

Thinking with Materials

Use this tool to expand children's thinking about a key concept or question.

Step 1

Identify a [big question](#), idea, or problem you would like children to think about more deeply.

Step 2

Pick a material with which children are already familiar. Choose the material based on qualities that are likely to support children's thinking. (If your class has not yet explored the material, use [What Can this Material Do?](#) first.)

Step 3

Decide whether to ask children to work independently or in pairs or small groups. Revisit your learning goals. Do you want to give each child personal thinking time, or set up small-group conversations to support the development of theories, questions, and perspective-taking, or a combination?

Step 4

Consider the aesthetic experience. Present the materials in a way that will engage children's curiosity, emotions, and intellect. Step back and consider what feels pleasing to you and to others. Create a clear work space for each experience with materials. Post the question, idea, or problem nearby.

Step 5

Observe and record key aspects of children's thinking, theories, and inventions through writing, photos, or audio or video-recording. Use this documentation of children's meaning-making to record connections children are identifying, to consider next steps, and to determine what might be brought to the whole group to deepen or extend children's thinking.

Step 6

Ask children to reflect on their thinking, discoveries, and questions. Tools like the [Gallery Walk](#) and [Artist Statements](#) can also support children's reflection.

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Children need opportunities to use materials to catalyze and extend their thinking and to make it visible.

Inventors explore, tinker, and make meaning with physical materials and abstract ideas. Giving children access to a range of materials invites them to represent, develop, and embody their thinking, making it visible to themselves and others. Providing a variety of materials welcomes the imagination and opens the door to serendipity. It expands both children's methods of investigation and ways to communicate what they have learned.



Suggested Time Frame

45 minutes - 1 hour
(can extend over a period of days)

When and How

Ask yourself how materials might be included in the curriculum to inspire inventiveness on a regular — even daily — basis.

Tips and Variations

Recommended resources for supporting the use of materials in early childhood classrooms include:

- *Beautiful Stuff!: Learning with Found Materials* (Topal & Gandini, 1999)
- *Designs for Living and Learning: Transforming Early Childhood Environments* (Curtis & Carter, 2003)
- *In the Spirit of the Studio: Learning from the Atelier of Reggio Emilia* (2nd Ed.) (Gandini et al., 2015)
- *The Language of Art: Inquiry-based Studio Practices in Early Childhood Classrooms* (Pelo, 2007)

Reflect on the experience with your colleagues. As soon as possible, review your documentation with your teaching team to analyze children's thinking and identify next steps. Discuss the following questions:

- What do you see or hear?
- What does it make you think?
- What does it make you wonder?
- What are the children wondering?
- What connections are children making?
- What can you offer next to deepen or extend children's thinking?
- How can children's work be brought to the whole group in a way that supports every child's thinking?

Consider asking children a new question using the same material, or pose the same question using a different material.

For video examples and reflections on practices that inspire inventiveness, become an Opal School Online Sustaining Member at learning.opalschool.org.

