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Presenters

CHARLI JOHNSOS,
AIA, REFP, LEED AP
Project Executive,
Fanning Howey
cjohnsos@fhai.com

DR. BRIAN BULLIS
Principal, Caruso Middle School
bbullis@dps109.org
@bbbullis
Bbullis.edublogs.org

CHRISTIAN BALL
Science Teacher, Shepard
Middle School
cball@dps109.org

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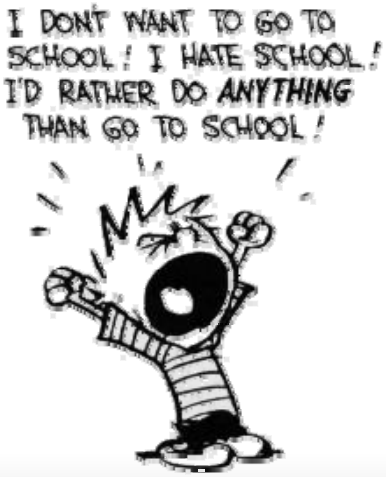
The Familiar Stereotype



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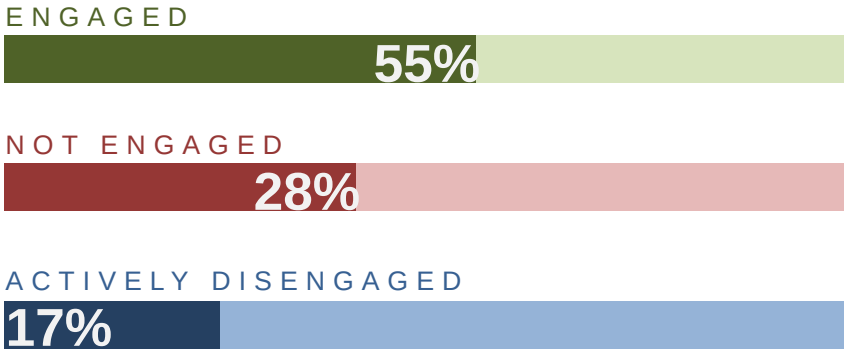
STUDENT EMOTIONAL ENGAGEMENT



Source: 2013 Gallup Student Poll, U.S. overall

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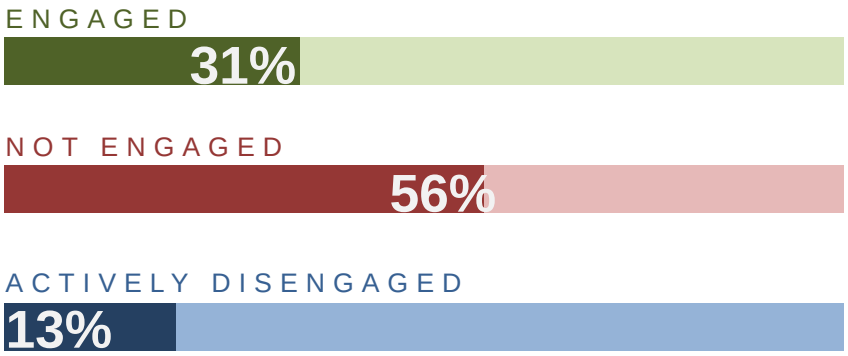
TEACHER EMOTIONAL ENGAGEMENT



Source: 2012 Workforce Poll, U.S. Overall

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Next Generation Science Standards

- Internationally-benchmarked standards that focus on **Core Ideas, Practices, and Cross-Cutting Concepts**
- Adopted by Illinois State Board of Education in January 2014
- Go into effect for 2016-2017 School Year

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District Goals

- Improved technology – **REAL-LIFE APPLICATIONS**
- Health and safety
- Flexible and integrated learning spaces
- Upgraded student labs stations
- Support NGSS adoption
- Develop prototype of ideal space

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Planning for Motivation

- Allows for **additional/ enhanced opportunities** for project/problem/ inquiry based learning
- Can use the **tools** that **real scientists use** in an environment similar to that in which real scientists work in

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Planning Process

- Superintendent's Task Force for Middle Level Education
  - Science/STEM subcommittee comprised of students, parents, teachers, and administrators
- Coincided with our district adoption (and later state of Illinois adoption) of NGSS
- Board understanding and support
- Significant teacher input
  - Multiple meetings with Fanning over the past two years
  - Several board meetings

