Considerations for Adapting and Adopting Science and Social Studies Curriculum

Module 5: August 5, 2020

In partnership with

Where to find materials

You can find the recording of today's webinar on the Strong Start page on **TEA's website**.

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The Current Reality

- As schools have closed out this unprecedented academic year and moved from crisis into reentry planning, it has become clear that we need to reimagine how we can leverage high-quality instructional materials.
- Given the unpredictable nature of this year, leaders and teams must be nimble and ready to adjust instruction as schools oscillate between remote and in-person learning scenarios.

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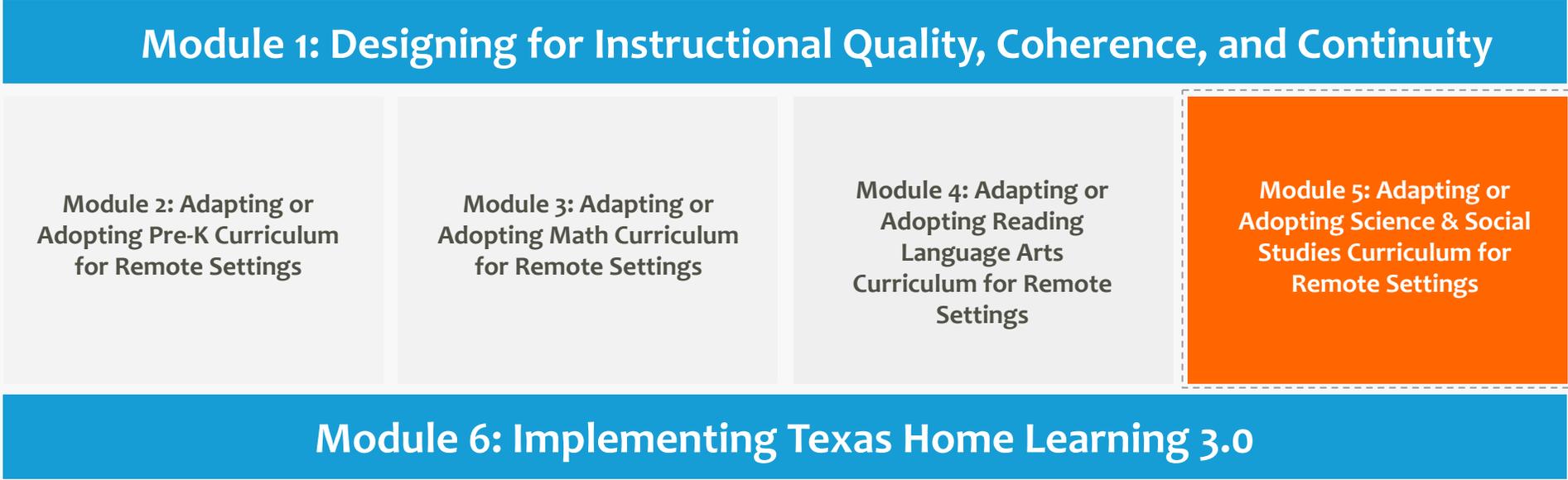
Two Essential Questions

How do I make sure all of my students experience high-quality, TEKS-aligned instruction, regardless of their learning environment, level of connectivity, etc.?

How do I accomplish that without seeing all or some of my students in-person every day?

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Series Overview

Module 1: Designing for Instructional Quality, Coherence, and Continuity

| Module 2: Adapting or Adopting Pre-K Curriculum for Remote Settings | Module 3: Adapting or Adopting Math Curriculum for Remote Settings | Module 4: Adapting or Adopting Reading Language Arts Curriculum for Remote Settings | Module 5: Adapting or Adopting Science & Social Studies Curriculum for Remote Settings |

