MAPPING SYSTEMS EXPERIENCES

LOOKING CLOSELY AND EXPLORING COMPLEXITY

This tool guides young learners to look closely at a system and explore its complexity by directly experiencing the system and reflecting on that experience. This is particularly helpful when working with very young students who may struggle to conceptualize a complex system without direct experience. In addition, this tool provides suggestions for making student thinking visible by encouraging students to share their ideas and learn from each other.

1. Choose a System

Guide students in choosing a system that they are already familiar with, such as:

a classroom object (a clock, a ball point pen, a board game, etc.)
a classroom system

(an arrival or dismissal routine, a lunch time routine, classroom roles and responsibilities, etc.)

a community system (a local transportation system, checking out books at the library, grocery shopping, etc.)

2. Experience the System

Have students directly experience the system. This could take the form of a looking closely activity, a take apart activity, and/or a field trip if the system is located outside of the learning environment. As students experience the system, encourage them to look closely at how it works. Have students document what they notice using tools such as drawing paper and pencils, audio recorders, and/or cameras.

For example, if students are exploring a clock as a system, they might take photographs of the clock as they take it apart. If students are exploring the local subway system, they might visit the subway station and describe their journey through the station and onto a subway car by using an audio recorder.

3. Remember and Document the System

Give students time to document what they remember about their experience of the system. Students might individually draw pictures of all of the parts of the system they remember, or you might hold a group discussion in which you scribe student ideas on a class chart.

Prompt students to remember what they did first, what happened next, and what they noticed at each stage of their experience. Encourage students to revisit any drawings, photos, or recordings they made as they experienced the system to help them remember the many parts and processes involved.

4. Map the System

Have students make a visual representation of the system that highlights the parts, people, and interactions involved. Students might draw a picture that shows an interaction between some of the parts and people in the system, make a booklet detailing a journey through the system, and/or reconstruct their experience of the system through role play.

Encourage students to work together, as this will give students the opportunity to learn from each other and contribute to each other's understanding of the system.

5. Reflect on the System

Use one or more of the Agency *by* Design tools to guide students to think more carefully and critically about the system:

Parts, Purposes, Complexities—Use this tool to explore the parts of a system, their purposes, and how they interact.

Parts, People, Interactions—Use this tool to explore how people interact with the various parts of a system.

Think, Feel, Care—Use this tool to explore the thoughts, feelings, and motivations of people within the system.

Imagine If…—Use this tool to consider ways to improve the system.