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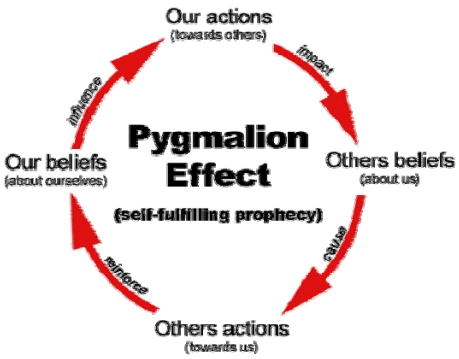
Educational Benefits of Motivation



"Harvard Test of Inflected Acquisition"
designed to predict academic blooming

The experimental group showed a 12.22 point gain versus an 8.42 point gain for the control group

~**Rosenthal R & Jacobson L.**
Pygmalion in the classroom: teacher expectation and pupils intellectual development. New York: Holt, Rinehart & Winston, (1968; expanded edition 1992). 240 p. [Harvard Univ., Boston, MA and South San Francisco Unified Sch. District, San Francisco, CA]

Engagement-Item-Level Response From the Gallup Student Poll - U.S. Overall

CONNECTIONS	N SIZE	STRONGLY DISAGREE				STRONGLY AGREE
I have a best friend in school.	609,392	5	3	6	13	73
I feel safe in this school.	611,773	5	5	14	30	47

STUDENT-CENTERED	N SIZE	STRONGLY DISAGREE				STRONGLY AGREE
My teachers make me feel my school work is important.	612,645	4	4	13	29	50
At this school, I have the opportunity to do what I do best every day.	610,367	5	6	17	32	40

INSPIRATION	N SIZE	STRONGLY DISAGREE				STRONGLY AGREE
In the last seven days, I have received recognition or praise for doing good schoolwork.	602,017	13	11	19	26	31

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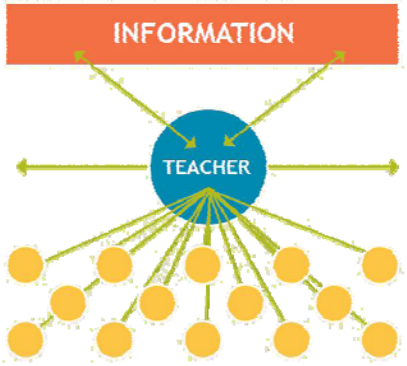
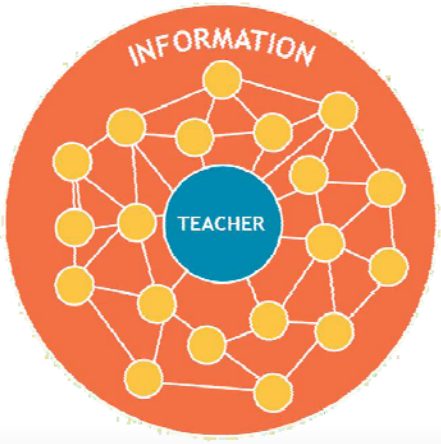
Making Connections – New Modes of Education