Module 6: Implementing Texas Home Learning 3.0

Module 5 Session

Considerations for Adapting and Adopting Science and Social Studies Curriculum

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Agenda and Outcomes

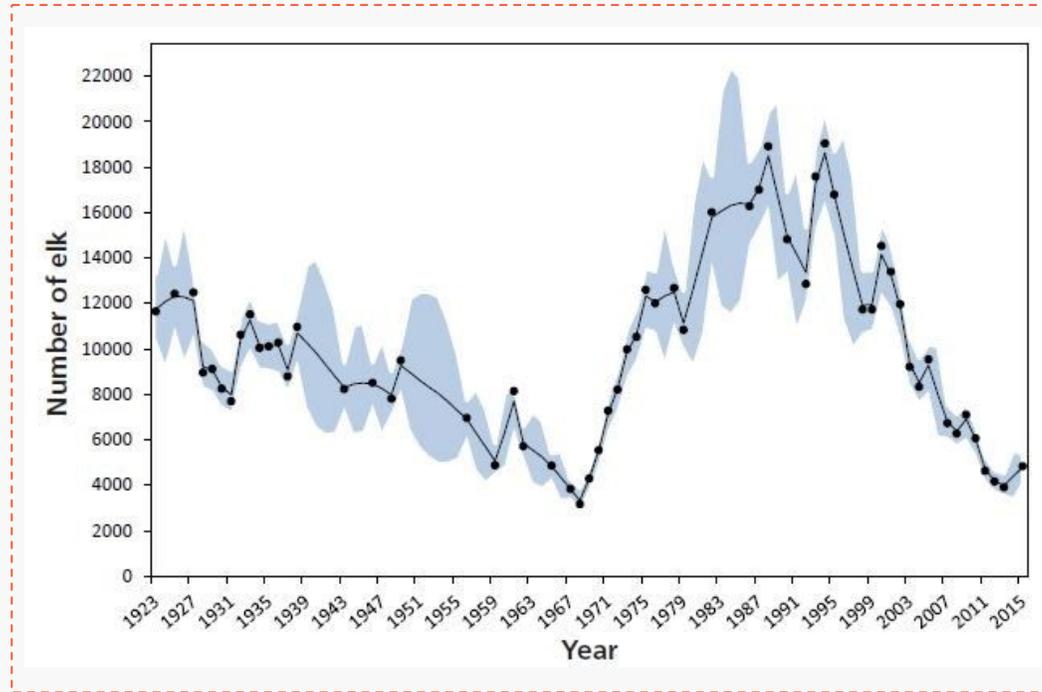| Agenda	Outcomes
• Opening • Considerations for Adoption • Considerations for Adaptation • Case Study • Q&A • Texas Home Learning 3.0 Overview • THL Q&A	• Identify quality considerations for adoption of curricula for *science* and *K-5 social studies* • Prioritize considerations for adaptation of curricula for *science* and *K-5 social studies* • Engage in an example adaptation for distance learning and identify next steps to operationalize adaptations for *science* and *K-5 social studies*

Considerations for Adapting and Adopting Science and Social Studies Curriculum

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Imagine you're a 5th grade science student...

As seen in this graph, the elk population in Yellowstone National Park has changed dramatically since 1923 - increasing and decreasing over time.

What science ideas do students need to understand to explain why this happens?
- Organisms can survive only in environments in which their particular needs are met.
- Organisms and populations of organisms are dependent on their environmental interactions both with other living things and with nonliving factors.
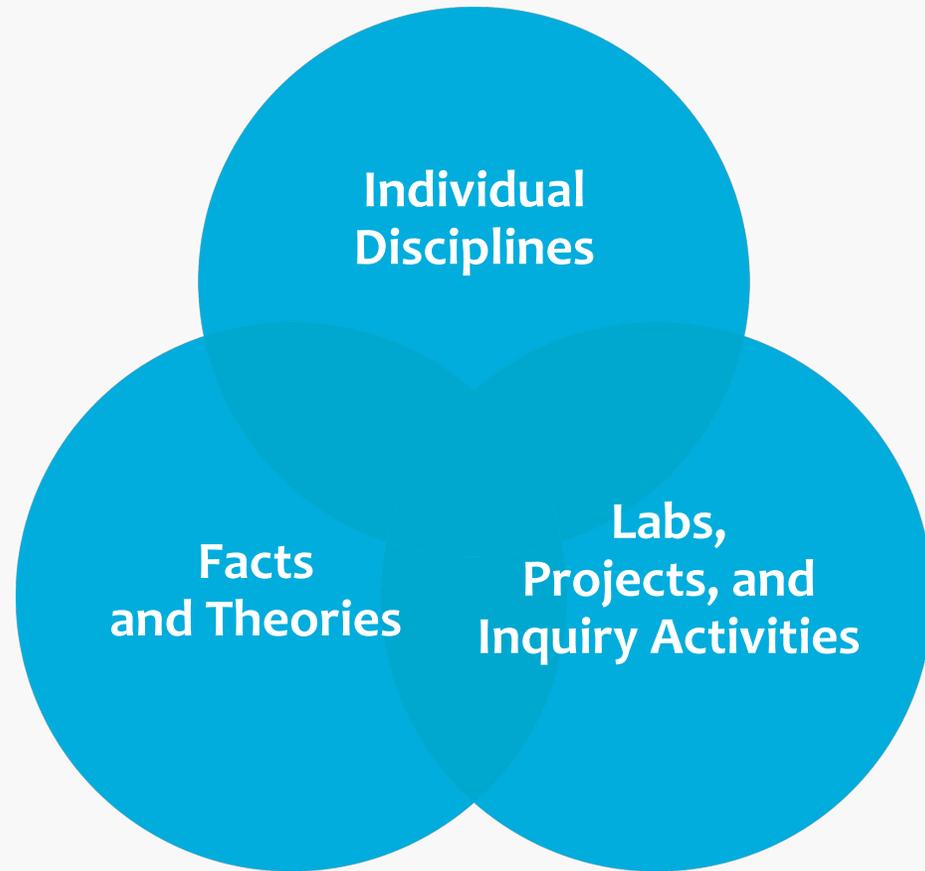- Newly introduced species can damage the balance of an ecosystem.

