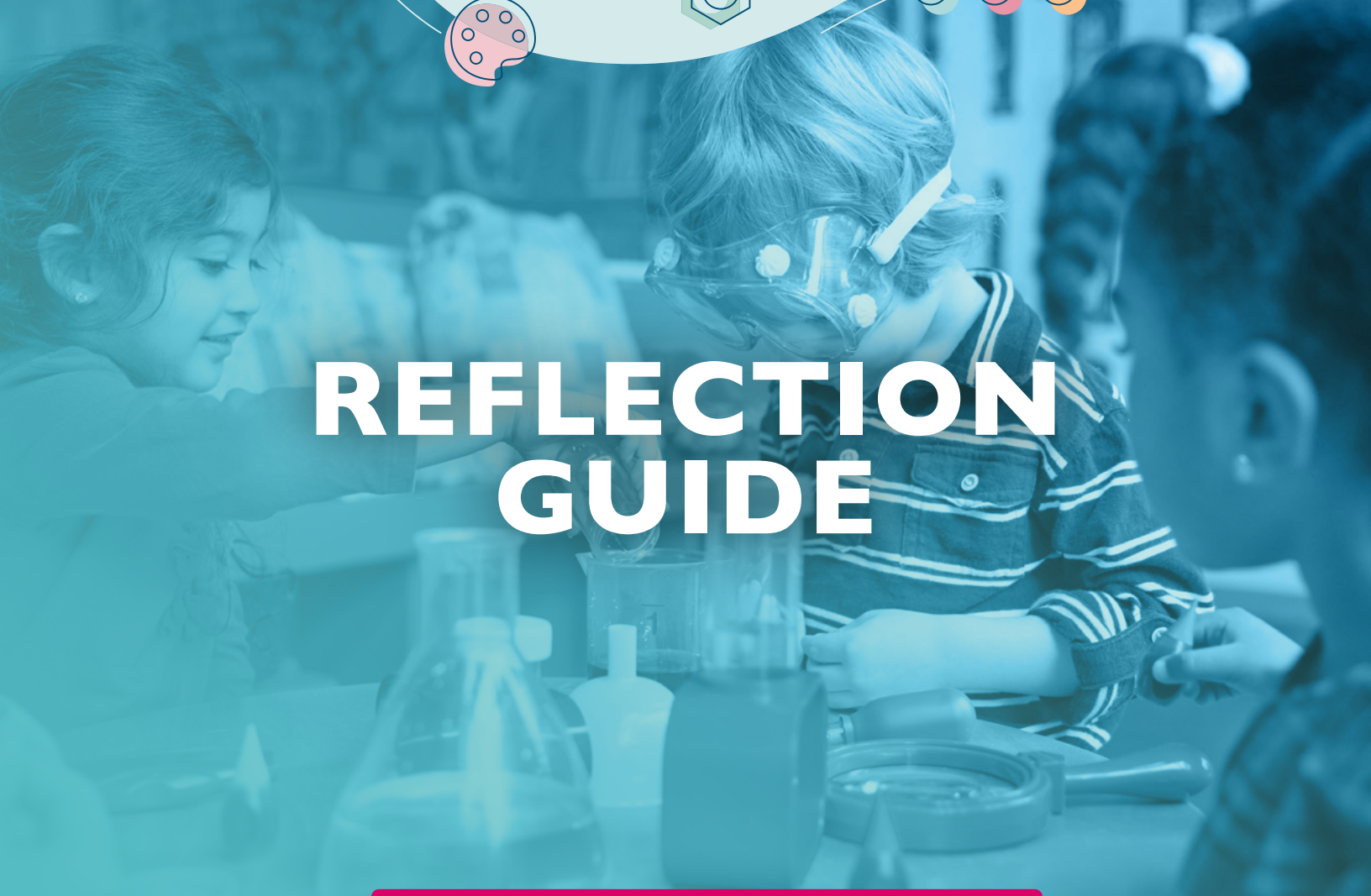


# interPLAY



## REFLECTION GUIDE

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This Reflection Guide is a tool in the Interplay toolkit that also includes a framework of constructs, or a way of organizing ideas, for classifying exhibits that consider opportunities for both play and engaging with STEM phenomena, called the *Interplay Framework*. The toolkit also includes a *Play-Based STEM Exhibit Engagement Observation Tool* for use by teams to document and evaluate opportunities for play and STEM at specific exhibits, with an accompanying concrete example to demonstrate how to use the tool. This *Reflection Guide* is designed to support you and your team after using the observation tool to guide a reflective discussion on the observed play-based STEM experiences at a specific exhibit for young children ages 3-8 years old.

