

STEPS TOWARD DISCUSSION

Types of Science Discussions

- **Direct Engagement with Nature**
 - Using observations and making explanations based on evidence.
- **Environmental Issues**
 - Discussing choices about human impacts and policy.
- **Conceptual Development**
 - Building a better understanding of specific science concepts.

A Productive Discussion Requires:

- a worthy topic.
- learners to
 - elaborate and clarify thinking.
 - support ideas with examples.
 - build on and/or challenge another's ideas.
 - connect different ideas or apply an idea to a new situation.
- a conclusion that paraphrases or summarizes what's been discussed and/or learned and offers a chance for reflection.

Practice Makes Experts

"Not all practice makes perfect. You need a particular kind of practice—*deliberate practice*—to develop expertise. When most people practice, they focus on the things they already know how to do. Deliberate practice is different. It entails considerable, specific, and sustained efforts to do something you can't do well—or even at all. **Research across domains shows that it is only by working at what you can't do that you turn into the expert you want to become.**"

Ericsson, K. A., Prietula, M., & Cokely, E. (2006). The Making of an Expert. *Harvard Business Review*, July–August 2007.

