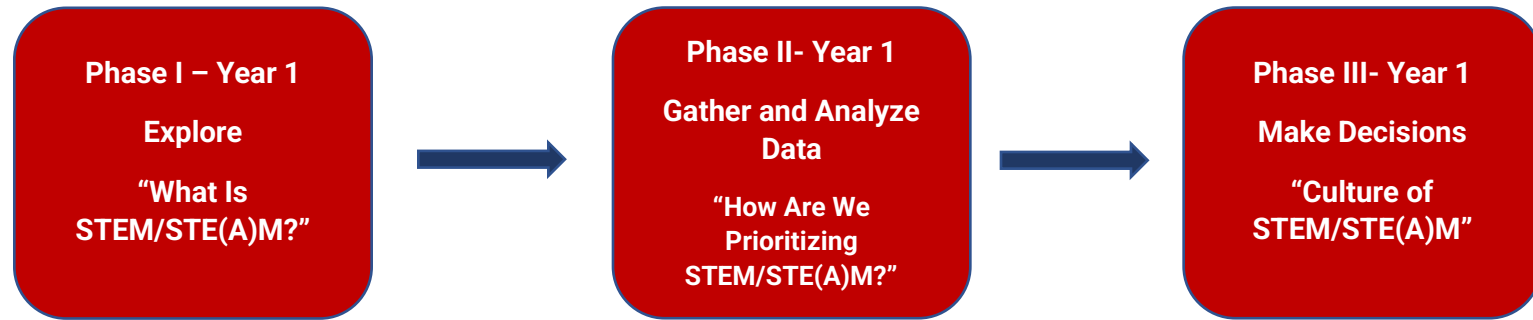


STEM/STE(A)M Needs Assessment 2-Year Plan



- Establish a Leadership Team
- Create a STEM Action and Sustainability Plan
- Identify Concerns
- Determine Measurable Indicators
- Consider Data Sources
- Decide Preliminary Priorities

- Determine Professional Development Needs
- Prioritize Needs
- Identify and Analyze Causes
- Communicate with Stakeholders
- Summarize Findings

- Set Priority Needs
- Identify Possible Solutions
- Select Solution Strategies
- Purpose Action Plan
- Prepare Attribute Evidence
- Futurecast STEM/STE(A)M Initiatives

## Phase I Explore

### Objectives:

1. Develop a sense of commitment for all faculty
2. Create an assurance that the Leadership Team will follow-up with findings with appropriate and timely action

### Step 1: Prepare Leadership Team

- Leadership Team collaborates and engages in dialogue frequently about the STEM action plan's design and effectiveness.
- School leaders provide opportunities for staff members to exhibit responsibility and commitment to the success of the school.
- The staff contributes to and has a say in decisions regarding the school.
- The staff collaborates for continued improvement.

### Step 2: STEM Action and Sustainability Plan

- Create a detailed strategic plan grounded in research and in which actions toward the Tennessee STEM and STE(A)M Attributes are outlined.
- Support for teachers in the transformation of STEM/STE(A)M teaching methods is outlined.
- Developed partnerships with postsecondary institutions and businesses to identify solutions for executing a quality STEM/STE(A)M program.
- The plan supports sustainability and improvement measures regardless of changes in leadership.

### Step 3: Identify Concerns

- Reach a consensus on the desired outcomes and goals of greatest importance to the STEM/STE(A)M initiatives.
- Refine the list of goals to the top 3-5 goals.
- Brainstorm a list of concerns/factors/barriers for each of the goals.

### Step 4: Determine Measurable Indicators

- Identify indicators that could verify that concern/factors/barriers exist

### Step 5: Consider Data Sources

- Determine what kinds of information would be helpful to define the need more clearly and where to get that data from. (Parent/Stakeholder Surveys, etc.)

## Phase II Gather and Analyze Data

### Objectives:

1. Now that STEM/STE(A)M in your building has been established, compare the status of the vision of the “what should be” and determine the magnitude of the needs and the causes.
2. Establish a set of needs statements in tentative order of priority, based on the criticality of the need and its causes.

### Step 1: Determine Professional Development Needs

- Identify professional development needs of the school leadership team that address STEM/STE(A)M education issues that develop concepts of innovative leadership practices.
- Identify professional development based on the needs of the staff and student results.
  - Short-long-term goals of the school are identified
  - Professional learning goals are aligned with the STEM/STE(A)M initiatives and is provided throughout the school year.
  - Professional development addresses integrated content, community/industry partnerships, and connection with post-secondary education, pedagogy, art and design opportunities, and digital learning to develop authentic PBLs that are custom designed to provide relevant learning for the school’s student population by providing opportunities to research challenges within the community.

### Step 2: Prioritize Needs

- List concerns (need areas) in rank order of importance for the school leadership to tackle
- Within each area of concern, separately rank the identified needs.

### Step 3: Identify and Analyze Cause

- Determine general and specific causes of high priority needs of the STEM/STE(A)M initiatives. “*Why does this need persist?*”
- Identify the factors that are amenable to intervention with control of the STEM/STE(A)M initiatives.

### Step 4: Communicate with Stakeholders

- Share needs/concerns with community/industry/postsecondary partners
- Gather feedback and elicit suggestions/support

### Step 5: Summarize Findings

- Summarize and share findings of the STEM/STE(A)M Needs Assessment with your faculty with an explanation of the major causes.

## Phase III Make Decisions

### Objectives:

1. Establish/refine an action plan to use the information found during the STEM/STE(A)M Needs Assessment to close the gaps in areas indicated from the findings.

### Step 1: Set Priority Needs

- Identify the discrepancies between current STEM/STE(A)M implementation and targeted states.
- Pinpoint the causes and contributing factors to the needs.
- Determine the consequences of ignoring the needs and what would/can happen if the specific need is or is not met.
- Additional factors that might affect the efforts to solve the need.

### Step 2: Identify Possible Solutions

- Generate and examine possible solutions to the outcomes of the STEM/STE(A)M Needs Assessment.
  - Review and document research and evaluation data that supports the metrics of each alternative

### Step 3: Purpose Action Plan

- Re-evaluate the STEM Action and Sustainability Plan with the results for the STEM/STE(A)M Needs Assessment findings and include descriptions of solutions, rationale, proposed timelines, and resources needed to enhance the STEM Action and Sustainability Plan.

### Step 4: Prepare Attribute Evidence

- Using the Tennessee STEM/STE(A)M School Designation Rubric – gather evidence in support of each attribute identified in the rubric.
- Determine a school-wide method of collecting evidence.
- Establish norms and expectations of gathering evidence at each grade level.

### Step 5: Futurecast STEM/STE(A)M Initiatives

- Based off the results of the STEM/STE(A)M Needs Assessment and the newly revised STEM Action and Sustainability Plan, create goals for future STEM/STE(A)M implementation and growth.