Developing a high quality, equitable district-wide science program for supporting NGSS

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Agenda

- Who's in the room?
- California NGSS Timeline
- Implementation of NGSS - Guidance on Successful Implementation

Talk with a partner and identify one question about NGSS implementation you would like to learn more about in this session.

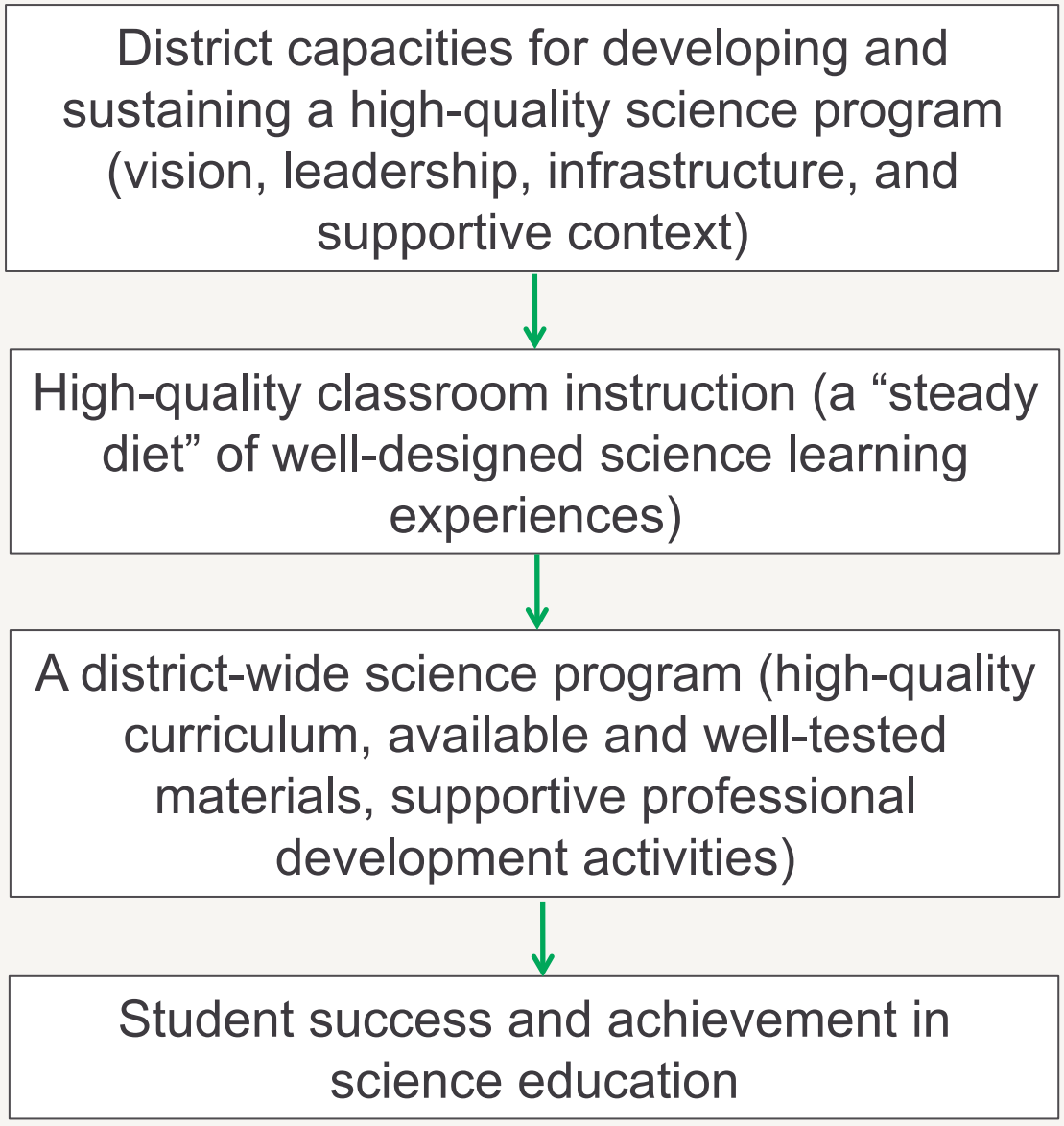
California NGSS Timeline

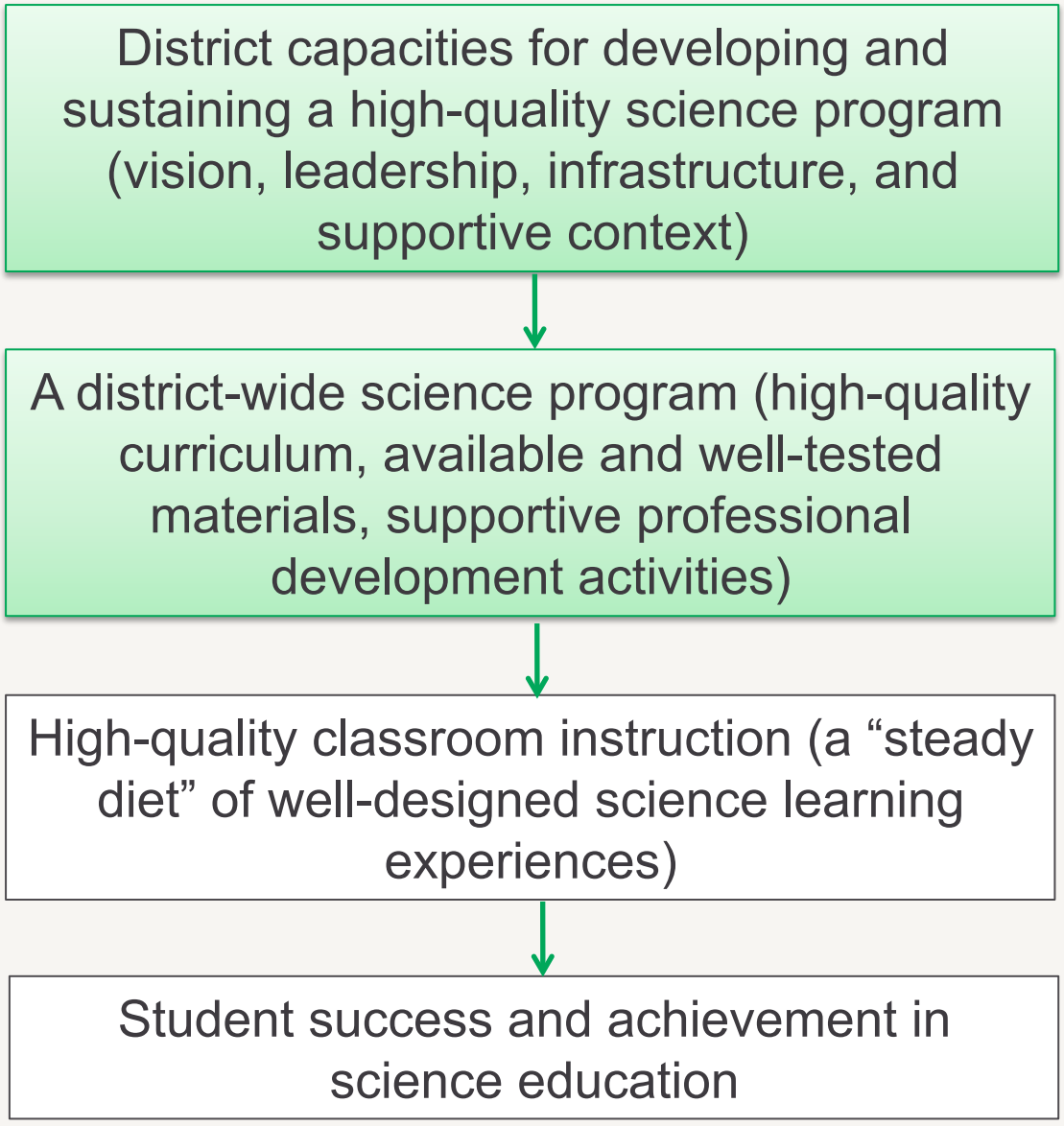
CA NGSS Assessment Timeline:

- 2013: State Adoption of NGSS
- 2015-2016: Assessment Development
- 2016-2017: Pilot test
- 2017-2018: Field test
- 2018-2019: Statewide implementation

Where are you now in NGSS implementation?

Implementation of NGSS – Guidance on Successful Implementation


District capacities for developing and sustaining a high-quality science program (vision, leadership, infrastructure, and supportive context)
High-quality classroom instruction (a “steady diet” of well-designed science learning experiences)
A district-wide science program (high-quality curriculum, available and well-tested materials, supportive professional development activities)
Student success and achievement in science education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TOOLS

District Science Plan

Goals, action steps, leaders, and short-term, intermediate and long-term outcomes.

