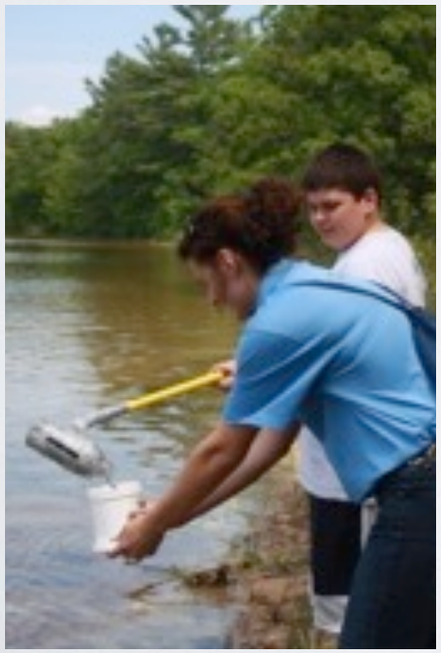
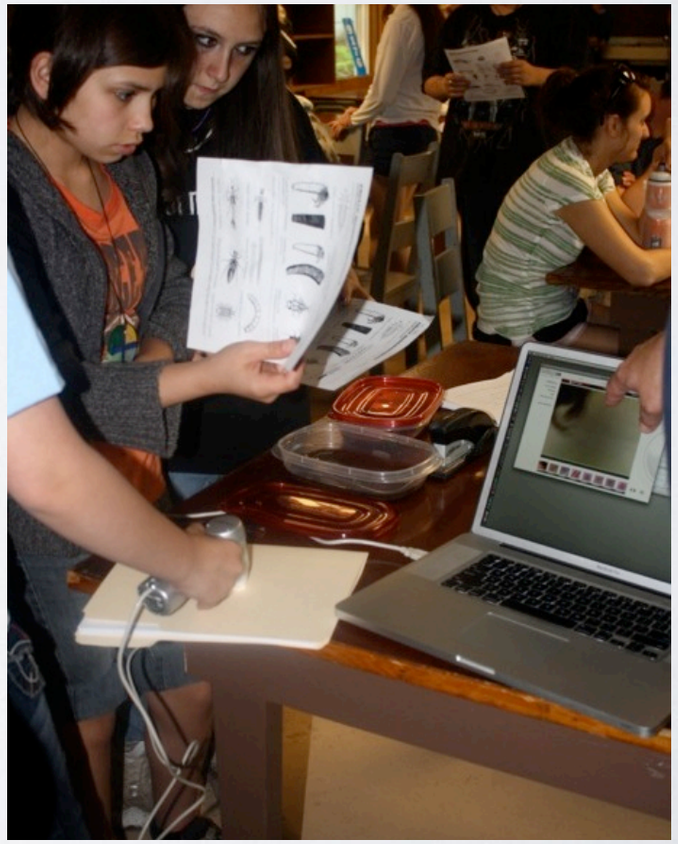