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The Structure of Science Is...

Engage in scientific investigation to derive evidence and understanding of science ideas

Reason with evidence through the lens of interdisciplinary themes

Construct evidence-based explanations of natural phenomena

- Formulating questions
- Observation
- Investigation
- Analysis of data
- Modeling

- Change and consistency
- Patterns
- Cycles
- Systems
- Scale

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The Structure of Science Is Not...

Individual Disciplines

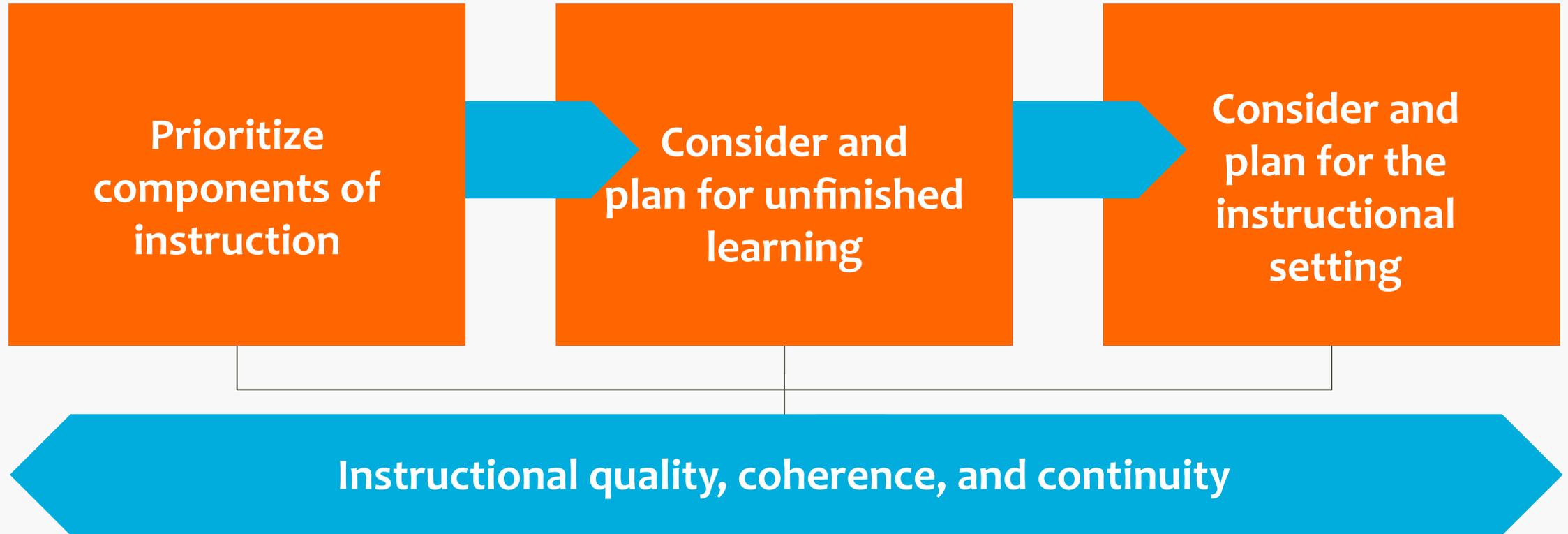**Facts and Theories**

Labs, Projects, and Inquiry Activities

- Students learn the facts and theories that are foundational to science by engaging in learning experiences that are relevant and cause them to ask questions and wonder.
- Science disciplines should be integrated where possible so that students can make connections.
- Labs, projects and inquiry activities are a process and without a phenomena to figure out or problem to solve, the learning is usually at the surface-level.

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The Science Framework

Prioritize components of instruction → **Consider and plan for unfinished learning** → **Consider and plan for the instructional setting**

Instructional quality, coherence, and continuity

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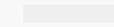# KEY CONSIDERATIONS OF HQIM ADOPTION FOR SCIENCE

HQIM include . . .