## PREPARATION

In preparation for using this reflective guide, each member of the team will need to:

- Review the ideas in the Interplay Framework;
- Collect observation data using the Play-Based STEM Exhibit Engagement Observation Tool at a specific, designated exhibit;
- If the exhibit you observed has a learning framework or learning goals, everyone should review these;
- Establish goals for this reflective discussion. This is likely the why behind using the toolkit. For example, the team may be curious about STEM practices children are engaging in at a specific exhibit, or maybe your institution is applying for a grant and needs data to support the proposal, or maybe the team is interested in supporting specific behaviors or STEM practices.

## CENTERING PLAY-BASED STEM ENGAGEMENT

Next, you will reflect and discuss what the children and adults did at the exhibits and how this aligned with the goals or learning framework for the exhibit. The sections below follow the same sequence as the Play-Based STEM Exhibit Engagement Observation Tool. Within each section, there are multiple prompts, but as a team, you may want to focus on 2-3 prompts from each section to discuss based on the observation data and established goals.

### What are children doing at the exhibit?

#### STEM PHENOMENON

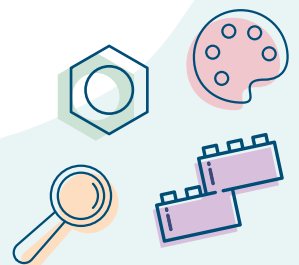
- Did everyone name or describe the same STEM phenomenon?
- Are children learning about a specific topic at the exhibit (*i.e., a dinosaur exhibit with life-sized replicas and information about diet and habitat*) OR are children exploring why or how something happens (*i.e., using a variety of objects to explore grinding, tearing, or crushing*)
- How does the designed for play activity (*i.e., object or game play*) provide the context for children to experience or observe a STEM phenomenon?
- How are the goals or learning framework for the exhibit and the play-based STEM engagement aligned?

#### PLAY ACTIVITIES

- How would you describe the play activities?
- What is the structure of the STEM-embedded play?

OBJECT PLAY, LOW STRUCTURE  GAME PLAY, HIGH STRUCTURE

- Was the child able to initiate the exploration of the play-based STEM phenomenon or was adult guidance needed?
  - How would less structure (*i.e., child initiates and/or directs more of the play*) influence the experience?
  - How would more structure (*i.e., child initiates and/or directs less*) influence the experience?
- How many different play activities (*i.e., object, game, kinesthetic, sensory, or imaginative*) were observed?
- How did other play activities facilitate exploration of the STEM phenomenon and align with the goals or learning framework for the exhibit?



**What is the social context of the play?**

- How would you describe the joint play with other children? With adults? With both?
- How did joint play influence the play-based STEM engagement?
- How did observing others as an onlooker influence the play-based STEM engagement? What did the child do after watching others engage?
- How did playing alongside someone else during parallel play influence the play-based STEM engagement?
- How did the observed social context align with the goals or learning framework for the exhibit?

**What are adults doing?**

- What happened when adults supported the play-based STEM engagement?
- What happened when adults modeled how to engage with the play-based STEM phenomenon using STEM practices?
- What happened when adults provided inquiry prompts to guide the play-based STEM engagement?
- What happened when adults directed the play-based STEM engagement?
- What happened when adults explained what was happening during the play-based STEM engagement?
- How did the adult's guidance with the STEM phenomenon align with the goals or learning framework for the exhibit?

**What STEM practices are being practiced?**

- How did you know that children were using their observation or experience with a STEM phenomenon? How did the children apply their observations or experiences?
- What did systematically testing variables look like at this exhibit?
- How did children problem-solve and design solutions?
- How did children revise how they were exploring the play-based STEM engagement based on their observations or experiences?
- How did the children use evidence to suggest a solution or make a claim?
- How did you observe the communication of STEM and what was communicated?
- What questions did the children ask about the STEM phenomenon?
- What predictions were the children observed making?
- How did play activities influence the use of STEM practices? How did the social context influence the use of STEM practices? How did the guidance of adults influence the use of STEM practices?
- How did the observed STEM practices align with the goals or learning framework for the exhibit?

**Next Steps**

- How could you further influence the play-based STEM engagement at this exhibit based on what was observed, reflected on, and discussed?
- What changes should the team consider? Do these changes involve changes to the exhibit, the space surrounding the exhibit, facilitation strategies, or perhaps something else?
- What about play-based STEM engagement that as a team you could further explore?
- How will you integrate this into your practice?
- As a team how can you prioritize the next steps and develop an action plan?