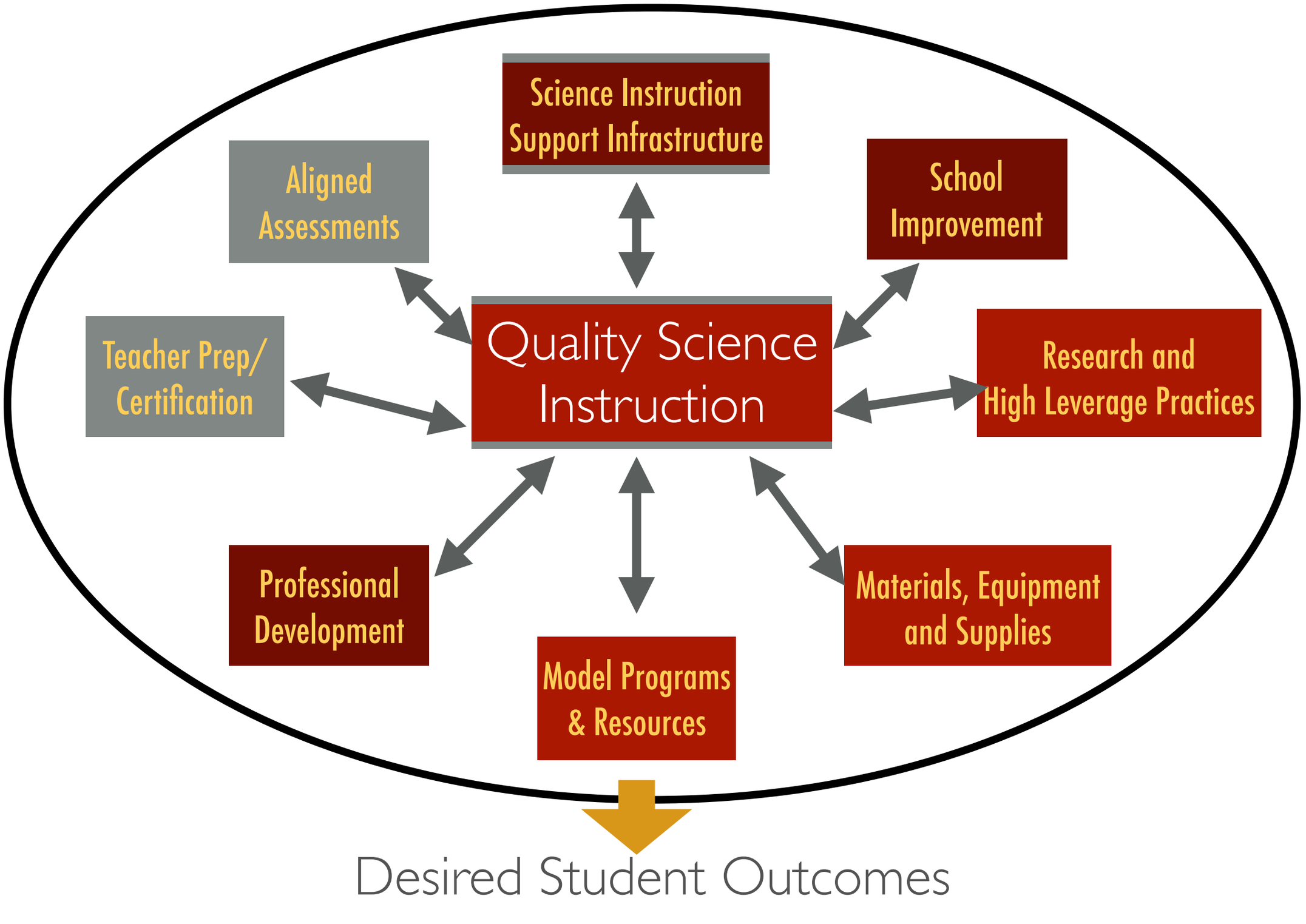
Transitional Models for Science Education