Elementary Science Overview

Explicit message about the convergence of NGSS and Common Core.

Science Site Plan

Principal-led, individual action plans and 3yr goals unique to the context and community of the site.

Science & Literacy Newsletter

Science, ELA, ELD leader collaboration and common message to teachers.

Science Vision

What we hope to accomplish and what we mean when we say it.

Middle School Transition Plan

Content, curriculum, and grade levels over three years.

Key Capacities to Support Science/NGSS

- Vision & Knowledge of Classroom Realities
- Leadership
- Instructional Improvement Capacities:
  - Curriculum and Instructional Materials
  - Professional Learning
- District Policies, Priorities, and Communication
- Supportive Context

Capacity Building to Support Science

- **Vision**
  - Developing K-8 and/or K-12 science visions

"All students have meaningful, regular access to high quality science, that develops their STEM (science, technology, engineering, and math) literacy and enduring scientific habits of mind through engagement in scientific and engineering practices that build their capacity to be successful in the highest level of secondary science courses."

Capacity Building to Support Science

- **Knowledge of Classroom Realities**
  - Develop site-based and district-wide assessments to measure realities
  - Provide programmatic evaluation data as feedback to district leaders and science leadership teams - to make data-driven decisions for supporting science.

Capacity Building to Support Science

- **Leadership**
  - District Science Leadership Team (Superintendent, Assistant Superintendent, Science Coordinator, School Board member, site leaders, teacher leaders, etc.)
  - K-12 Science Committees tasked with defining processes and plans for addressing and beginning district-wide implementation of *NGSS.*

Capacity Building to Support Science

- **Curriculum and Instructional Materials**
  - Planning, selecting, and managing instructional materials
  - Selection of *NGSS*-supportive materials.

Capacity Building to Support Science

- **Professional Learning**
  - Various levels of professional learning to multiple tiers of leaders (e.g., teacher leaders, district and site leaders, principals, master teachers, and comprehensively to all teachers within a district)

Capacity Building to Support Science

- **Supportive Context**
  - Building school board support via presentations and encourage incorporation of school board members on the district science leadership team.
  - Create clear communication lines with stakeholders (e.g., parent information nights about *NGSS*, district plans and actions to support this implementation)

Capacity Building to Support Science

- **District Policies, Priorities, and Communication**
  - District LCAP
  - Course Model & Pathway Decisions
  - District science assessment policies
  - Integration with other district programs and initiatives
  - Proactive stance to barriers
  - Newsletters

Implementation of NGSS: Discussion

- How is Science/NGSS implementation currently addressed in your district?
- Was there a starting place? How was it identified?

Vision & Reality – Pitfalls to Avoid

- Lack of communication of the vision
- Expecting instruction to change “overnight”
- Expecting teachers to do it alone
- Lack of information about progress toward the vision

Leadership – Pitfalls to Avoid

- Establish science leadership without delegating authority or providing a clear "charge"
- Failing to include the executive leadership and those who are "influencers"

Curriculum Materials – Pitfalls to Avoid

- Waiting for materials before beginning to change instruction
- Being reluctant to let go of familiar units or favorite activities
- Relying on teacher developed curriculum or adapting old curriculum

Professional Learning – Pitfalls to Avoid

- Failing to provide opportunities for administrators to learn about NGSS
- Underestimating the shift needed to teacher's own practice
- Underestimating the need for ongoing support
- Offering "one size fits all" learning opportunities

District Policies, Priorities, and Communication – Pitfalls to Avoid

- Assuming existing policies are adequate to support the NGSS
- No identified mechanisms of communication that match appropriate district stakeholder audiences

Supportive Context – Pitfalls to Avoid

- Partners lack common understanding of the district vision
- Partners have competing goals
- Failing to clarify roles and monitor effectiveness partnerships

NGSS: Successful implementation

- First step, taking stock of current status of science…
- Sustained and coordinated effort.
- Leadership at all levels.
- Requires immediate and long term changes.
- Attend to the uniqueness of 6th grade in K-6 elementary models.
- Multiple years to transition instruction in *all* classrooms.

Key Capacities: District Discussion

- **Based on what you know about your district context, what capacity would you begin to develop now and why?**

Thanks!

Any questions ?

You can find me at

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