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Doing It All - Meaningful Integration of Science with Social Studies, Math, and ELA

Chelsie Byram

Central Rivers AEA, cbyram@centralriversaea.org

Mandie Sanderman

Central Rivers AEA, asanderman@centralriversaea.org

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Doing It All – Meaningful Integration of Science with Social Studies, Math, and ELA

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at: <https://bit.ly/UNIScience>



UNI Science Education
Update
2:00-2:50

Hello!



Chelsie Byram

Central Rivers AEA

Consultant for TAG

Consultant for Science

Twitter: @Butterfly_Byram

cbyram@centralriversaea.org



Mandie Sanderman

Central Rivers AEA

Consultant for TAG

Consultant for Science

Twitter: @AmandaSanderman

asanderman@centralriversaea.org

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A decorative graphic on the left side of the slide consists of several hexagons of varying shades of blue and cyan. Some hexagons contain icons: a lightbulb, a thumbs-up, a smartphone, a magnifying glass, and a gear. There is also a network-like icon with a central node and several smaller nodes connected by lines. A large, solid cyan hexagon is positioned in the center of this graphic cluster.

Why
we support
integrated
learning



Integrated learning because...

TIME

Teachers claim they do not have time in their day to teach science and social studies

CONNECTION

Students are able to understand that learning within one content is connected to other content areas.

AUTHENTICITY

Students are able to utilize the skills of literacy in an authentic manner within other content areas as they read, write, speak and think as historians and scientists.



As consultants, we recommend integration to teachers but recognized that we were not able to provide an example of this work...

So we began our journey to create one.

