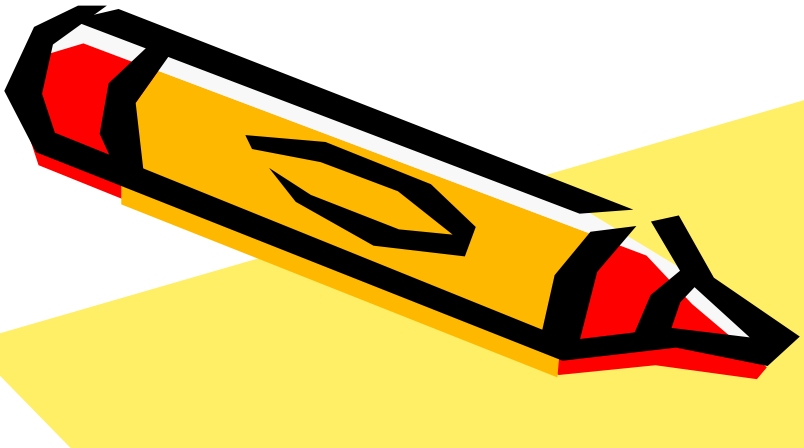


# A Different Approach to Exploring Science

An adventure with students at Delcastle Technical High School

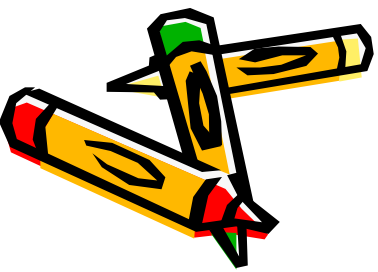
Kristy Longsdorf

# The Teacher, the Students, the Goal

- Partner Teacher
  - Krista Webb
  - Science and Special Education
- Students
  - Ninth grade physical science
  - Eleventh grade integrated science
- Spring Semester Goal:
  - Sustainable activities to challenge students both physically and mentally

# Activities Applied to Integrated Science

- Utilizing scale factors/relative sizes
  - Earth, moon & sun
  - Hometown Planets
- Acting out planetary motion
  - Moon phases
  - Eclipses
- Creatively describing a reaction
  - Nuclear reaction skits



# Using Scale Factors to Determine Relative Size

Earth, moon & sun

Hometown Planets

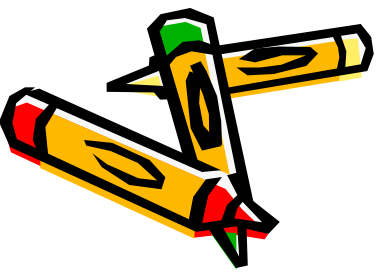
# Moon Phases and Eclipses

Three students each with a role

- Earth (large Styrofoam ball)
- moon (small Styrofoam ball)
- Sun (flashlight)

# Nuclear Reaction Skit: The Objectives

- Describe the process accurately in their own words
- Create a situation to describe the process (acting it out, using a song or poem, etc.)
- Divide work and participate equally as a group

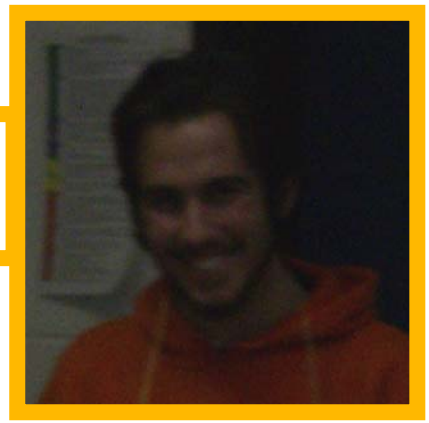


# Nuclear Reaction Skit: The Outcomes

- Better understanding of how the process happens

"It made it easier to learn because it was visual instead of notes."

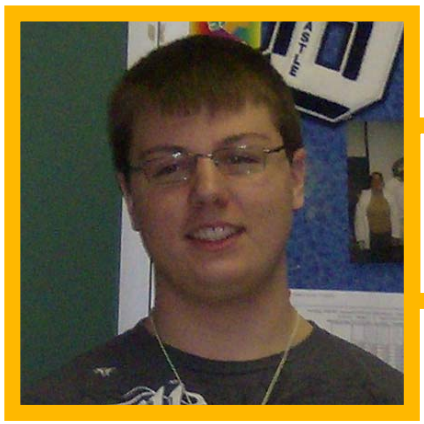
"It gave me a broader image of a lot that can go on in an atom."



"It gave me a chance to be hands-on and visual with my play and others."

# Nuclear Reaction Skit: The Outcomes

- Improvement in presentation and communication skills



"I liked that we got to act out what [nuclear reaction] we were."