20th Century Classroom



21st Century Classroom

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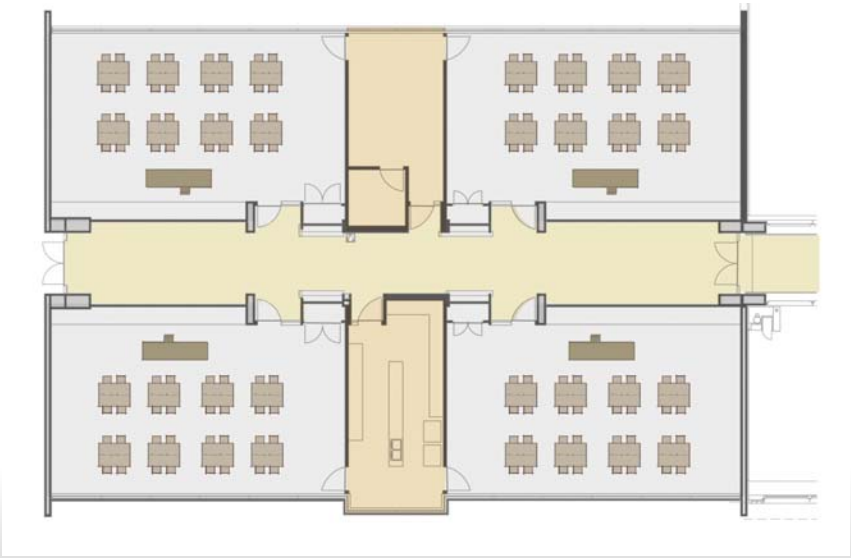
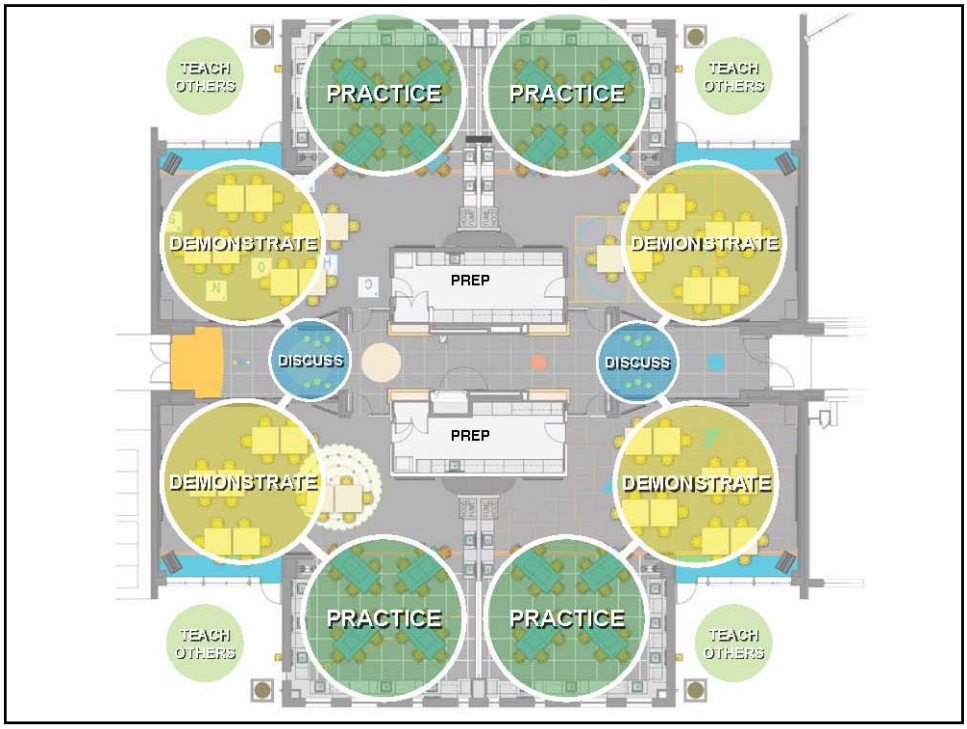
Previous Deerfield Labs





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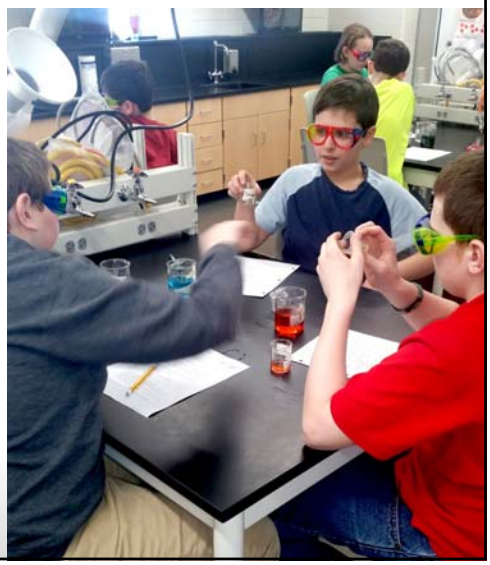

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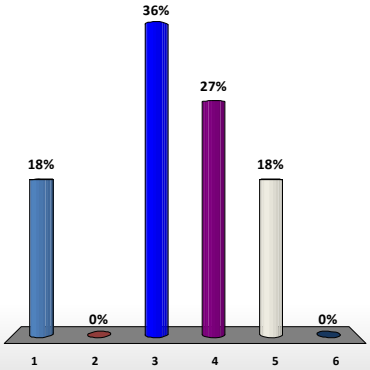
Student-Centered - Flexibility

How desirable is it to add a variety of rooms, enlarge labs, improve casework, technology, utilities, loose furnishings, etc.?

