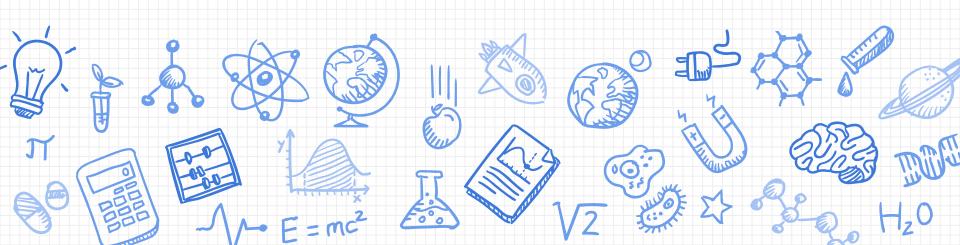
Are you ready for some science trivia?

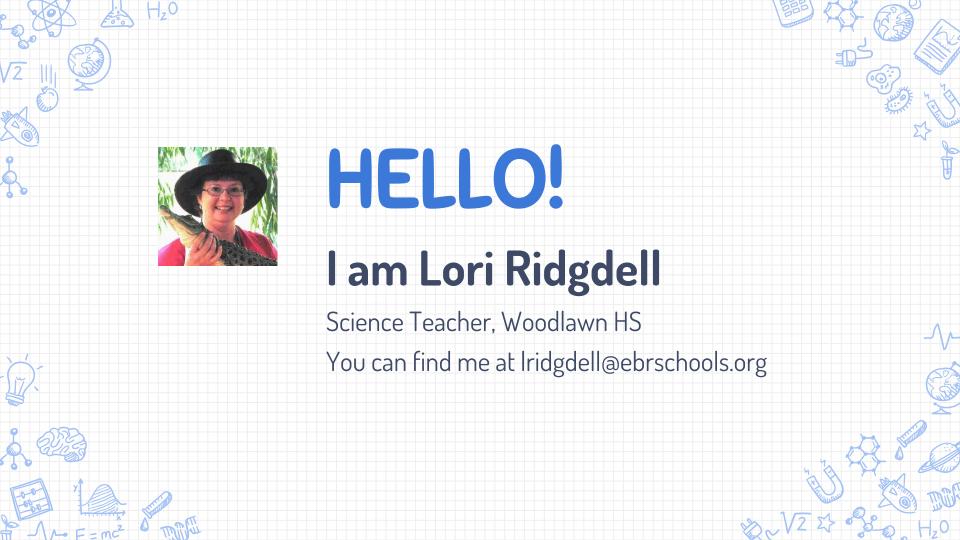


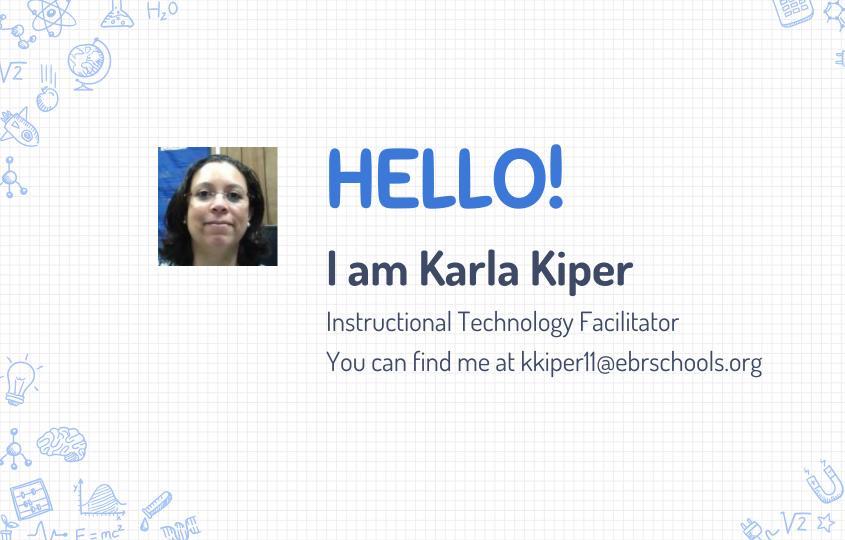
Please visit Kahoot.it to play!

