

STEAM

Supporting STEAM



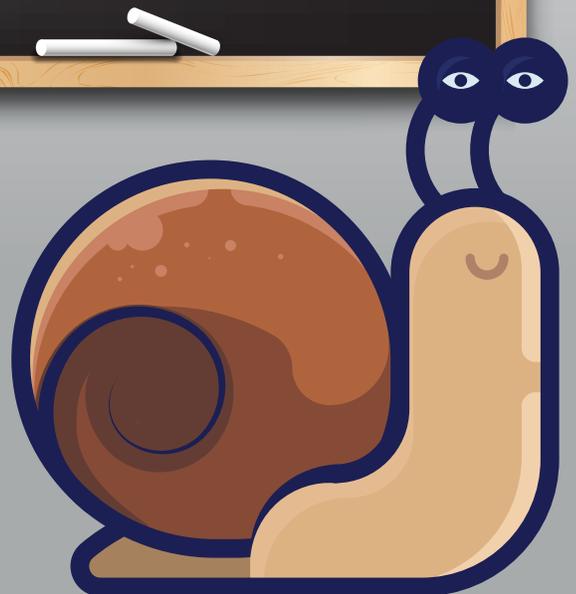
Teacher Time

Use with Teacher Time Webinars

This booklet includes resources for supervisors and coaches to support education staff in planning for and reflecting on STEAM teaching practices. Use these resources to guide observations of staff as they model and promote STEAM learning.



Teacher Time



STEAM



15-Minute
In-Service Suites
STEAM

TOOLS FOR SUPERVISORS

REFLECTION & FEEDBACK

Use the following questions and tips to guide staffs' reflection and planning of STEAM practices.

ENGAGING ENVIRONMENTS

FOR CENTER-BASED OR GROUP CARE SUPERVISORS:	FOR HOME-BASED SUPERVISORS:
<ul style="list-style-type: none"> What open-ended materials do you have indoors or outdoors that allow for creativity and problem solving? For example, blocks, ramps, tubes, or boxes. What materials can you add to expand children's explorations, based on their current interests? How can you use the outdoors to engage children in explorations of natural or living objects (plants, insects, rocks)? Even an asphalt playground offers opportunities (finding and examining cement/asphalt rocks), along with walks around the neighborhood. What objects, books, or tools (such as magnifying glasses) can you add to your environment? 	<ul style="list-style-type: none"> How do you encourage families to use materials in the home to encourage their child's creativity and problem solving? How are you supporting families as they identify and use safe outdoor spaces at home and in their neighborhood? What household materials can you suggest to families?

Tip: Children can use any material to explore STEAM. It doesn't have to be a typical "science" material like a beaker or test tube. The world is your science lab.

NURTURING, RESPONSIVE, & EFFECTIVE INTERACTIONS

FOR CENTER-BASED OR GROUP CARE SUPERVISORS:	FOR HOME-BASED SUPERVISORS:
<ul style="list-style-type: none"> What STEAM words (e.g., observe, predict, test) do you use with children? What new words do you think you can introduce to children? Think about a moment when children were engaged with materials. What did you do? How did you expand their thinking? What worked? Think of a time a child had a question that you did not know the answer to. What did you do? Is there anything you could have done differently to figure out the answer together? How are you encouraging families to find out answers to their child's questions together? How do you work to create a culture of inquiry with children? Do you communicate and interact with them in a way that encourages and supports curiosity? Do children feel safe exploring and telling you about things they have observed or discovered? 	<ul style="list-style-type: none"> How can you share STEAM words with families and, as needed, build their comfort level in using them during play with their child and during daily routines like bath time, cooking, and cleaning? Reflect on a home visit where you watched a parent have a STEAM conversation with their child. How did you encourage and build on the parent's interaction? How do you build confidence in the parents you work with so that they feel comfortable promoting inquiry in their child?

Tip: You don't have to be the expert or have all the answers. In fact, research shows that it's better for children's learning if you explore with them or let them lead in the exploration! Activities should encourage exploration and curiosity rather than gathering facts.

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PLANNED LEARNING EXPERIENCES / ACTIVITIES

FOR CENTER-BASED OR GROUP CARE SUPERVISORS:	FOR HOME-BASED SUPERVISORS:
<ul style="list-style-type: none"> ▪ How do you use everyday experiences to promote STEAM language and skills? (e.g., morning circle time, story time, lunch, playground time...) ▪ Think about your current curriculum unit, theme or topic of interest (e.g., animals, community, rolling objects, healthy food, all about me). <ul style="list-style-type: none"> ▪ How do you invite children to share what they already know about this topic? ▪ How do you give them opportunities to ask questions related to this topic? ▪ How do you encourage children to observe and investigate questions related to this topic? ▪ What vocabulary do you plan to introduce to children as part of this investigation? ▪ What concepts do you want them to learn during the inquiry? 	<ul style="list-style-type: none"> ▪ How do you help families use STEAM language in family routines and daily events? ▪ How does your current home-based curriculum build in opportunities for STEAM with families? How can you enhance these activities during socializations?

Tip: Ask families what ideas or knowledge are important to their family or culture and plan activities to explore them more. Provide families with an activity guide to continue their child’s engagement and interest in the activity at home.

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TOOLS FOR SUPERVISORS

TOOLS FOR SUPERVISORS IN CENTER-BASED CARE GROUP SETTING OBSERVATIONS

Directions: Use this tool as a checklist to guide your observations of the staff's ability to model and promote a STEAM mindset. Share your observations with staff and discuss current strengths and areas for improvement. If there are many areas for improvement, prioritize recommendations. Keep the focus on making progress, even if it's gradual.

Teacher: _____ Supervisor/Coach: _____ Date: _____

THE TEACHER SHOWS A STEAM MINDSET BY	OBSERVED EXAMPLES	RECOMMENDATIONS
<p>Encouraging Children's Explorations</p> <ul style="list-style-type: none"> ▪ Providing children with diverse, open-ended materials ▪ Designing activities based on children's interests and explorations ▪ Letting children take the lead and looking for answers to their questions together ▪ Bringing STEAM into the outdoor environment 		
<p>Modeling Curiosity and a Sense of Wonder</p> <ul style="list-style-type: none"> ▪ Asking open-ended questions ▪ Encouraging children to ask questions and actively listening to what they are curious about ▪ Providing children with time to investigate and figure things out 		

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THE TEACHER SHOWS A STEAM MINDSET BY	OBSERVED EXAMPLES	RECOMMENDATIONS
<p>Speaking STEAM</p> <ul style="list-style-type: none"> ▪ Providing meaningful opportunities for children to hear and use scientific language ▪ Using key vocabulary words (e.g., observe, predict, experiment) to encourage STEAM thinking and skills ▪ Describing objects or events a child is observing or exploring <p>Modeling STEAM Skills</p> <ul style="list-style-type: none"> ▪ Commenting on what children are observing and asking them questions about their observations ▪ Asking children to make predictions about what they think will happen ▪ Asking children to compare and contrast objects and outcomes ▪ Documenting what children observed during their explorations in developmentally appropriate ways 		

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THE TEACHER SHOWS A STEAM MINDSET BY

Encouraging Critical Reflection

- Inviting children to describe what they observed
- Allowing children to discuss what they learned from their explorations
- Asking children to think about what they want to investigate next based on their findings

OBSERVED EXAMPLES

RECOMMENDATIONS

STEAM

NOTES

Handwriting practice area consisting of multiple horizontal dashed lines for writing notes.

STEAM

NOTES

A series of horizontal dashed lines for taking notes.





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