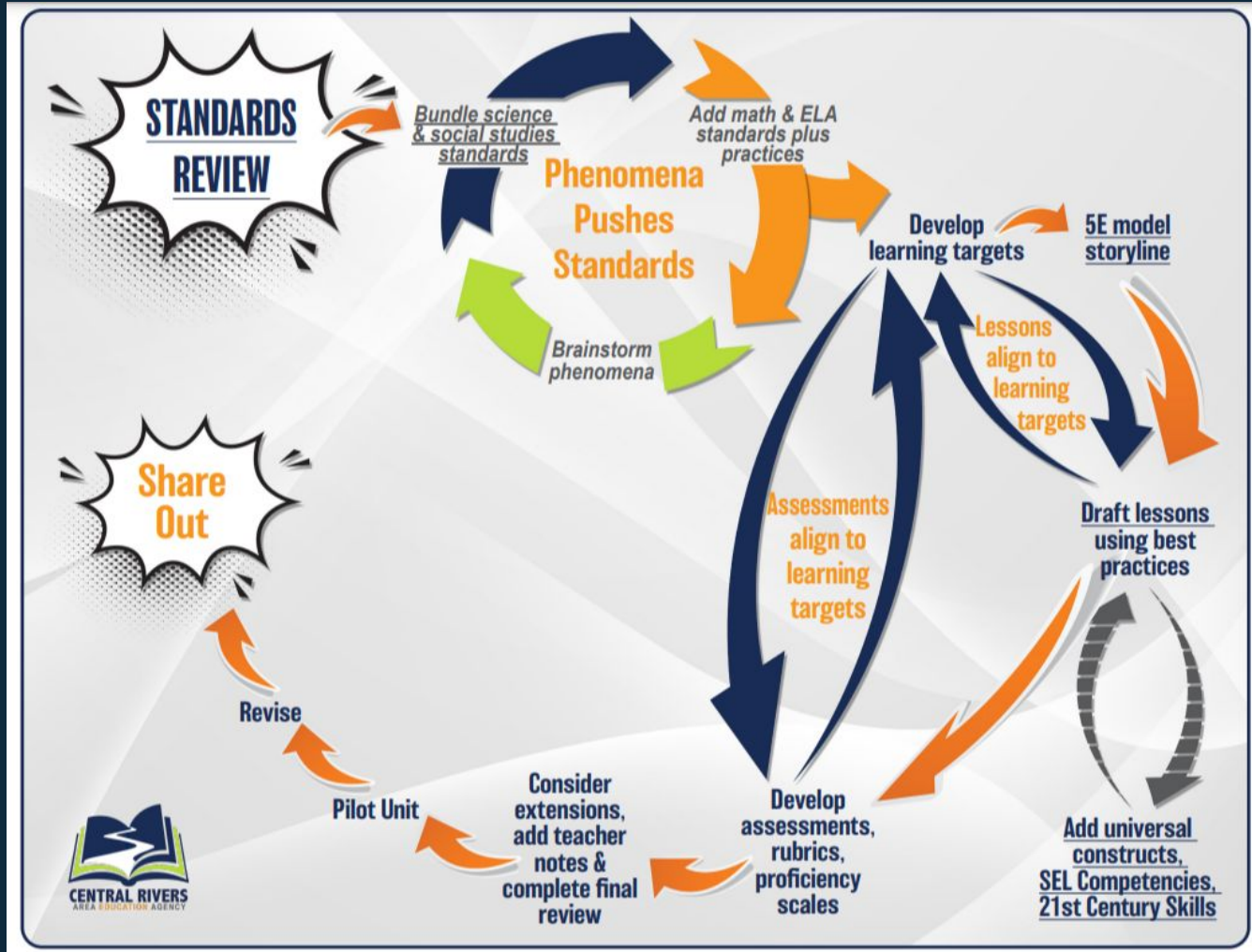


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How
we create
integrated units



Roadmap of the work



Resources that guided our work



- ◇ Universal Constructs
- ◇ SEL Competencies
- ◇ Standards Matrix
- ◇ ELA Explicit vs Integrated Standards
 - Kindergarten
 - 1st grade
 - 2nd grade
 - 3rd grade
 - 4th grade
 - 5th grade






Kids enjoy this time in class and it is a great opportunity for kids to learn how to work together in small groups. A lot of life lessons learned in this curriculum.”

– 3rd grade teacher



“My son came home every day so excited. He would not stop talking about this unit and kept researching at home about different locations and survival all on his own. He still talks about this unit today [months after it was completed].”

– 3rd grade parent

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What
is the integrated
unit?



Unit Overview:

Throughout the units

Students serve as agents of their own learning - making decisions on how to access information, how they want to present information, etc.

Students engage in discourse with their small groups and build collaboration skills - and then extend these skills when their groups change.

Students engage with technology - suggested ones within the unit include FlipGrid, SeeSaw, Jamboard, Google docs.



Unit Snapshot: 3rd grade

- ◇ 7-8 weeks (30 minutes daily)
- ◇ 5 of 18 NGSS 3rd grade performance expectations
- ◇ 8 of 28 social studies standards for our state
- ◇ 15 ELA 3rd grade standards
- ◇ 6 Math 3rd grade standards
- ◇ Universal Constructs
- ◇ SEL Competencies
- ◇ All materials can be printed and supplies are all normal classroom supplies



Unit Overview:

Survival, Trade, and Migration – 3rd grade

Cycle 1: Survival

Students will be tasked with selecting items to pack for survival for 2 weeks in a randomly selected remote location in May of 1850

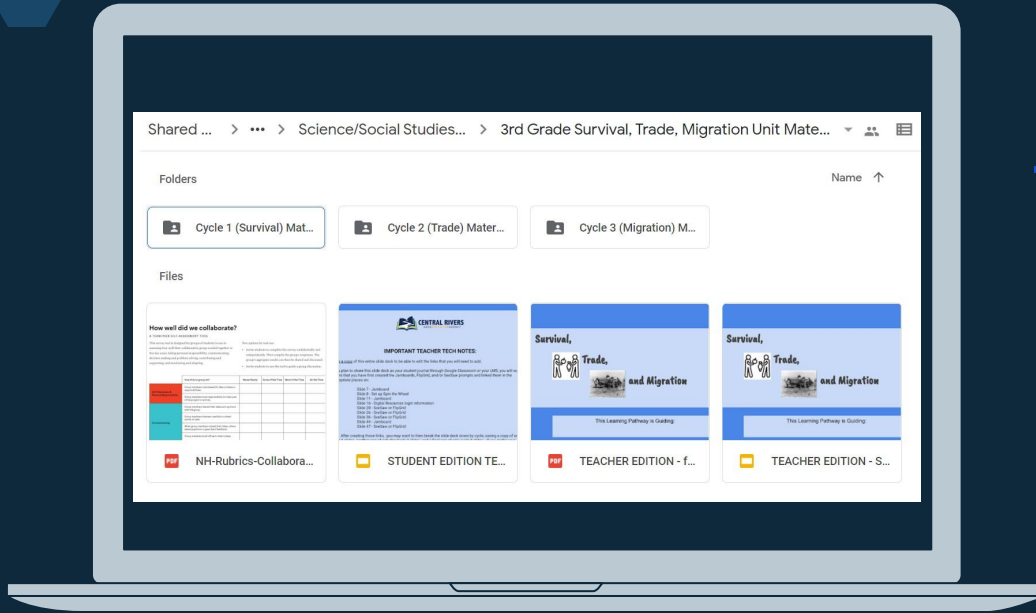
Cycle 2: Trade

Students are surprised to learn they will not be leaving their location after those 2 weeks and have to consider what skills or items they would have available to trade for continued survival

Cycle 3: Migration

Students consider how they could encourage others to migrate to their location to make their community stronger.