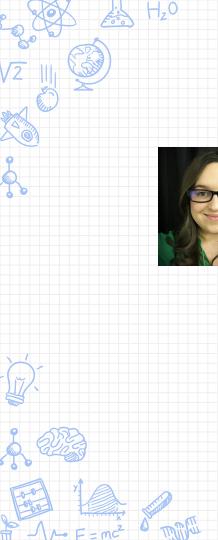


Teaching Science Through Case Studies









HELLO!

I am Kiesha Arceneaux

Instructional Specialist

You can find me at karceneaux@ebrschools.org

Introduction

Overview, Purpose, Objectives, Alignment



We've Got Purpose!

To model an interactive, digital lesson that engages students in the application of science content as opposed to passive acquisition of knowledge thereby incorporating rigor and relevance to teaching content in science.



We Have Goals!

- ★ Improve the everyday practice of science educators by modeling how to incorporate case studies to support NGSS, Common Core Literacy, Digital Readiness, and GLEs
- ★ Provide opportunities for educators to collaborate and share best practices for 6-12 science content
- ★ Introduce, share, and develop high-quality resources for professional development that can be adopted and scaled appropriately
- ★ Instruction that engages, empowers, and inspires 6-12 science educators and students
- ★ Provide instructional strategies as well as technology skills to help create digital-age instructional activities

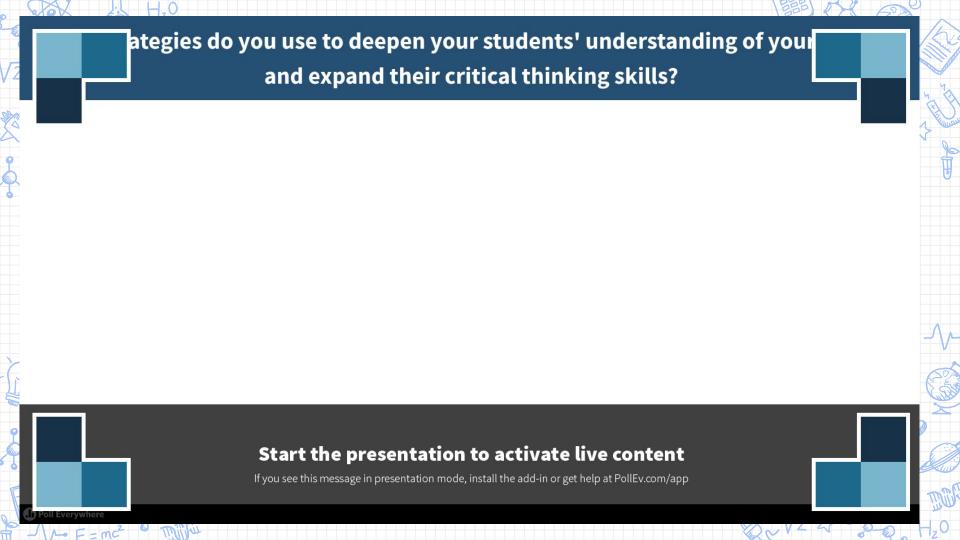


We Are Meeting Standards!

- → Standards K-12 Science
- → K-12 Louisiana Student Science Standards (2017)
- → Connections to ELA & Math K-12 Appendix
- → Reading Standards for Literacy in Science and Technical

 Subjects
- → LDOE Technology Readiness Skills
- → ISTE Student Standards





Case Studies

A Teaching Tool



Case Studies

Have been used to train professionals via problem-based learning in many fields:

- Business
- Law
- Medicine









Case Study Examples

Who Killed Yew Google Form?



Part I - The Intruder

The intruder entered the kitchen of the upscale restaurant at 2:43am. All was quiet. All was dark.

The intruder moved quickly, but he was not in a rush. He knew that the baker would not arrive until 4:00am, as she did most mornings. Most of the meal for the private lunch to be catered later that day had already been prepped. He peered over the stainless steel counterpose and into bows of chopped vegenables, single quoley, and homemade marinades until he found what he was looking for—the dessert peep. Pecan pie was the dessert of choice for the lunch pure. He smilled. He could not have koosen a better dessert to carry out his plan.

The intruder reached into his pocket with a gloved hand and produced a small bag with what appeared to be chopped pecans. These were not pecans, however. The bag contained the chopped seeds of a Taxus baccata tree.

