Maintaining an Engaged Classroom
Demonstrations for Provoking and Maintaining Mathematical Curiosity

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Why Curiosity Matters

Introduction
Abstraction and Engagement

Background
The Curious Student
Behavior Traps

Demonstrations
Making Mathematics Tangible
Math vs Physics

Results
Student Response
Abstraction and Pedagogy
Study 1

- Curiosity and Academic Performance
- Lessons from Mozart and Ben Franklin
STUDY 1

- Curiosity and Academic Performance
  - Curious students perform better
  - Drudgery vs delight
- Lessons from Mozart and Ben Franklin
**STUDY 1**

- Curiosity and Academic Performance
  - Curious students perform better
  - Drudgery vs delight
- Lessons from Mozart and Ben Franklin
  - Hard work can trump natural talent
  - Curiosity and conscientiousness vs intelligence
STUDY 2

- Underachieving Gifted Students
- “Tricking” students into caring
STUDY 2

- Underachieving Gifted Students
  - The most important factor
- “Tricking” students into caring
STUDY 2

- Underachieving Gifted Students
  - The most important factor
  - Gifted students vs. non-gifted students
- “Tricking” students into caring
STUDY 2

- Underachieving Gifted Students
  - The most important factor
  - Gifted students vs. non-gifted students
- “Tricking” students into caring
  - Demonstrations as “behavior traps”
It’s a trap!
VIBRATING SPEAKER CONE
### Magnets and Ferrofluid
### Math vs Physics
“When am I ever going to use this?”
REFERENCES