Access the unit



<http://bit.ly/3rdSciSS>

Google folder of all materials

- ◇ Teacher edition
- ◇ Student edition
- ◇ Presentation slide deck
- ◇ Print resources





Unit Overview:

How does a Dog Park
Change a Community? –
Kindergarten

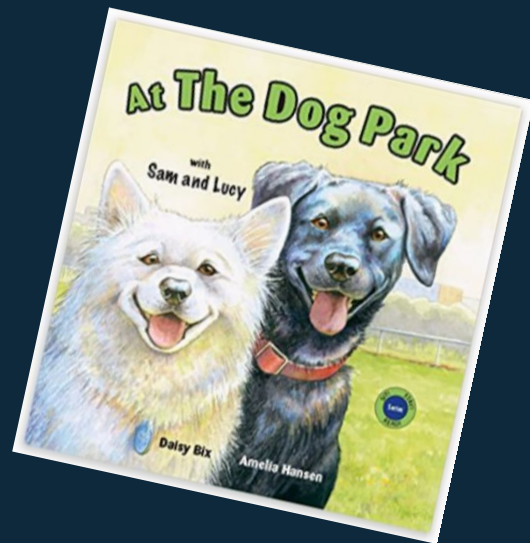
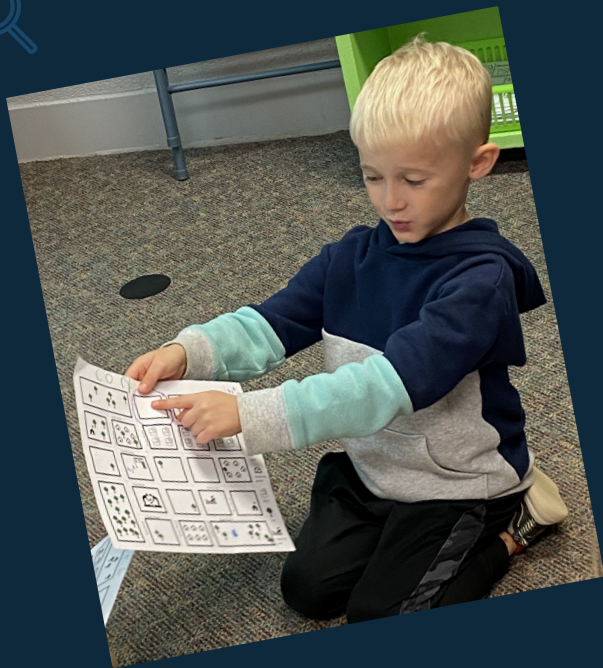


Unit Snapshot: Kindergarten

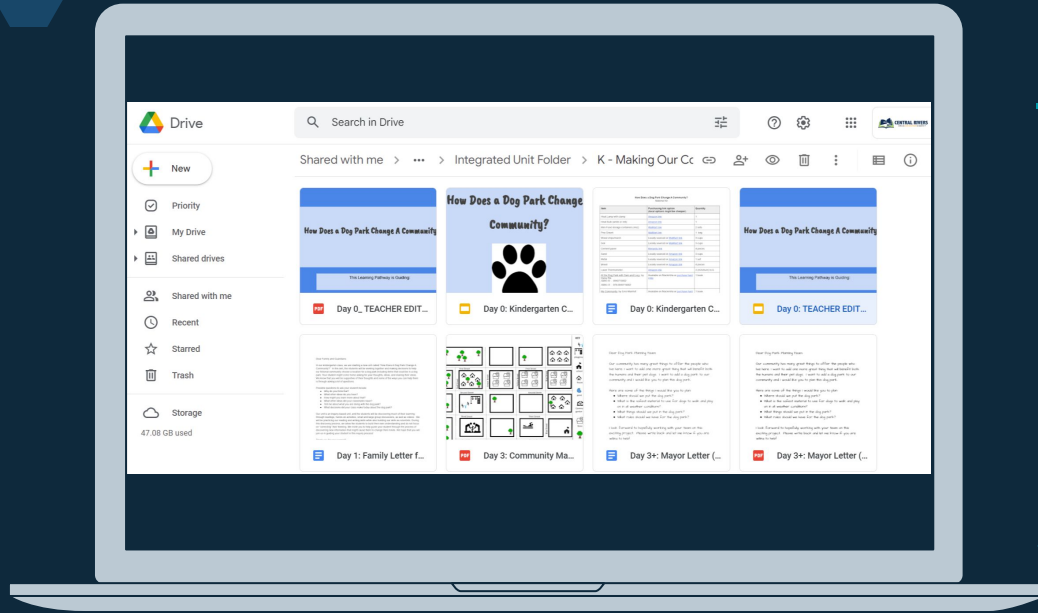
- ◇ 4-5 weeks (30 minutes daily)
- ◇ 6 of 13 NGSS kindergarten performance expectations
- ◇ 7 of 19 social studies standards for our state
- ◇ 17 ELA kindergarten standards
- ◇ 6 Math kindergarten standards
- ◇ Universal Constructs
- ◇ SEL Competencies
- ◇ This unit does have a [material list](#) (approx \$150)