ACHIEVING THE VISION



OBJECTIVES

- Provide insight into how educators and schools transition to address new practices and expectations of the Framework for Science Education.

- Review policy considerations at the building, district, and state level that impact the transition process.

- Address general implementation concerns and an implementation timeline for full transition.

SCIENCE TRANSITION TIMELINE

LEA

Curriculum Alignment/ Revision

Instructional Materials

MTSS

Building

Professional Learning

Class Schedules

Growth Data

Grading and Transcripts

Classroom

Parent Communication

Class Descriptions

Teaching Assignments

Instructional Practices

2014-5

2015-6

2016-7

2017-8

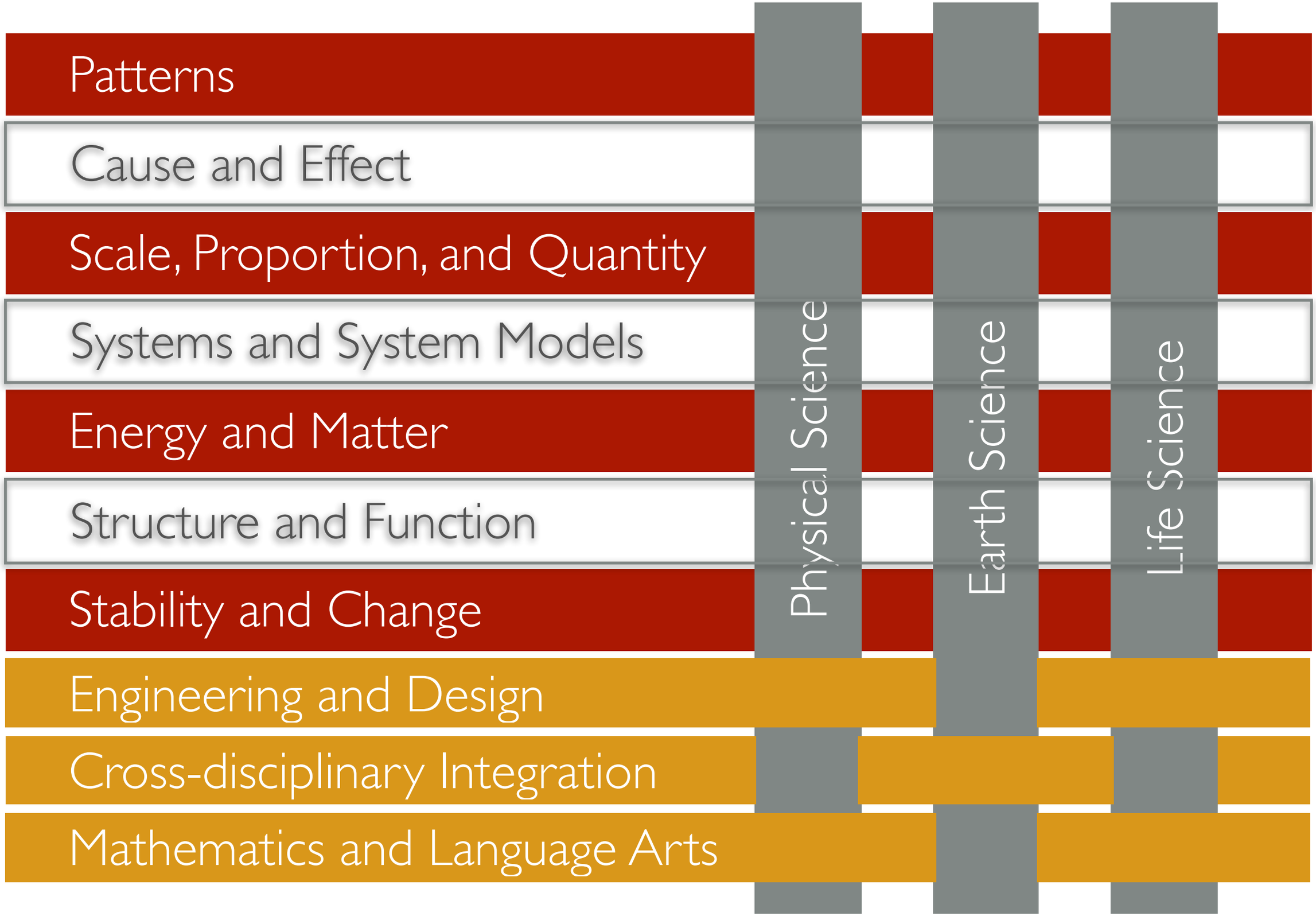
2018-9

2019-20

2020-1

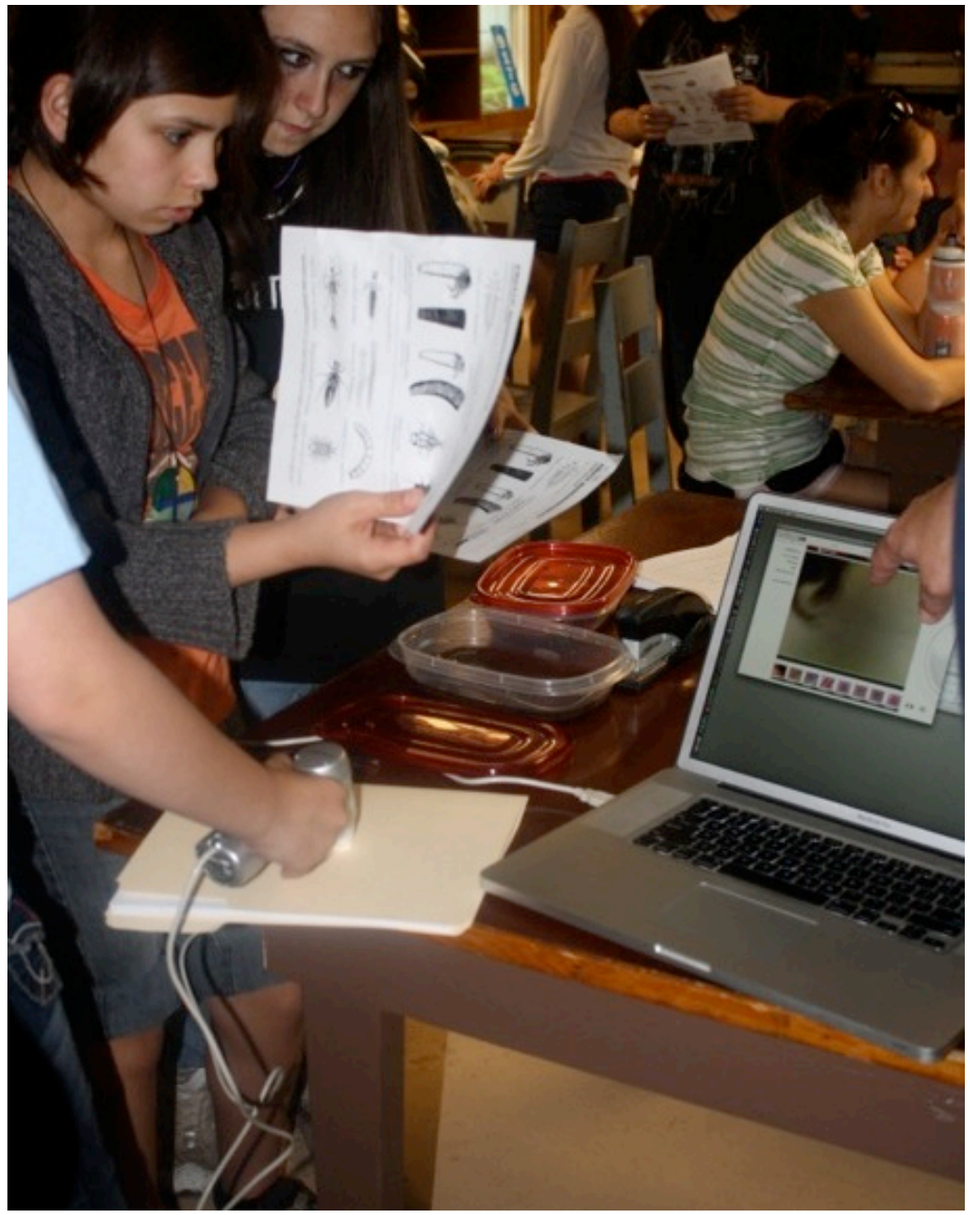
2021-2

CROSS-CUTTING CONCEPTS



RESOURCE / CAPACITY ISSUES

- Instructional materials
- Labs or field facilities
- Teacher background and experience with content
- Curriculum alignment and integration
- Data systems and learning supports
- Educator professional learning opportunities



PRACTICE ISSUES

- Class descriptions and reporting / transcripts
- School-based scheduling (teachers, student time for investigation, and facilities)
- Teacher professional learning and hiring practices
- Seat time vs proficiency-based assignment of students
- Curriculum oversight and alignment efforts
- Parent communication

EXAMPLE 1: ELEMENTARY SCHOOL

PRIMARY ISSUES:

- Instructional materials
- Instructional capacity (content knowledge)
- Science and engineering specific resources

POSSIBLE TRANSITIONS:

- Develop instructional capacity over time
- Move students for instruction

EXAMPLE 2: MIDDLE SCHOOL

PRIMARY ISSUES:

- Class schedules
- Instructional capacity and resources
- Curriculum alignment / revision

POSSIBLE TRANSITIONS:

- Restructure science curriculum
- Lab / project-based models for instruction

EXAMPLE 3: HIGH SCHOOL

PRIMARY ISSUES:

- Class descriptions and reporting
- Teaching assignments and certification
- Relevant data and supports

