Let's Get Back to Hands-On Learning
Using 5E Science Lessons to Emphasize Effective Instructional Sequence

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Learning Goals

- Demonstrate how to engage all students through the 5E model.
- Create an inclusive science learning environment where all students are given the tools they need to be successful.

October 30, 2021

NSTA Regional Conference, Portland – STEMscopes – Heydrick & Shield

Shared Experience

Using all 5 senses:
Make as many observations as you can about the apple and record them on your paper.

Using all 5 senses:
Cross off any observations you can NO LONGER make with a model of the apple.
Count and record your remaining observations.
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Shared Experience

Using all 5 senses:
Cross off any observations you can NO LONGER make with a picture of the apple.
Count and record your remaining observations.

Shared Experience

Using all 5 senses:
Cross off any observations you can NO LONGER make with clipart of the apple.
Count and record your remaining observations.
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Shared Experience

Using all 5 senses:
Cross off any observations you can NO LONGER make about an apple with the word apple.
Count and record your remaining observations.

Shared Experience

How does this experience relate to how students learn?
What does this experience say about the use of instructional strategies in a classroom?

5E Model Of Instruction

Developed by The Biological Science Curriculum Study (BSCS) in the 1980s. Proposes that all learners should build their own understanding of new ideas - constructivist learning. Allows students the opportunity to not only discover new concepts and ideas, but also apply new knowledge in order to solve problems and make future decisions.

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Explore
Present the Content – Help learner understand concepts, process/procedures, facts or principles

Elaborate
Construct New Learning – Help learner apply prior learning and acquire new

Engage
Establish Relevancy – Help learner determine need of learning new concepts

Explain
Improve Understanding – Help learner to express new learning and provide guidance

Evaluate
Assess Learning – Help learner measure learning against its corresponding goals

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Dr. Terry Talley, 5E Model Explained, STEMcoach

Purpose for Learning

How does a wave move an object?

https://youtu.be/uPJfxHpfzvw
Engage: Understandings

Explore: Experience Science
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Explain: Showcase Understanding

Draw a model of a wave.
Label the parts - wavelength and amplitude.

Elaborate: Real World Connections

Various Elaborations
Math connections
Career connections
Reading connections
PhET simulations
Others? _________________
Evaluate: Provide Options

How does a wave move an object?

Options:
- Multiple choice
- Open-ended questions
- C-E-R
- Others? _________

Other 5E Considerations

1. All students should be engaged in the 5E learning cycle, not a subset (equity).
2. Students should be able to "see themselves" in science and STEM activities.
3. All students have access to quality space, equipment, and teachers.
4. Bridge learning between school and students' everyday lives.
5. Use investigations that BUILD on student and community interests and expertise.
How will you incorporate the 5E model to empower all students in science learning?

How can we help you?

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October 2021