1. Don't know
2. Very Undesirable
3. Undesirable
4. Neutral
5. Desirable
6. Very Desirable



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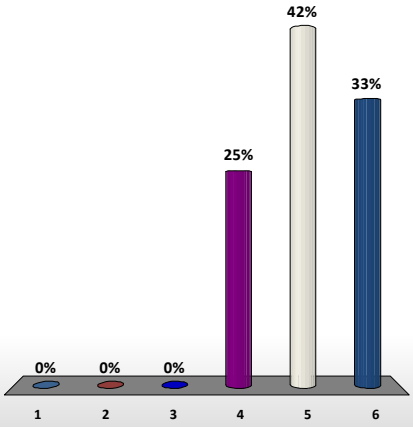
Student-Centered – Activity Zones

How important are activity zones to the layout of the science area?

1. Don't know
2. Very Unimportant
3. Unimportant
4. Neutral
5. Important
6. Very Important



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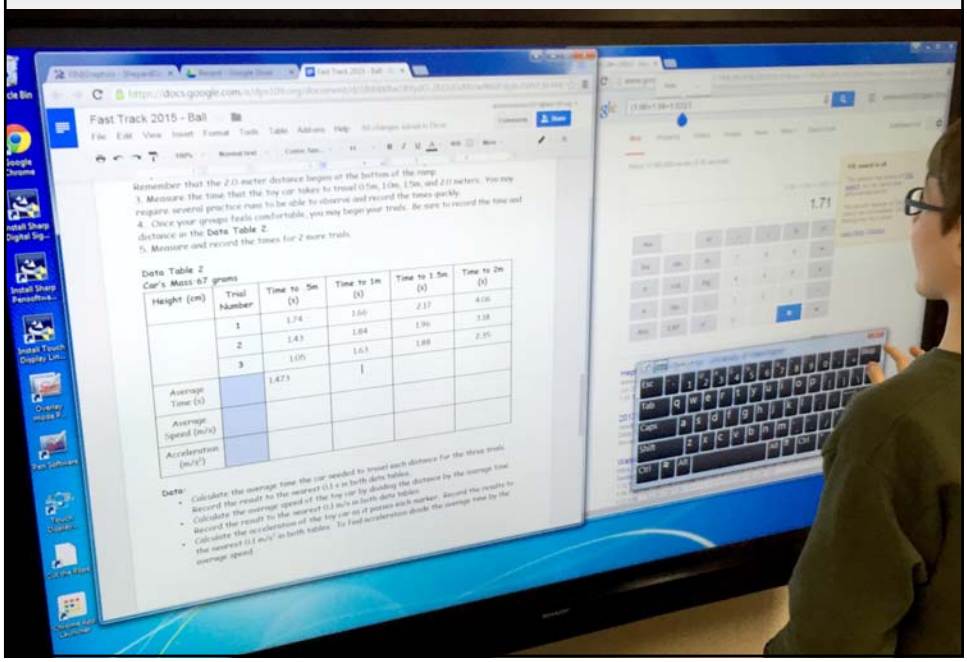

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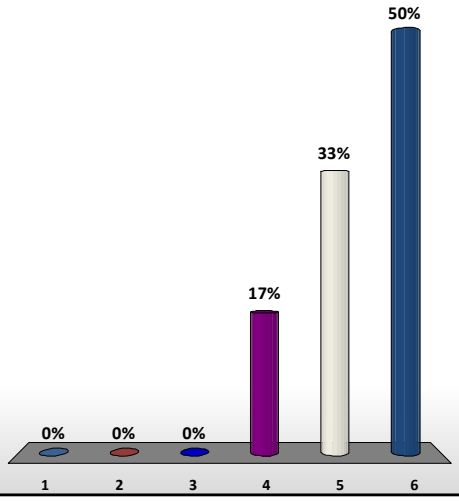
Student-Centered – Technology

How important is it to integrate three projection screens in science labs?