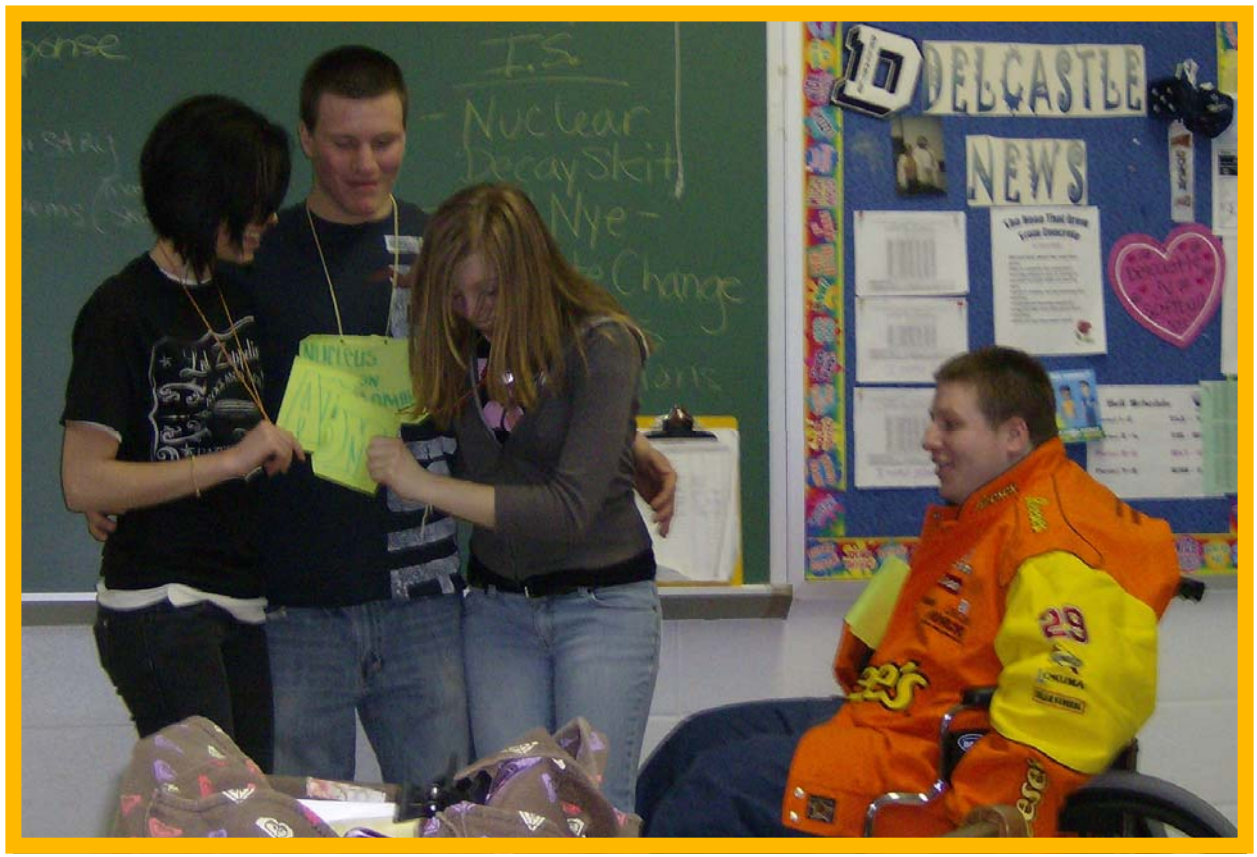
"It was my element because I like acting."

# Nuclear Reaction Skit: The Outcomes

- Students teaching other students in their own words.

# Nuclear Reaction Skit: The Outcomes

- Students teaching other students in their own words.

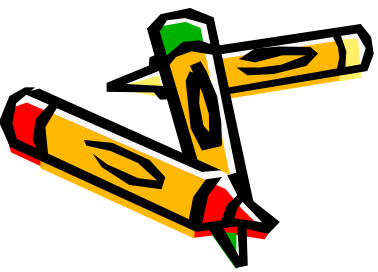


# Nuclear Reaction Skit: Discoveries

- More specific guidelines
  - Assign specific roles to the group members
- If at first it doesn't succeed…
  - Plan for at least one practice run before grading final performance
- Motivation ≠ engagement

# "You want me to enjoy learning about science?"

- How did I try to create motivation and engagement for the whole class?
  - Using activities that get them using their hands as well as their minds
  - Increasingly challenge them
  - Be excited about the material myself!



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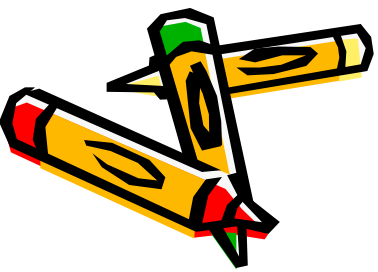

Thank you!