



Get Ready to Teach Science!



Science Talk and Young Children

What is science talk and why is it important?

“Science talk” is conversation that allows children to develop, share, debate, and revise their ideas about scientific phenomena. These discussions can take place one-on-one or in groups, and can involve the teacher or happen only among the children. By engaging in science talk, children explain their thinking, as well as listen to, respond to, and build on the ideas of others—all practices that real scientists do every day.

Having children share prior experiences and existing ideas can help set the stage for productive science talk. With your support and modeling, children can learn to express their ideas clearly, listen to each other, and build on each other’s ideas.

Young children are ready and able to participate in scientific discussions, and those discussions provide a critical way for children to learn about the world around them and prepare them for future science learning. Science discussions also help build young children’s vocabulary and communication skills.

Encouraging science talk in your classroom is a great way to help children build on their natural curiosity and interests, which can lead to improved science learning. The following section describes strategies you can use to help children do this and to promote rich science talk in your classroom.



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How can you promote science talk in your classroom?

Below are strategies to model and encourage children to use. Examples are included to help you foster meaningful science talk in your classroom during conversations with your children. The five core strategies promote thinking, sharing, listening, and responding during science discussions. You can use these strategies during whole-group, small-group, or partner-based activities and discussions.

Strategy 1: Share, expand and clarify ideas

- Invite children to take a moment to think quietly and reflect on their own ideas.
- Invite children to share and discuss ideas with a peer or with you.
- Ask children to expand by explaining their ideas or saying more.
 - *“What do you mean when you say (insert child’s comment)?”*
 - *“Can you give an example of (insert child’s comment)?”*
- Rephrase what children say and invite them to clarify their ideas.
 - *“So, are you saying (rephrase what the child said)?”* Leave time for the child to agree or disagree.
“Can you use other words to explain that?”

Strategy 2: Provide explanations

- Ask children for evidence or reasoning to support an idea.
 - *“Why do you think (restate child’s observation)?”*
 - *“How do you know (restate child’s comment)?”*
- Challenge an idea or suggest a counterexample.
 - *“Does it always work that way?”*
 - *“Can you think of an example where it may not work this way?”*
 - If a child shares a misconception, such as “all plants grow to be the same size,” you might challenge the idea by pointing to different-sized plants in the room and asking, *“Why do you think some of the plants that we’ve grown are bigger than others?”*



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How can you promote science talk in your classroom? (continued)

Strategy 3: Listen carefully to one another

- Prepare children to engage in group conversations.
 - *“Let’s listen to what Regan has to say.”*
 - *“I think Danae has an idea. Let’s listen carefully.”*
- Model careful listening by rephrasing what a child just said.
 - *“Did you hear Sonya’s idea? She said (restate child’s comment).”*
- Ask children to rephrase or repeat what a peer said.
 - *“Can you tell us what you think Maria just said, but use your own words to explain?”*

Strategy 4: Evaluate or expand on peers’ ideas

- Ask children to explain or add on to someone’s idea.
 - *“Who wants to add something to Simon’s idea?”*
 - *“What else happened?”*
- Ask children if they agree or disagree, and why.
 - *“What do you think about what Daniela said? Do you think that will happen?”*
 - *“Does anyone have a different idea?”*



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How can you promote science talk in your classroom? (continued)

Strategy 5: Introduce, describe, and use science vocabulary

- Model for the children how to use vocabulary associated with science practices. Connect new words to familiar words.
 - *“Who would like to share an ‘observation?’ Who can share what the apple looks like and feels like?”*
 - *“How can we ‘investigate’ to find out?”*
- Model for the children how to use vocabulary associated with science concepts. Connect new words to familiar words.
 - *“Can someone tell me what a ‘root’ is?”*
 - *“What do you think it means when I say that the ball ‘accelerates’ as it goes down the slide?”*

Throughout discussions and classroom activities, it will be important for you to model the use of these science talk strategies, such as by listening and responding to children’s ideas, building on those ideas, and using science vocabulary in natural ways. Children watch you carefully and will pick up on the example you set.