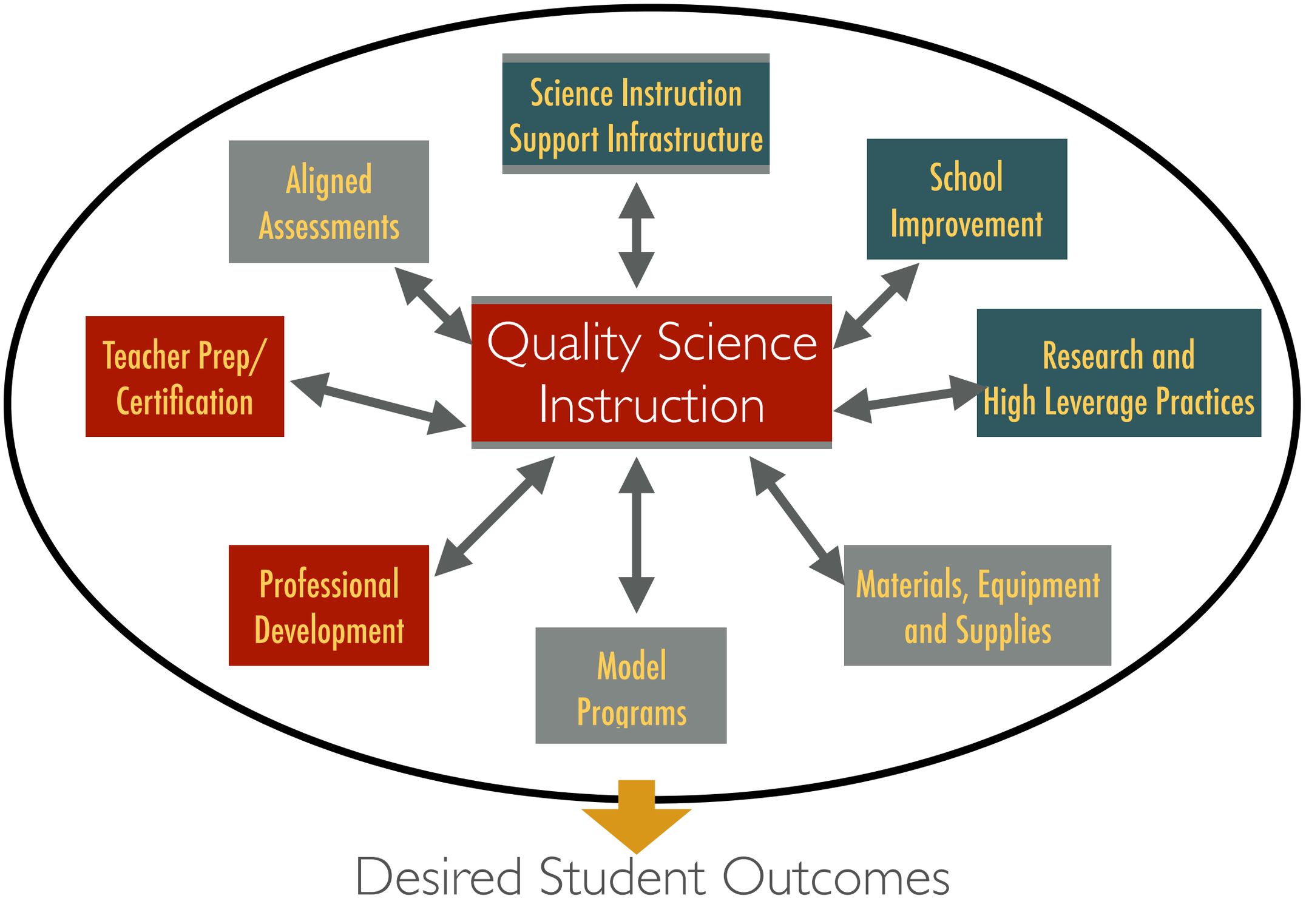
POSSIBLE TRANSITIONS:

- Realignment of curriculum and courses
- Personalization / modification of instruction
- Transition toward CTE/Middle College models

TRANSITIONAL NEEDS BY GRADE BAND

	LEA	BUILDING	CLASSROOM	Students and Parents
PK - 5	• Hiring practices • Attention to curriculum • Curriculum integration	• Scheduling of students/ teachers • Access to resources	• Teacher content knowledge • Integration with ELA and Math content	• Changing structure / focus • Home learning preparation
6-8	• Curriculum & Course descriptors • Professional learning	• Schedule • Curriculum alignment • Access to resources	• Instructional resources • Depth of content understanding	• Home and out-of-class experience focus • Home learning preparation
9-12	• Grading and course sequence • Teacher placement • Curriculum alignment	• Opportunities for investigation-based learning • Staffing / scheduling	• Cross-cutting and engineering content • Instructional resources	• Mindset of CCR needs • Investigation and personal learning focus

ACHIEVING THE VISION



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