1. Don't know
2. Very Unimportant
3. Unimportant
4. Neutral
5. Important
6. Very Important



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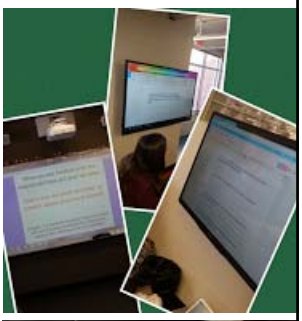

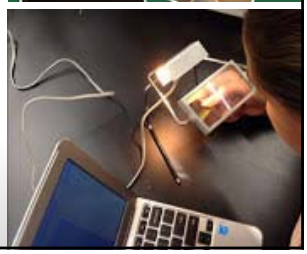

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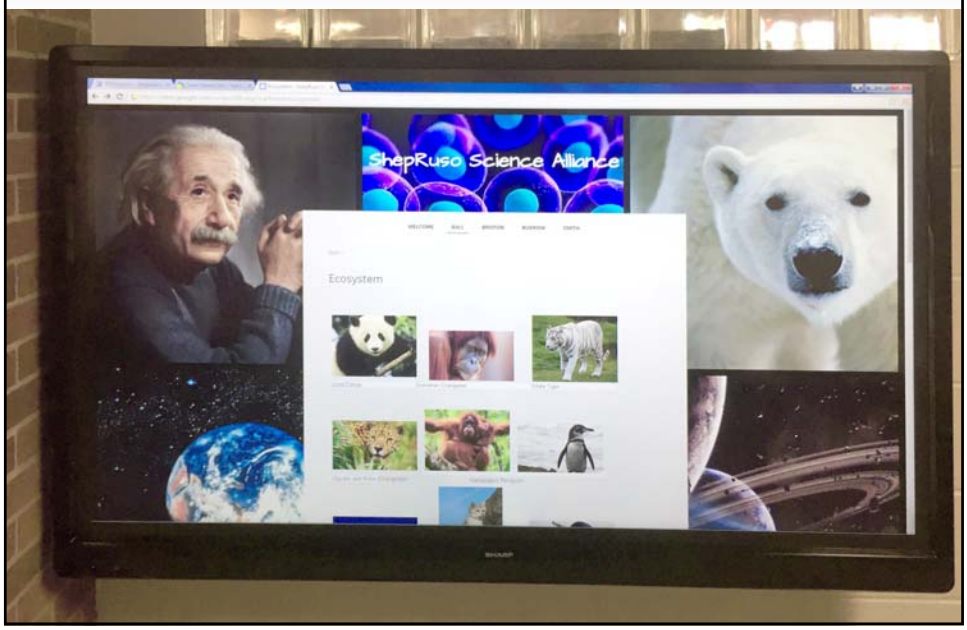

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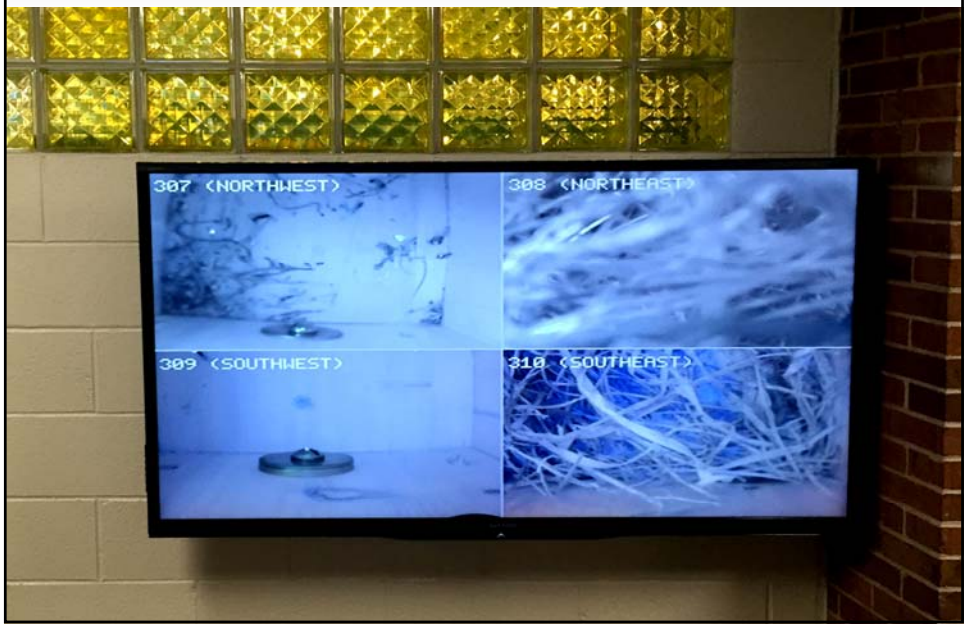