- TEKS-aligned content
- Support for all learners
- Support for content connections
- Progress monitoring
- Support for educators, including support for unfinished learning
- **Usability both on-campus and in a virtual, remote setting**
- **Usability and additional supports for families**

The Opportunity Myth (2018)
Considerations for Adapting and Adopting Science and Social Studies Curriculum

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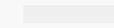
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In Module 1, you were asked:

Can I adapt my current materials to meet the definition of high-quality instructional materials (HQIM) and the needs of remote settings?

Should I adopt new HQIM to meet the needs of remote settings?

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Key Considerations for Adopting HQIM for Science

| TEKS Science | Use of Investigation to Derive Content | Explanation of Phenomena | SUPPORT FOR ALL LEARNERS |

- Are the materials aligned to grade-level science TEKS?

- Do the materials provide students with significant opportunities to engage in scientific investigation and reasoning?
- Do the materials support students in gaining science knowledge through:
  - formulating questions
  - observation
  - analysis of data
  - modeling

- Do the materials require students to use evidence to construct explanations for events that happen in nature?

- Are there built-in supports to ensure all students, including students with special needs and emerging bilingual students, can access grade-level content?

- Can materials be leveraged across any learning format: in-person, hybrid, and/or remote learning?

Considerations for Adapting and Adopting Science and Social Studies Curriculum

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Key Understanding

High-Quality Instructional Materials for Science:

- Are TEKS aligned
- Include opportunities to derive science knowledge from investigation and reasoning
- Require evidence-based explanation of the natural world
- Provide instructional supports and usability for all students and families
- Support educators in addressing unfinished learning
- Allow for usability both on-campus and in a virtual, remote setting

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Suggested Actions for Adoption

Form your selection team and determine how a final decision will be made

⌄

Map the timeline of review to adoption and **collect input from stakeholders**

⌄

Form the review committee and **complete the review of materials**

⌄

Decide what to adopt

⌄

Organize the next steps and communicate the plan

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KEY CONSIDERATIONS OF ADAPTING HQIM FOR SCIENCE

Considerations for Adapting and Adopting Science and Social Studies Curriculum

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Considerations for Adapting HQIM for Science

Addressing Unfinished Learning

What learning needs to be planned because of disruptions due to COVID-related closures at the end of the 2019-20 school year?

Engaging Students in Scientific Investigation and Reasoning Remotely

How can we continue to engage students in scientific processes (investigations, modeling, etc.) without the resources of in-person learning?

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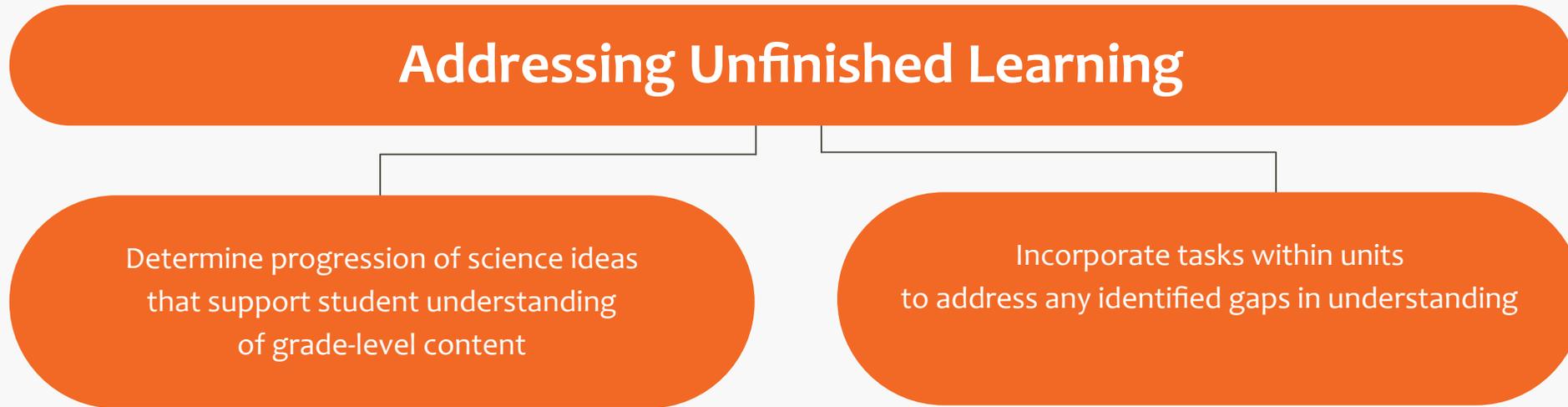TEA Texas Education Agency

Case Study

District A

- Mid-sized, urban district
- Adopted HQIM for K-8 Science last year
- Decided to adapt for this year
- Anticipating rolling school closures and concerned about learning loss as a result of COVID-closures last year and lack of hands-on science experiences

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Addressing Unfinished Learning

Addressing Unfinished Learning

Determine progression of science ideas that support student understanding of grade-level content

Incorporate tasks within units to address any identified gaps in understanding

Considerations for Adapting and Adopting Science and Social Studies Curriculum

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Addressing Unfinished Learning in Action

What prerequisite science ideas need to be incorporated in order for students to access grade-level instruction?