The intruder swiftly dumped the contents of the bag into the bowl of chopped pecans. He stirred the mixture with his hand. Satisfied that no one would notice his addition of the extra ingredient, the intruder made his way out of the kitchen and into the night.

Questions

1. What type of plan could be carried out by adding the seeds of Taxus baccata to a pecan pie?

Murder and Mitosis

- Basic process of mitosis
 to solve a murder
- Naturally-occurring poisons
- Students make connections between poisons and chemotherapy



Case Study Examples

Two Peas in a Pod Google Form



A Case Study of DNA

- Fraternal vs.
 Identical twins
- Students consider evidence from DNA tests
- Benefits and limitations of reproductive technology



Case Studies

Instruction, Pedagogy, & Technology



Case Studies: Instructional Benefits

- Inductive teaching
- Evidence gathering
- Inferences
- Move from specific details to big ideas
- "Working hypotheses"
- Research-based strategies

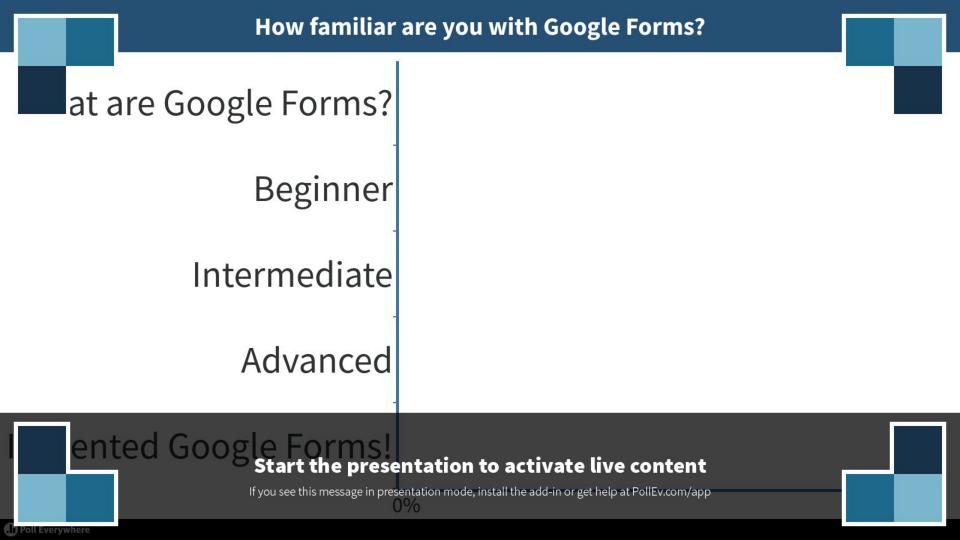
Silver, H. F., Dewing, R. T., & Perini, M. J. (2012). The core six: Essential Strategies for achieving excellence with the Common Core. ASCD.



Google Forms

The Basics





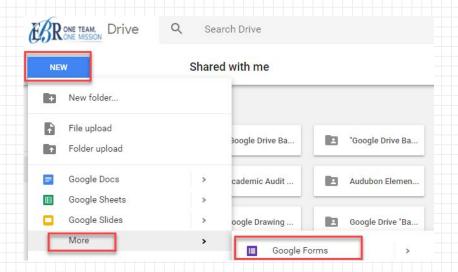
What Can I Do with Google Forms?

- Create an Event Registration Form Open House, Parent Night
- Create an Opinion Poll
- Collect Parent, Student, or Volunteer
 Email Addresses
- Create Quizzes and Classroom Assessments



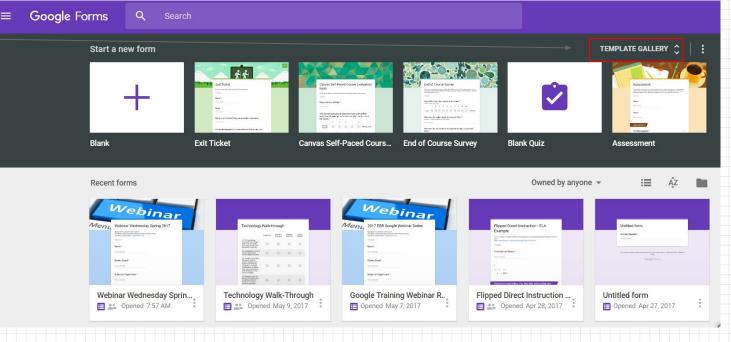
Let's Create a Form!

