

## Professional Development Situation: Coaching

### Skill Focus: Enabling Active STEM Learning

Time Required: 15 minutes

# DEVELOPING SKILLS NEEDED FOR ACTIVE STEM LEARNING

Participants will reflect on their facilitation to learn to get youth actively engaged in STEM learning.

## Agenda

Reflecting on Your Practice—5 minutes

- [Embracing Active STEM Learning Self-Reflection](#)

See the Skill in Action— 5 minutes

- [Designing a Grape Smasher](#) video-based learning module

Setting Goals— 5 minutes

## Materials

- Computer with internet connection
- Projector and speakers
- [Designing a Grape Smasher](#) video-based learning module
- [SMART Goals Action Plan](#)
  - If conducting this session virtually, be sure the participant has access to these as well.

## Before the Session

- **Read this coaching guide** to become familiar with the content and allow time to personalize the activities to best suit your presentation style.
  - *Italics indicate text can be read aloud or emailed to the participant.*
- Send an email to the participant being coached:

- *Our coaching session is scheduled for DATE at TIME. We will focus on “Enabling Active STEM Learning”. Please feel free to contact me with your questions or concerns at CONTACT INFORMATION.*
- Gather all materials needed for the coaching session.

## During the Session

### Reflect on Your Skills (5 min)

- Pass out the [Embracing Active STEM Learning Self-Reflection](#). Give the participant time to complete it. Answer questions that they have about active learning.
- Optional: Have the participant complete this document before the meeting.

### See the Skill in Action (5 min)

- Share the [Designing a Grape Smasher](#) video-based learning module.
  - Stop the second video (step 3) to talk about the adult’s question (“What do you notice?”) at **1:14-1:31**
- Ask the participant:
  - *What question did the adult ask?*
  - *How many children responded?*
  - *Does this question encourage active learning? Why or why not?*
- After you finish watching the video, ask the participant to think about what youth were actively doing to learn STEM.
  - *Who was doing most of the talking?*
  - *Who got to use the materials?*
  - *How much time was allowed to learn?*
- The participant will now use the self-reflection and this video conversation to set specific goals for using active learning strategies such as engaging youth in engineering design of a machine to smash grapes.

### Setting Goals (5 min)

- Make a SMART goal with the participant that will help them engage youth in more active learning opportunities in the near future. Use the [SMART Goals Action Plan](#).
- Remember that SMART Goals should be:
  - Specific – It is clear what you are trying to accomplish (what do we care about?)
  - Measurable – You will know when you’ve accomplished your goal
  - Achievable – You can do this because the goal is not too big or too small

- Relevant – The goal relates to this skill and what you do in your program
- Timely – The goal can be accomplished this month

## After the Session

- Follow up with your participant to see how they are progressing on their action plan. Try to be supportive and helpful, not evaluative.

Want to Earn Credit? Click2Science has teamed up with Better Kid Care to provide continuing education units. Check it out at: <http://www.click2sciencepd.org/web-lessons/about>

## Enabling Active STEM Learning Self-Reflection

Consider each of the statements below. Circle the number that best describes you. There are no right or wrong/good or bad responses.

1= not at all true 3=somewhat true 5= very true

1 2 3 4 5 I am comfortable with “messy” activities that engage youth.

1 2 3 4 5 I am comfortable giving up my own timeline in to prioritize youth understanding.

1 2 3 4 5 I know how to recognize children’s expressions of curiosity and how to support them.

1 2 3 4 5 I know how to recognize the ways children make sense of things

1 2 3 4 5 I believe that youth should have multiple chances to express their ideas in active ways like talking, reading, drawing, writing, and building.

1 2 3 4 5 I am comfortable supporting youth to engage with talking, reading, drawing, writing, and building.

1 2 3 4 5 I want youth to explore materials and direct their learning based on phenomena they encounter.

1 2 3 4 5 I believe adults and children together should determine the direction of the exploration.

1 2 3 4 5 I have enough strategies to support youth who aren’t engaged in activities.

1 2 3 4 5 I am comfortable guiding discussions that get all youth involved.

1 2 3 4 5 I have enough strategies to get youth to talk with their partners about their ideas.

1 2 3 4 5 I think children should have a lot of different resources to explore ideas.

1 2 3 4 5 I have enough strategies to recognize when an activity might be too passive.

1 2 3 4 5 I am comfortable converting passive activities to active ones.

# SMART Goals Action Plan

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

Concept/Problem Statement:

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Goal Statement:

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Specific: What specific action will you take?

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Measurable: How will you measure the results?

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Attainable: What will be different?

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Relevant: The goal relates to this skill and what you do in your program

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Timeframe: The goal can be accomplished this month

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