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The Inspiration X-Factor

"My school is committed to building the strengths of each student"

"I have at least one teacher who makes me excited about the future."

Students who STRONGLY AGREE
with these two statements are

30x more likely to be ENGAGED at school
as students who strongly disagree

Source: 2013 Gallup Poll

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Can a building enhance learning?

A Framework for K-12 Science Education:
Practices, Core Ideas, and Crosscutting Concepts

Next Generation Science Standards
For States, By States

1. Patterns
2. Cause and effect
3. Scale, proportion, and quantity
4. Systems and system models
5. Energy and matter
6. Structure and function
7. Stability and change

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Patterns

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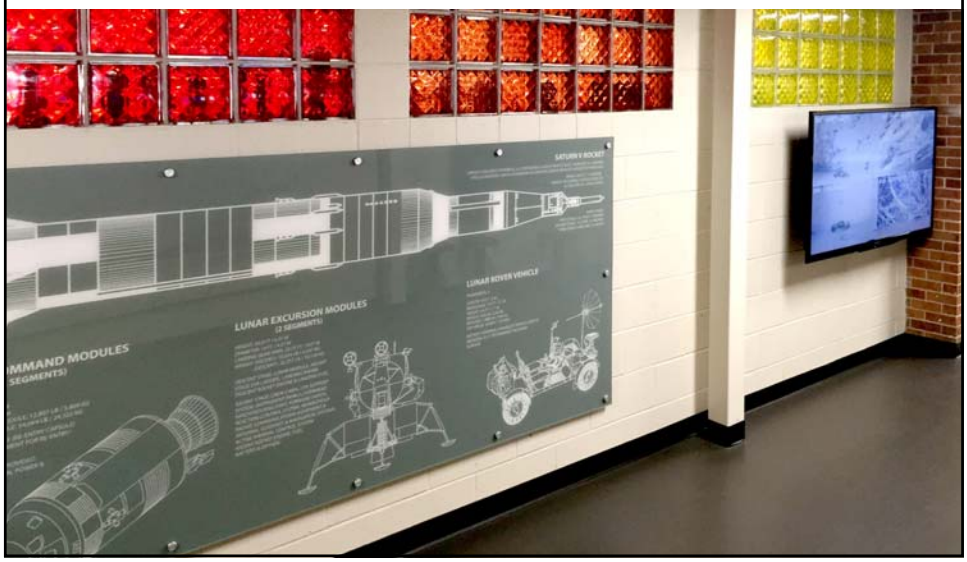
Cause and Effect



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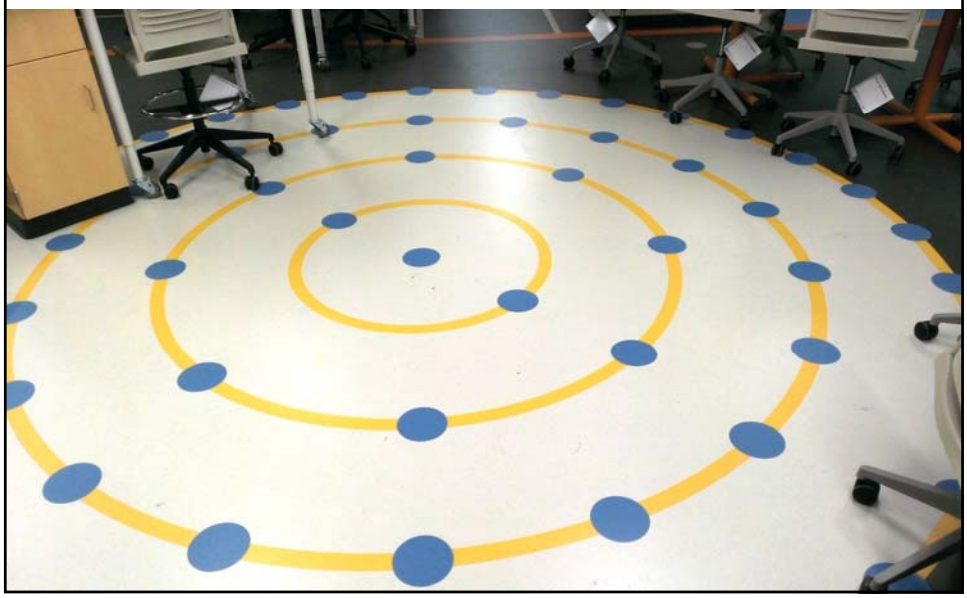
Scale, Proportion and Quantity