- Use the "New" button in Google Drive
- Type <u>forms.google.com</u> in the omnibox





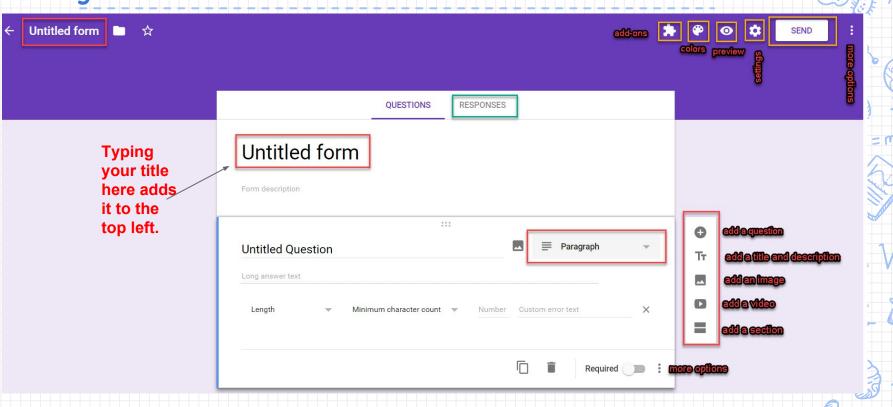
Access Google Form Templates



forms.google.com

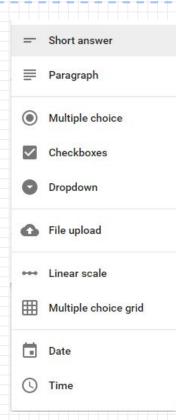






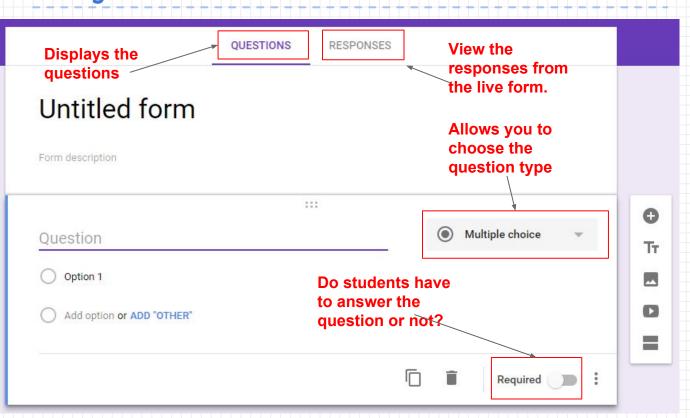
Question Types

- Short Answer
- Paragraph
- Multiple Choice
- Checkboxes
- Grid
- Choose from a List
- Scale
- Date
- Time





Adding Questions





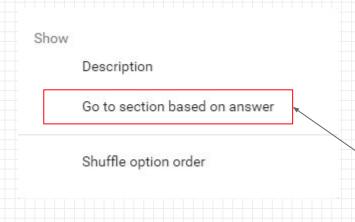
Create a Question

Multiple choice What is 2 + 2? X Add an X image Add option or ADD "OTHER" **Duplicates a** Required question **Deletes the** question

Show Description Go to section based on answer Shuffle option order

Modify the order of answers choices by clicking on the dots and dragging.

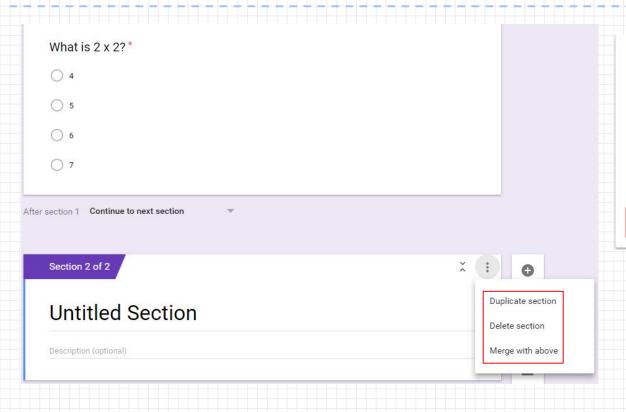
Go To Section Options



Questions can be set to go to a form section based on the student's response...Choose your own adventure!