5.9A Observe the way organisms live and survive in their ecosystem by interacting with the living and nonliving components

5.9B Describe the flow of energy within a food web, including the roles of the sun, producers, consumers, and decomposers

4.9A Investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food

4.9B Describe the flow of energy through food webs, beginning with the sun, and predict how changes in the ecosystem affect the food web.

Contains science ideas needed to access a grade-level standard

Taught 4th Quarter based on scope and sequence

Does not contain science ideas that hinder access to a grade-level standard

Considerations for Adapting and Adopting Science and Social Studies Curriculum

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What tasks can be incorporated into a unit as just-in-time supports to access grade-level content?

LESSON 1

Students make observations of a local playground to explain how living and nonliving things interact in an ecosystem.

LESSON 3

Students watch a video to learn about patterns of interaction (predator-prey, competition, symbiosis) and use new terms to identify specific patterns in their Yellowstone food web model.

LESSON 2

Students obtain information about the food needs of organisms and use Yellowstone organism cards to model probable food webs and the impact of ecosystem changes.

LESSON 4

Students predict the impact of the elk/wolf predator-prey interaction on their populations over time and compare population data with snow accumulation data to explain the impact of non-living factors.

Module 5 Session

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Addressing Unfinished Learning in Action

LESSON 1

Students make observations of a local playground to explain how living and nonliving things interact in an ecosystem.

Students read grade-level text on producers and consumers specific to a local ecosystem to support a discussion of differing needs for food.

LESSON 2

Students obtain information about the food needs of organisms and use Yellowstone organism cards to model probable food webs and the impact of ecosystem changes.

Considerations for Adapting and Adopting Science and Social Studies Curriculum

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Addressing Unfinished Learning in Action

LESSON 1

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LESSON 2

Students obtain information about the food needs of organisms and use Yellowstone organism cards to model probable food webs and the impact of ecosystem changes.

The teacher highlights the impact of loss of other organisms on a consumer population by removing a card from the students' food web and asking students to explain the impact of the loss to support grade-level discussion of different types of ecosystem interactions.

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Addressing Unfinished Learning

Engaging Students in Scientific Investigation and Reasoning Remotely

Inventory science investigations within each curriculum unit

Identify suitable substitutions for hands-on learning in classrooms, if needed

Integrate interactive tools to support practice

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Engaging Students in Scientific Investigation and Reasoning

What science investigations are outlined within the curriculum?		Substitutions Needed for Hands-On Tasks	Applicable Interactive Tools
	Students collect data through a card game that simulates the flow of energy throughout a food web.	Provide second-hand data that would be collected from and in-person simulation. Substitute Oh Deer! with an online simulation of an ecosystem impacted by change.	Online simulations (PhET interactive simulations, PBS Learning Media. Simbucket, Gizmos, etc) Zoom annotation of graphs
	Students draw a model describing the impact to the flow of energy within an ecosystem if a producer population dwindles. They then provide peer feedback before revising their own models.	Models can still be drawn by students and shared with the teacher and peers (science notebook, whiteboards, etc.).	Use an interactive site to house models for teacher and/or peer feedback. Upload pictures of student models to Jamboard, Google Slides, etc. for a virtual gallery walk.

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Considerations for Adapting HQIM for Science

Addressing Unfinished Learning

What learning needs to be planned because of disruptions due to COVID-related closures at the end of the 2019-20 school year?

Engaging Students in Scientific Investigation and Reasoning Remotely

How can we continue to engage students in scientific processes (investigations, modeling, etc.) without the resources of in-person learning?