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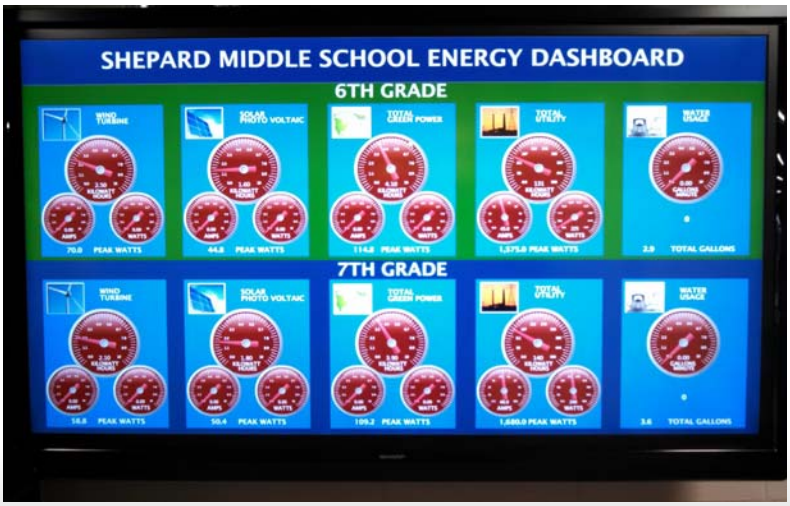
System and System Models



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Energy and Matter

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Structure and Function

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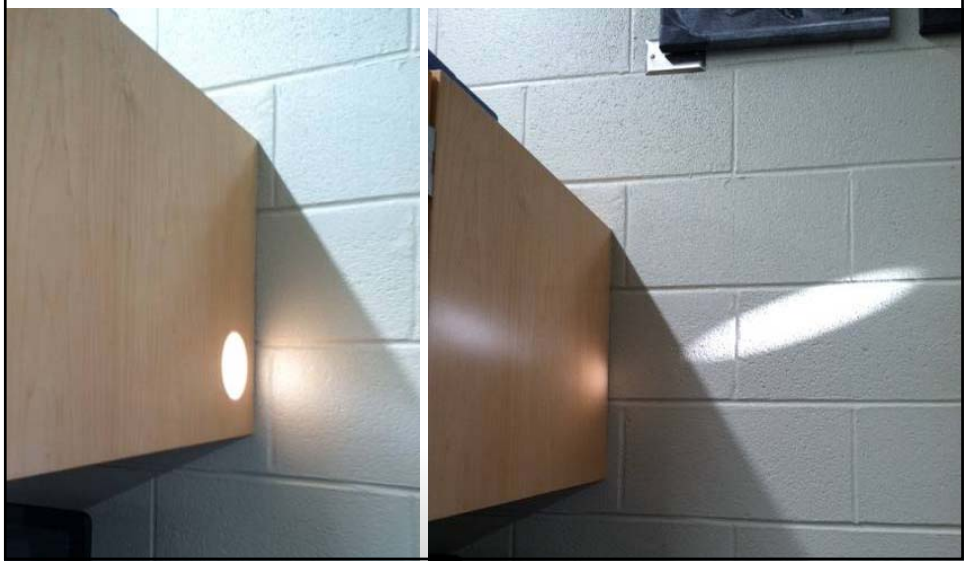
Stability and Change



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The Learning Landscape begins…