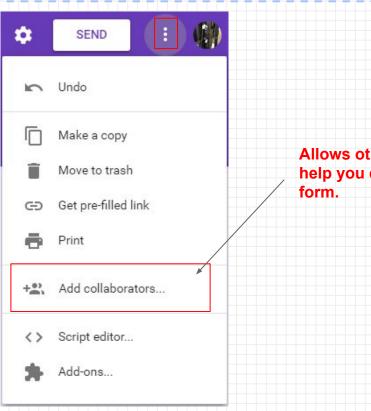
Create Form Sections





Tr

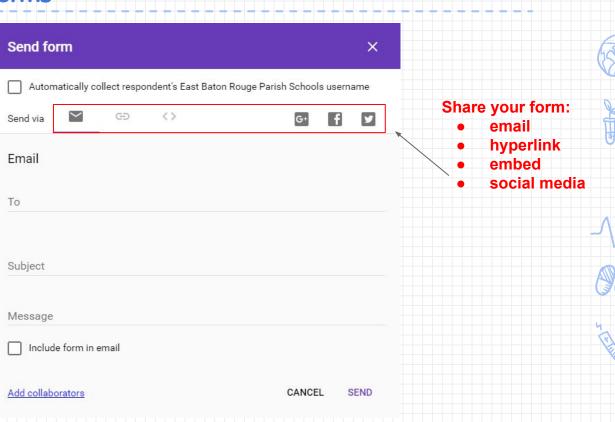
Sharing Google Forms



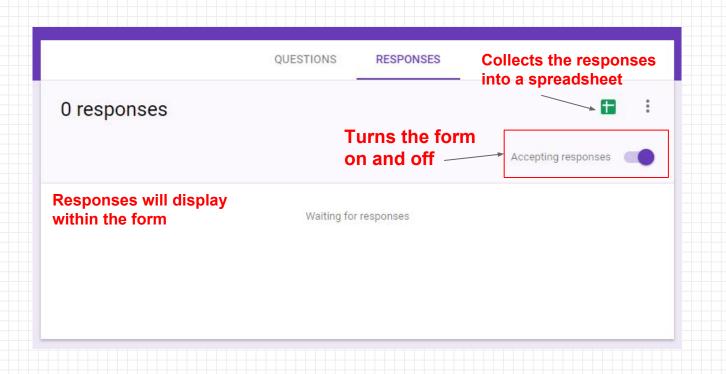
Allows others to help you edit the



Sharing Forms

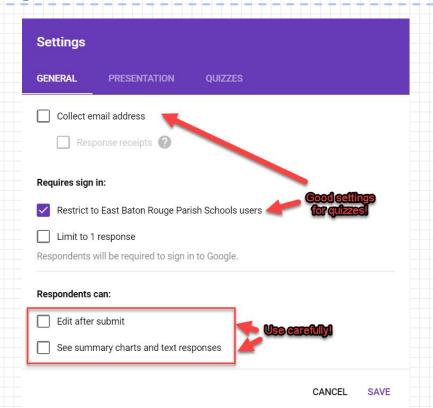


Form Responses



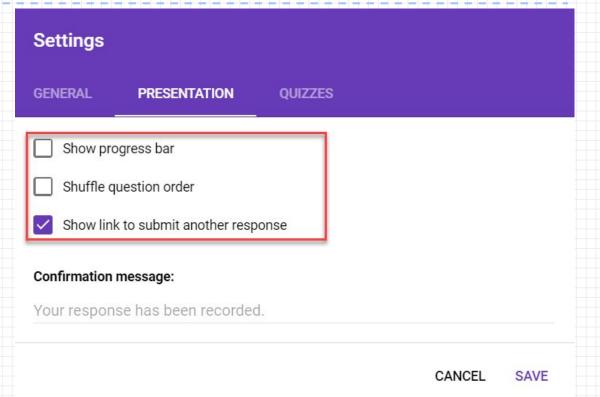


Form Settings: General



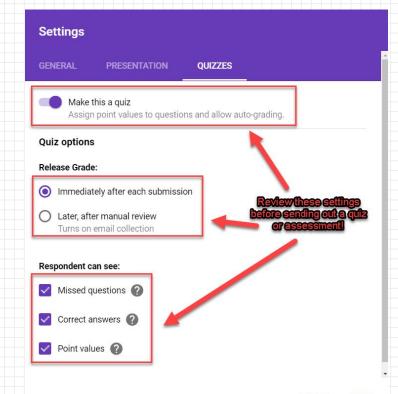


Form Settings: Presentation



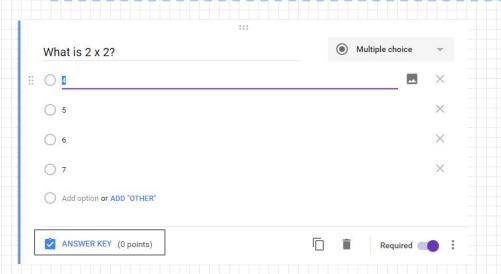


Form Settings: Quizzes



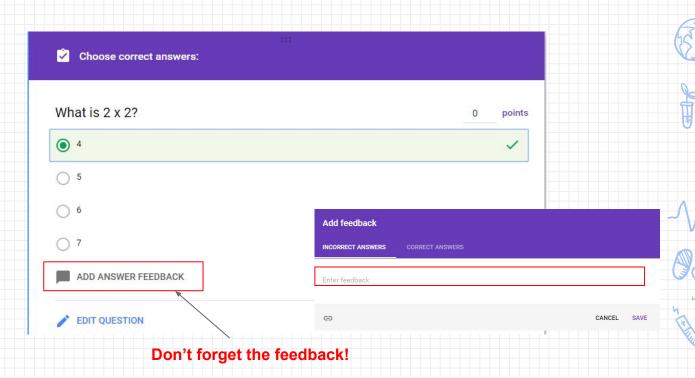


Quizzes: Setup





Quizzes: The Answer Key



Google Forms

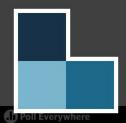
Technology Meets Instructional Strategies





What teacher task takes up the most of your time?





Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app $\,$











Put Google Forms To Work - Strategies

Flip Your Classroom

Infuse automated Create and individualized independent, learning self-paced experiences that learning meet the need of opportunities every student

Automate Response to Intervention

Choose Your Own **Learning Path**

Incorporate optional pathways and extended learning opportunities to personalize the learning experience

Online Testing Prep

Simulate online testing conditions regularly to create familiarity and inspire confidence



Put Google Forms To Work - How To

Flip Your Classroom

Use "Answer Insert content infused media students can explore and learn feedback, from independently

Automate Response to Intervention