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OPERATIONALIZING ADAPTATIONS

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Operationalizing Adaptations for Science

Action Step	Mid-sized Urban District Owner(s)	Small Rural District Owner(s)
Identify prerequisites necessary to access grade-level TEKS	Science Content Supervisor	Grade-level teacher leaders
Use pacing guide to determine if applicable TEKS were likely missed in previous year	Science Content Supervisor	Grade-level teacher leaders
Plan for coherent tasks to address gaps due to unfinished learning	Science Content Supervisor Grade-level teacher leaders Dual Language/ESL Coordinator(s) Special Education Coordinator(s)	Grade-level teacher leaders Dual Language/ESL Coordinator(s) Special Education Coordinator(s)
Identify suitable substitutes for hands-on science investigations within curriculum units	Science Content Advisor	Grade-level teacher leaders
Create interactive tool guidance for engaging students in science investigation and reasoning virtually	Instructional Technology Advisor	Grade-level teacher leaders
Design and facilitate training for science teachers	Science Content Advisor Grade-level teacher leaders Dual Language/ESL Coordinator(s) Special Education Coordinator(s)	Director of Curriculum and Instruction Grade-level teacher leaders

Key Understandings

Even with HQIM for science, adaptations will need to be made in order to address the unique circumstances remote learning and COVID school closures have created.

In order to adapt HQIM for science, take action to:

- **Address unfinished learning**
  - Determine the progression of science ideas that support student understanding of grade-level content
  - Incorporate tasks within units coherently to address any gaps in learning

- **Engage students in scientific investigation and reasoning remotely**
  - Determine suitable substitutions for hands-on science tasks that are most critical for mastery of TEKS within the curriculum
  - Integrate interactive tools to support students in engaging in scientific investigation remotely

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Suggested Actions for Adaptation

Identify prerequisites necessary to access grade-level TEKS and determine if they were missed using pacing guide from previous grade

Plan tasks that integrate coherently to address identified gaps in learning

Identify suitable substitute experiences for hands-on investigations most critical for mastery of TEKS within curriculum

Create interactive tool guidance for engaging students in scientific investigation and reasoning virtually

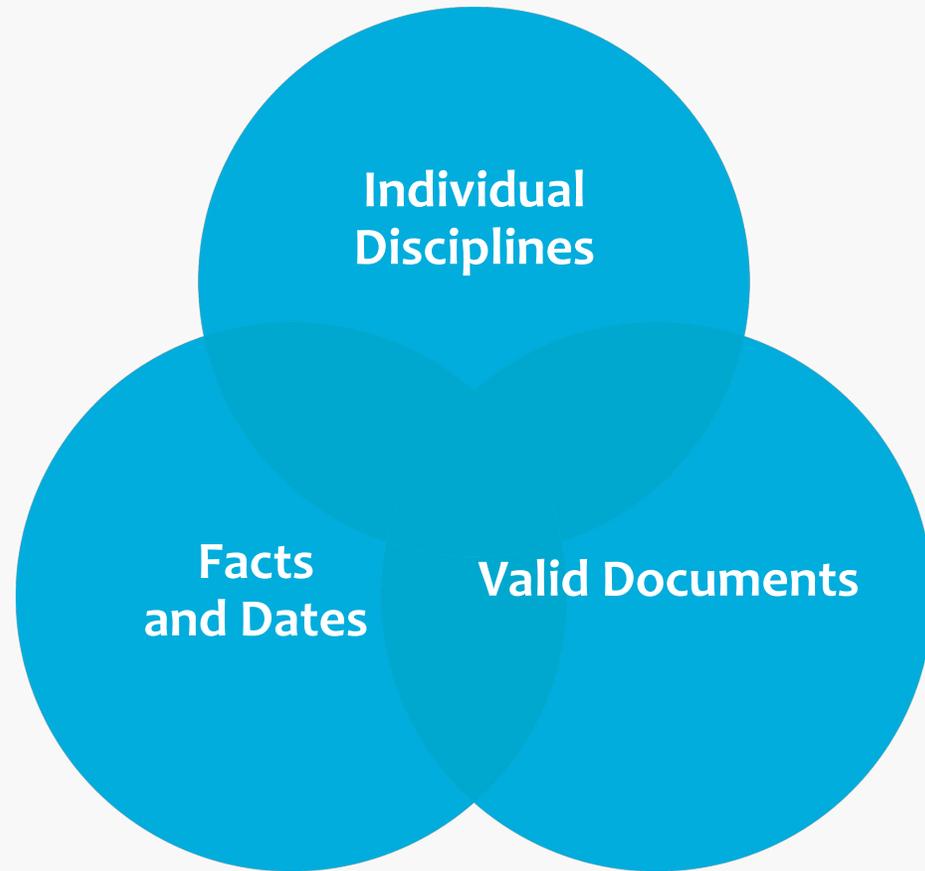Communicate to stakeholders and train teacher and leaders

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The Structure of Social Studies Is...

Engage in critical thinking and analysis of historical documents to derive evidence and understanding of social studies ideas

Integrate social studies content from the various disciplines

Develop and apply depth of understanding of complex content

- Use valid information sources
- Collect, analyze, and interpret data
- Communicate in various forms

- History
- Geography
- Economics
- Government
- Citizenship
- Culture

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The Structure of Social Studies Is Not...

