

Norma Boakes
Oakcrest High School
SEM Project 98-99



B.L.A.S.T.

Bubble Lab Adds Science and Technology

&



S.P.L.A.T.

Silly Putty Longevity and Adaptability Testing



Oakcrest High School

- Houses 9th-12th grade
- Rural/Suburban area
- Currently enrolls 1200 students
- 34% free/reduced lunch
- 35% minority
- 36% special education students



Interdisciplinary Math/Science

Teams Integrated Math I with General Science

- Integrated Math I: 9th grade non-college prep basic skills course with inclusion
- General Science: 9th grade non-college prep course covering basic science concepts

Features of interdisciplinary curriculum...

- Topics of classes aligned
- Build off topics from one class to the other
- Joint projects done with classes teamed



NEWMAST

NASA Educational Workshop for Math,
Science, and Technology Teachers



B.L.A.S.T. & S.P.L.A.T.



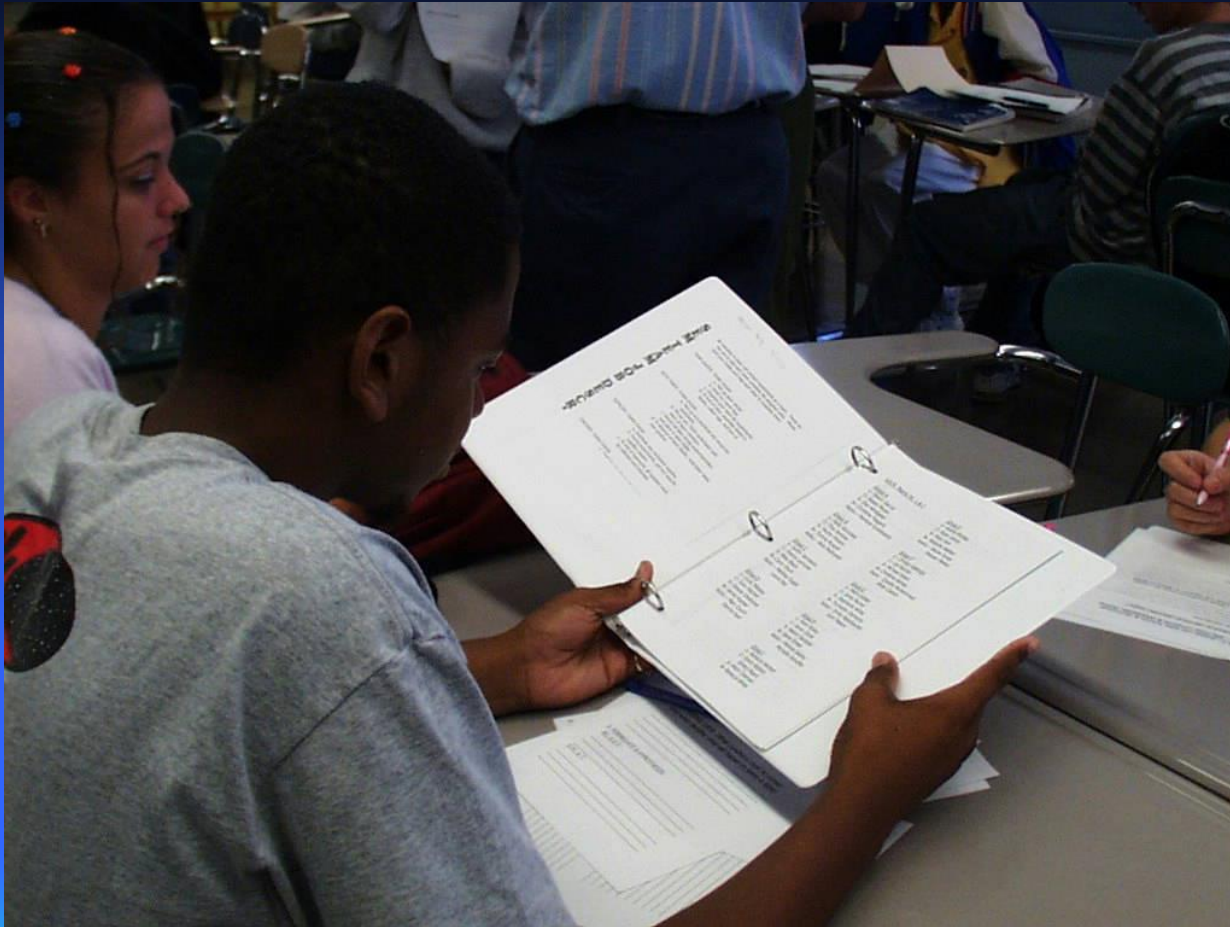
- Written to teach students the steps in the scientific process
- Utilizes math and science skills that they'll learn
- Represents a realistic problem solving situation

Experiment stages



- Introduction to experiment and set up of “scientist teams”
- Preflight testing for both BLAST and SPLAT
- Postflight testing
- Analysis and conclusion

Introduction





Preflight Testing

Bubble Solution

- last-ability
- color
- bubble number
- mass/volume/density
- diameter
- general observations

Silly Putty

- bounce
- stretch
- mass/volume/density
- pressure
- general observations
- imprint

last-ability

B.L.A.S.T.

