science, math, and technology teachers
- Staff communicate with teachers
- Staff are aware of STEM standards and goals for students
- Students use STEM vocabulary
- Students can explain connections with school learning
- Students and staff can explain STEM learning objectives

#### **Dedicate Time**

- Staff blend STEM into the program in different ways
- Program time is dedicated to STEM activities
- Materials are made available
- Staff support student learning during homework time
- Staff allocate the appropriate amount of time for the STEM activity or project
- Staff ensure student attendance and participation in STEM programs





#### **Tap Resources**

- Staff are aware of local resources and expertise
- Staff incorporate parent and family skills and knowledge
- Students are aware of local businesses, institutions, organizations, and universities involved with STEM
- Staff invite experts to present
- Staff utilize STEM activity and project plans from the web or expert sources
- Staff utilize STEM curriculum effectively
- Staff draw upon STEM-skilled volunteers and university partners
- Staff and students plan and sustain STEM career exploration activities
- Students utilize computers for STEM investigations and information





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#### Staff:

Create an engaging STEM learning environment	Strong	OK	Needs work
Motivates youth from outset			
Presents opportunities in engaging way			
Explains and creates opportunities for youth leadership and			
independent work			
Respectful of youth voice			
Facilitates youth expression and creativity			
Ensures inclusivity			
Engages youth in establishing procedures and norms			
Facilitates active learning			
Supports group work			
Supports development of ideas into inquiry activities and projects			
Circulates and checks-in appropriately with youth			
Models STEM vocabulary and demonstrates techniques, provides			
information or guidance when appropriate			
Refers youth to resources			
Facilitates use of outside resources			
Ensures youth understand goals and objectives			
Checks for comprehension			
Creates groups, buddy systems or provides other supports for			
English learners or youth with special needs			
Asks open-ended questions			
Supports self- and peer-reflection and assessment			
Engages other adults			
Works respectfully and effectively with volunteers			
Works respectfully and effectively with STEM experts and partners			
Works respectfully and effectively with parents, families			
Other			
Builds own skills			
Attends trainings			
Participates actively in trainings			
Leads segments or trainings			
Suggests topics for trainings			
Contributes to locating resources			
Participates openly in reviews			
Revises work and seeks feedback			
Provides peer support for others			







#### C¤¥Ÿ® a šaŸY«±°¤Participation **Observation Checklist**

#### **Children and Youth...**

- □ Show eagerness to explore and engage with STEM materials and activities regularly
- □ Ask questions, seek more information or variations
- □ Answer questions and provide explanations about their activities and projects
- □ Persist over time, as age appropriate
- □ Make group and individual presentations willingly
- □ Listen to, watch, or consider presentations and demonstrations respectfully
- □ Actively engage in activity and project planning and development, as appropriate
- □ Offer ideas and comments; participate in or attentive to brainstorming
- □ Attend consistently
- □ Participate in review, feedback, and suggestion sessions with staff and peers
- □ Offer ideas of extensions, revisions
- □ Properly use scientific equipment and materials and respect the safety rules associated with experiments