Kindergarten

Using At The Dog Park with Sam and Lucy as a mentor text, students embark on a task set forth by “the mayor” to select a location, layout and materials that would make the perfect dog park.



Access the unit



<http://bit.ly/Kcommunity>

Google folder of all materials

- ◆ Teacher edition
- ◆ Student edition
- ◆ Presentation slide deck
- ◆ Print resources
- ◆ [Supply kit list](#)





Survey Data

	I am easily able to see the connection/ overlap between science and social studies concepts.	I can use student performance/ tasks to measure standards referenced achievement.	I am interested in teaching additional units through an integrative approach
Pre	3.85	4.08	4.23
Post	4.60	4.30	4.60



Survey Data

How would you rate student engagement in this unit as compared to other science/social studies units you have taught?

75% answered I have seen **MUCH MORE ENGAGEMENT** in this unit as compared to other units.

25% answered I have seen **SLIGHTLY MORE ENGAGEMENT** in this unit as compared to other units.





Survey Data

How would you rate student behaviors during this unit as compared to other science/social studies units you have taught?

25% answered I have seen a **LARGE DECREASE** in negative behaviors

38% answered I have seen a **SLIGHT DECREASE** in negative behaviors.

37% answered I have seen no change in negative behaviors.





“Going through this pilot and seeing first-hand the benefits of an integrative approach has made me eager to design more plans with this approach in mind.”

– Kindergarten teacher



“This unit was so authentic for the kindergarteners, their buy in was 100%. I enjoy being the support to their learning but watching them take charge of the lessons was awesome. ”

– Kindergarten teacher



“I really, truly feel like this unit opened up my eyes, so much, to the greatness of an integrated unit!”

– Kindergarten teacher

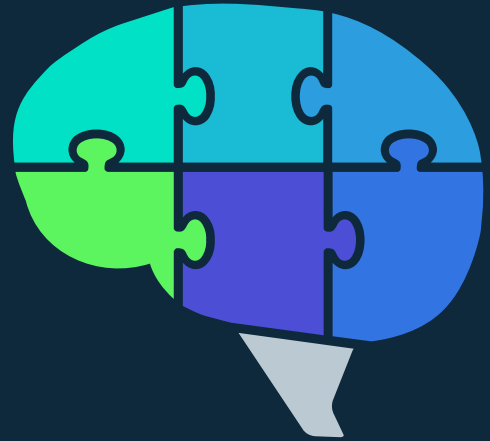


Explore

What do you notice about this work?

What do you wonder about this work?

What questions can we answer?



What is next and where can we find it?

Visit our [website](#) to find other, shorter learning pathways and to find our future work (which will include a 5th grade fully integrated unit that we hope to pilot fall 2023).

Science Learning Pathways

Learning pathways can take on a [variety of forms](#). The goal is to foster student agency in their learning process while using technology as a tool to further the learning.

Grade Level	Learning Pathway
Kindergarten	What materials would we want to use to build the perfect playground so it is not too hot in summer and not too cold in winter?
1st Grade	How do plants and animals meet their needs to survive?
3rd Grade	Survival, Trade, and Migration - 8 week unit with 3 learning cycles Survival: What would you need to survive? Trade: What can I trade to get what I need to survive? Migration: How does migrating help people and animals survive?
5th Grade	What is causing gravesite markers and structures to deteriorate over time, in Iowa?
Secondary	How does thermal energy transfer when combining varying temperatures of mediums?
High School	What impacts populations of animals in the natural ecosystems?



Thanks!

Connect with us:

- ◇ @AmandaSanderman
- ◇ @Butterfly_Byram
- ◇ asanderman@centralriversaea.org
- ◇ cbyram@centralriversaea.org

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