Feedback" feature in Quiz mode to provide immediate intervention, and remediation

Choose Your Own Learning Path

Use the "Go To Section" feature to create pathways in response to answers and choices

Online Testing Prep

Use the "Response Validation" feature of text-based answers to create realistic testing conditions









Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app



Creating Instructional Materials

Hands-on Experience



Create Your Own Case Study: Directions

You will have time during this segment to select a case study. Your goal is to create a Google Form containing a case study which will be shared in a Google Doc with everyone.

Shared Google Doc



Additional Resources

Case Studies, Design, Templates, Extended Learning



Additional Resources for Case Studies

Science Case Study Websites

- → National Center for Case Study Teaching in Science
- → Science Case Network

Case Study Design Online Resources

Case Study Excellence in Innovation

Instructional Case Study Examples

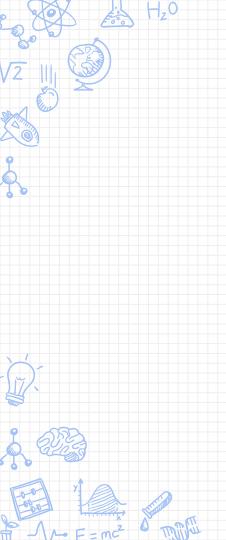
- → Two Peas in a Pod
- → Who Killed Yew?
- Hands-on, In-session Creations



Extended Learning Resources for Google Forms

- → Google for Education Training Center Forms Course
- → G Suite Learning Center Forms Course
- → G Suite Learning Center Tips Library
- → Google Support How to Use Forms
- → Time Saving Tips Forms







THANKS!

Any questions?

You can find us at

- Iridgdell@ebrschools.org
- ✗ kkiper11@ebrschools.org
- ✗ karceneaux@ebrschools.org