



Learners develop initial understanding through hands-on exploration. While the educator generally has long-term objectives for what students will come to understand, short-term outcomes and paths may be different for individuals or groups of learners. Educators support learners by defining the materials students will tinker with, but how students use the materials, and therefore what they discover, is open. As learners make discoveries and share them with the group, they build understanding of the concepts.

STRUCTURES AND SCAFFOLDS

- Approach invites open-ended exploration of specific materials and/or phenomena
- Learners set in-the-moment goals
- Educator defines long-term learning goals
- Learners decide how they will use available tools and materials
- Learners make their own meaning out of the experience
- Learners follow different paths
- Learners reflect on their process as well as their learning

PROGRESSIONS AND SEQUENCES OF LEARNING

- Introduces new content
- Learners build on understanding through ongoing explanation

TOOLS AND MATERIALS OF MAKING

- Curate tools and materials
- Limit tools and materials to help focus discoveries
- Offer a diversity of materials to multiply pathways of discovery

LOOKING FOR SIGNS OF LEARNING

- Support your learners to document their own discoveries (e.g., ask them to write down and share with their peers)
- Use discoveries your learners make to inform where you will go next with them
- Learners reflect on learning goals

FACILITATION

When you circulate around the room during an activity:

- Allow for a variety of outcomes and discoveries
- Ask open-ended questions
- Celebrate curiosity and discovery
- Don't correct misconceptions in the moment
- Offer alternative prompts or new definitions that allow learners to uncover or contradict misconceptions
- Don't front-load vocabulary

As you probe for your learners' understanding:

- Have learners document discoveries for everyone to see
- Ask learners to explain their thinking (e.g., "What makes you say that?")