Individual Disciplines
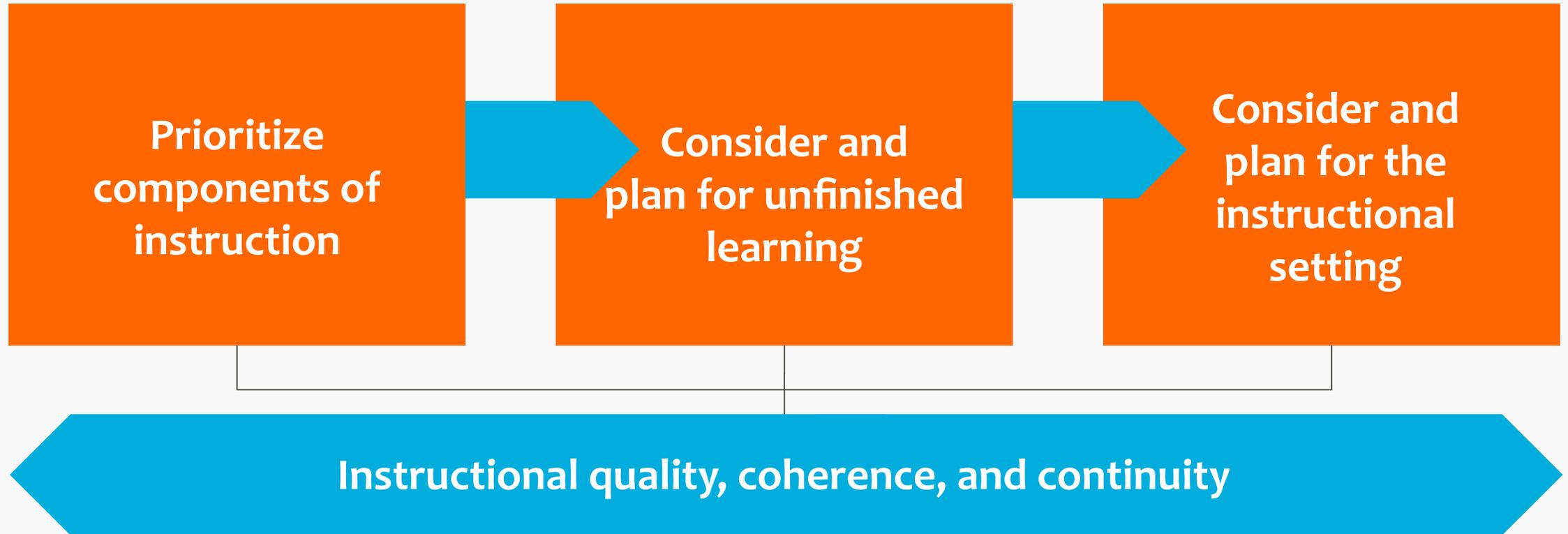
Facts and Dates

Valid Documents

- Students learn facts and historical dates by engaging in critical thinking and analysis in order to better understand history and society.
- Social studies disciplines should be integrated where possible so that students can make connections.
- Primary and secondary sources are used to develop to a deeper understanding of social studies concepts through various historical perspectives.

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The Social Studies Framework

Prioritize components of instruction → **Consider and plan for unfinished learning** → **Consider and plan for the instructional setting**

Instructional quality, coherence, and continuity

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KEY CONSIDERATIONS OF HQIM ADOPTION FOR SOCIAL STUDIES

Module 5 Session

Considerations for Adapting and Adopting Science and Social Studies Curriculum

HQIM include . . .

- TEKS-aligned content
- Support for all learners
- Support for content connections
- Progress monitoring
- Support for educators, including support for unfinished learning
- **Usability both on-campus and in a virtual, remote setting**
- **Usability and additional supports for families**

The Opportunity Myth (2018)
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In Module 1, you were asked:

Can I adapt my current materials to meet the definition of high-quality instructional materials (HQIM) and the needs of remote settings?

Should I adopt new HQIM to meet the needs of remote settings?

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Key Considerations for Adopting HQIM for Social Studies

TEKS Social Studies

Use of Inquiry and Critical Thinking Skills to Derive Content

Research and Inquiry

SUPPORT FOR ALL LEARNERS

- Are the materials aligned to grade-level social studies TEKS?

- Do the materials provide students with significant opportunities to engage in inquiry and historical thinking and reasoning?
- Do the materials support students in gaining knowledge through:
  - developing questions and planning inquiries
  - analysis of a variety of primary source materials
  - collecting, analyzing and interpreting data

- Do the materials require students to use critical thinking skills and leverage research methodologies from a variety of sources?
- Do the materials require students to effectively use written and oral communication skills?

