

# A view of science

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*Coherent: Holding together, meaningfully connected and consistent*

*Mechanistic: Based on reliable, familiar causes-and-effects*

# A view of science

- *A pursuit: Of coherent, mechanistic accounts of natural phenomena.*
- *A body of knowledge: The accounts that have resulted from that pursuit!*
  - *The canon of accepted understandings, and*
  - *gaps and questions those understandings raise.*

# Two well established findings

1. Children have extensive intellectual resources for learning science.

(Duschl *et al*, 2007; many many studies!)

2. High school and college students typically treat science as information to memorize.

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Why the second, given the first?

# A likely conjecture

We assess ideas, and teach students to assess ideas **for alignment with the canon** — the results of *scientists'* inquiries — rather than by **the ideas' merits *within the students' inquiries.***

# We need to change...

We need to assess students' ideas — and teach them to assess their ideas — in ways that **build toward how scientists assess ideas.**

And that means a kind of *caring* about students as nascent scientists.