

Ignite Discovery!

STEM Foundations





Dyad #1

Instructions:

1. Pair up with a neighbor.
2. Rock, Paper, Scissors
3. Each person will have 1 minute to respond to the prompt questions and then we will switch.

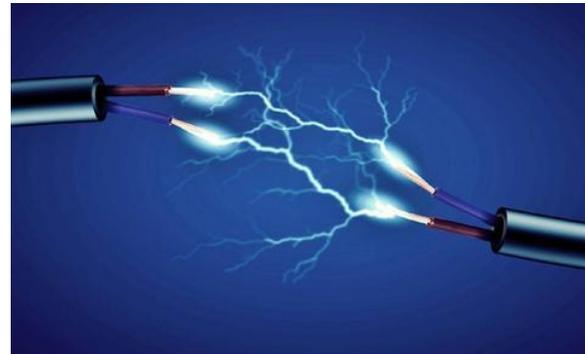


Dyad #1

What is STEM?

- Share what the word STEM means to you when you think about early childhood.
- Have you done STEM activities with your children or in your center?
- How do you feel when you hear the word STEM?

Let's Play!



Put On Your Learner Hat!





All Together!

Feel the Energy

Experiment: What materials can and cannot conduct electricity?

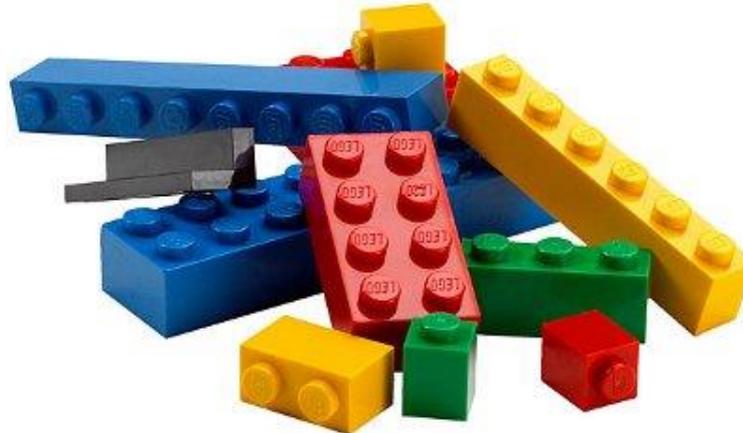




Working in Pairs or Small Groups

LEGO Build

Challenge: Using your 15 LEGOs, build something that can transport something else.





What is STEM?

- **Science**
- **Technology**
- **Engineering**
- **Math**



What does STEM mean?

STEM education is an **interdisciplinary** approach to learning, combining multiple academic subjects, focusing on **real-world lessons**. It is about students **applying** science, technology, engineering, and mathematics in contexts that **make connections** between school, community, work, and the world around them while moving students forward; creating stronger **problem solvers** and more creative innovators to lead the global economy.

What Makes a **STEM** Activity



- Student-centered and teacher-guided.
- Engages students in investigating real world questions.
- Inquiry-based learning.
- Hands-on activities.
- Reinforces 21st century skills.



21st Century Skill Development

- **Critical Thinking**
- **Collaboration**
- **Communication**
- **Creativity**





How Does STEM Translate Into The Preschool Environment?





It's All About Making Connections

Using real world lessons to:

- **Link literacy (story)**
- **Provide interactive opportunities**
- **Challenge to reinforce learning**



Tie It To a Theme

- Take advantage of themes being discussed!
- Focus on age-appropriate activities you can create that relate and make connections between science, technology, engineering, and math.
- Encourage learning through visual and hands-on activities that allow children to discover information, problem solve, and innovate in ways that interest them.



Linking Literacy Learning

- Children love stories; include non fiction books that teach about facts, then a fiction book that relates to the lesson.
- Point out any concepts and connections in the story while reading it.
- Encourage the children by asking questions in which they can apply what they are learning.





Connections to Centers

Discovery/Science

Magnet tiles, LEGOs or any building toy to construct a rocket ship, rover, space station etc. Set up Moon sand with astronauts and space shuttles to explore. Set out books with pictures for children to gain visual knowledge.



Connections to Centers

Math/Manipulative

Rocket pattern match, counting stars game, estimation jars, lacing rocket ships, space rover creations, space puzzles, etc.



Connections to Centers

Dramatic Play/Home Living

Set out astronaut and/or scientist dress up items, create a simple box space ship or robot, provide writing tools for observations, use a camera to collect “data”, etc.





Connections to Centers

Blocks

Incorporate engineering skills using constructive toys such as wooden blocks to make space station, LEGO launch pads, astronaut and space shuttle props.





Challenges That Reinforce Learning

Reinforce learning through different challenging activities such as:

- Engineering Design Challenges
- Science experiments
- Group activities that require teamwork and collaboration





Learn Through Play

Make Learning Fun!

Insert video here - Exploring STEM Concepts in the Early Childhood Classroom

<https://www.youtube.com/watch?v=HglYz0h2n2E&t=85s>

Learn Through Play

Make Learning Fun!

Remember at the end of each lesson it's not all about the content, but about exposure and interactive activities that allow children to unleash their natural curiosity, discover information, and become rational human beings who learn, apply, innovate and embrace science learning for life through play.





Dyad #2

Instructions:

1. Pair up with a *new* neighbor.
2. Rock, Paper, Scissors!
3. Each person will have 1 minute to respond to the prompt questions and then we will switch.



Dyad #2

- Share what *new* ideas you have about STEM in early childhood.
- How do you feel about integrating STEM?
- What's one thing you will take back to your classroom from this experience?



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