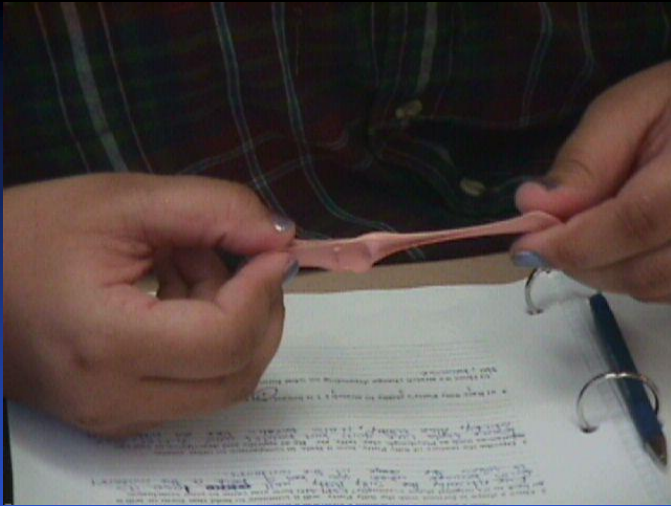


mass/volume/density

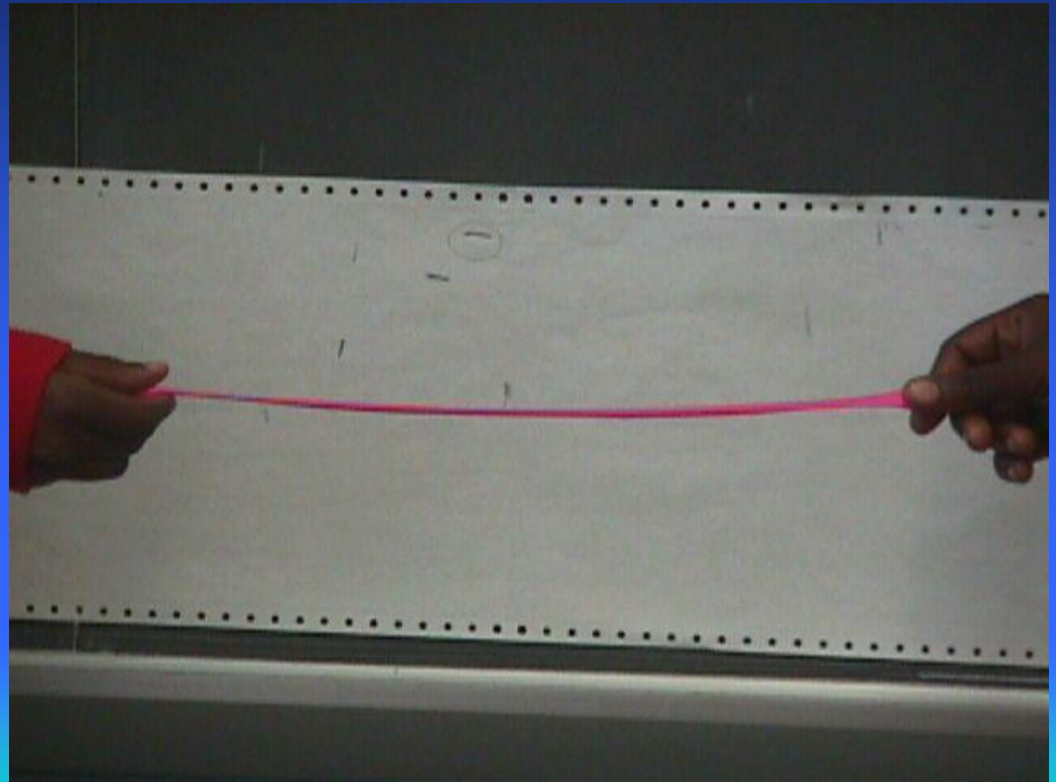
bubble number



color



stretch



S.P.L.A.T.

observations



Watching our experiment launch into space...



Kennedy
Space
Flight
Center

STS-88

*Flight to the
International
Space Station*

*Traveled over
4 million miles before
returning home.*



Retrieving our experiment at *Wallops Flight Facility, VA*



Simulation of launch of Pegasus



Post-Flight Testing



Analysis





A decorative light blue brushstroke with a feathered edge, sweeping from the top left towards the center of the slide.

Curricular Impact

- Student behavior
- Positive feedback
- 50% reported improvement in their math grade
- 87% of students thought what they were doing was useful and meaningful
- 40% improvement in grades of inclusion students



Professional Growth

- Received \$900 from two grants to run Spaceweek 1999 Celebration
- Received \$800 from school to begin new astronomy program
- Selected for Spaceweek International Teacher Award

The sky's the limit...

but not any more!