- Are there built in supports to ensure all students, including students with special needs and emerging bilingual students, can access grade-level content?

- Can materials be leveraged across any learning format: in-person, hybrid, and/or remote learning?

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Key Understanding

High-Quality Instructional Materials for Social Studies:

- Are TEKS aligned
- Include opportunities to derive social studies knowledge through critical thinking and review of historical documents
- Require evidence-based explanation of the historical events and impact on society
- Provide instructional supports and usability for all students and families
- Support educators in addressing unfinished learning
- Allow for usability both on-campus and in a virtual, remote setting

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Suggested Actions for Adoption

Form your selection team and determine how a final decision will be made

⌄

Map the timeline of review to adoption and **collect input from stakeholders**

⌄

Form the review committee and **complete the review of materials**

⌄

Decide what to adopt

⌄

Organize the next steps and communicate the plan

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KEY CONSIDERATIONS OF ADAPTING HQIM FOR SOCIAL STUDIES

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Considerations for Adapting HQIM for Social Studies

✓ Addressing Unfinished Learning

What learning needs to be planned because of disruptions due to COVID-related closures at the end of the 2019-20 school year?

✓ Engaging Students in Inquiry and Critical Thinking Remotely

How can we continue to engage with valid information sources and authentic inquiry experiences without the resources of in-person learning?

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Q&A

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Upcoming webinar

Implementing Texas
Home Learning 3.0

**Friday | August 7, 2020
10 AM CT**

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Survey and Recording

https://bit.ly/tea_module5

You can find the recording of today's webinar and the Strong Start Reflection tool here.

Texas Home Learning 3.0

THL 3.0 is a freely accessible, optional, aligned suite of resources that educators can use fully or in-part to support the new learning environment

Texas Home Learning 3.0

CURRICULUM

PreK-12 digitized, standards-aligned curricular content customized for Texas and the current learning environment

TECHNOLOGY

Suite of technology tools including a learning management system to support student engagement and instructional collaboration

PROFESSIONAL DEVELOPMENT

Content and technology focused professional development to support educators with implementation both in classroom and remote settings

Districts may optionally adopt none, part, or all of any of the three components above

TEA

THL 3.0 offers free access to TEKS-aligned, digitized resources to be facilitated by teachers that are customized for Texas

Districts/schools can **choose** to adopt any portion or subset of the materials as they see fit

Subject	Grades Offered
Math	PreK through 12th grade
English Language Arts and Reading*	PreK through 12th grade
Spanish Language Arts and Reading	PreK through 5th grade
Science	PreK through 5th grade
Social Studies	PreK through 5th grade

Works with required asynchronous plans for remote teaching

*Includes foundational skills and phonics in K-2

Each grade level and subject resource is customized to Texas and includes:

Unit plans and daily **lesson plans aligned to Texas standards**

Formative & **summative** unit assessments

Built in **progress monitoring**

Teacher, student, and **family** supports

Digital format with **printing** capability

Accessibility supports for **all learners**

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TEA has negotiated a statewide license for Schoology for all interested districts for two years

S schoology®

A PowerSchool Unified Classroom™ Product

Free two-year license
for Schoology LMS for any interested LEA paid for by TEA

Districts must **begin using Schoology** anytime between today and **March 1st, 2021** to benefit from license

License allows for **integration with existing platforms, forthcoming THL instructional resources** and other products as needed

Current Schoology customers may pause current contract to benefit from additional 2 years of LMS

Implementation support available from TEA, Schoology, and Texas ESCs

Learn more about the THL LMS on the TEA Instructional Continuity webpage or sign up today at www.powerschool.com/texas!

Districts and teachers will have access to ongoing professional development throughout the 2020-2021 school year

Remote Learning and School Models

PD offered to districts to optimize remote or hybrid learning. PD comes in the form of:

- ESC support
- Webinars
- Office hours
- Targeted support

Instructional Materials

PD offered to from vendors and ESCs. PD comes in the form of:

- Live webinars
- On-demand tutorial videos
- "Train the trainer" sessions
- Customized training for purchase

Storage, Classroom, and Learning Management System

PD offered to districts to give training on system use and implementation. PD comes in the form of:

- ESC support
- 3-hour district on-boarding course for the LMS
- Interactive online trainings
- Self-paced learning courses

ESCs will fully support district implementation and training for THL 3.0

TEA is interested in learning more from districts planning to use Texas Home Learning 3.0.

TEA would like to feature a district planning to use Texas Home Learning 3.0 during the Module 6 Webinar this Friday.

Contact texashomelearning@tea.texas.gov

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Q&A

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