Trent University

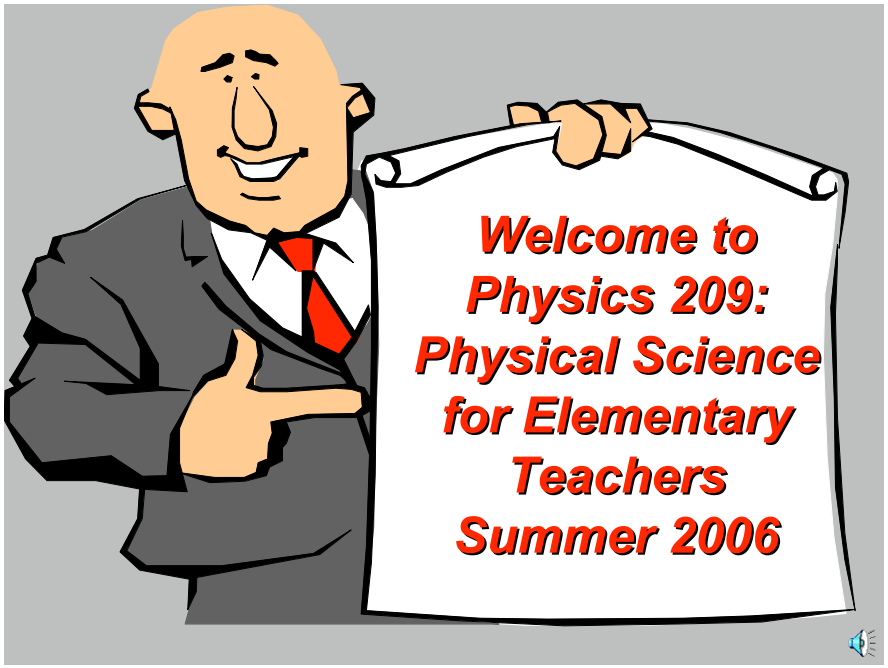
Physics 209

Put on your
speakers or earphones first

The audio part of this presentation was recorded for an earlier semester and so it may not make complete sense for our course...

Then, up on the top tool bar of your screen click on:
"Slide Show" and then "View Show"…..

Then hit the "space bar" once



Johann Beda

First: let's get to know who I am; that's me

Instructor at Trent since 2003….
- **taught at UIUC, McMaster, Trent**
- **Research interests in Physics Education**

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Research
- **High Energy Theory (Particle Physics)**
- **Physics Education**

Interested in how people learn science...

I'd like you to jot down (on the worksheets) three or four items <u>about you</u>… anything you think might interest others

1) Live hello

2)

3)

4)

Now share your list with your neighbour for a few minutes. Meet a classmate.

(Don't worry, you will not have to share with everyone)

We all do it sometimes, don't we?

Again on the worksheets, I'd like you to jot down three or four ideas about your <u>expectations</u> for Physics 209….

1)

2)

3)

4)

Again on the worksheets, I'd like you to jot down three or four ideas about your <u>expectations</u> for Physics 209….

1) 100% "A+"
2)
3)
4)

Now share your list with your neighbour for a few minutes.

Are your expectations the same as theirs?

Now here are some of my ideas about my expectations for Physics 209….

1)
2)
3)
4)

Now here are some of my ideas about my expectations for Physics 209….

1) Safe Classroom
2)
3)
4)

Now here are some of my ideas
about my expectations for Physics 209….

1) Safe Classroom

2) Restraint

3)

4)

Now here are some of my ideas
about my expectations for Physics 209….

1) Safe Classroom

2) Restraint

3) Ontario 1-8 Curriculum

4)

Now here are some of my ideas
about my expectations for Physics 209….

1) Safe Classroom

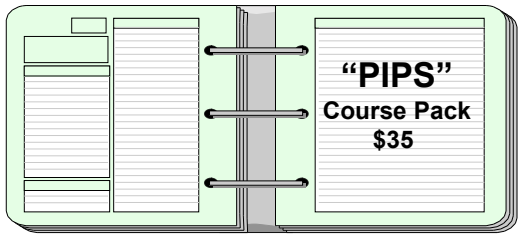
2) Restraint

3) Ontario 1-8 Curriculum

4) Have Some Fun Together

Text / Workbook:

"Powerful Ideas in Physical Science"



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- clarify things you already know

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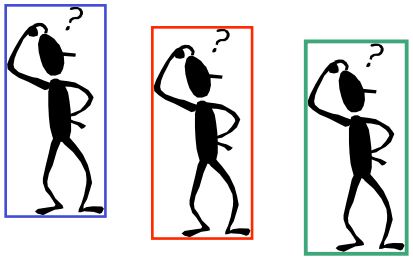
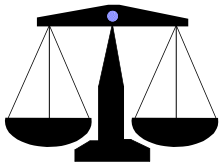
- clarify things you already know
- reveal differences among the class



"PIPS" presents Case Studies that will ….

- clarify things you already know
- reveal differences among the class
- get you to predict outcomes



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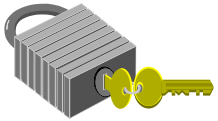
- clarify things you already know
- reveal differences among the class
- get you to predict outcomes
- lead you to experiment and discover
- document what you have discovered



"PIPS" presents Case Studies that will ….

- clarify things you already know
- reveal differences among the class
- get you to predict outcomes
- lead you to experiment and discover
- document what you have discovered
- examine scientific learning processes

"PIPS ...

a) elicits students' existing notions in writing and in groups.

b) presents *disequilibrating experiences* which prompt reexaminations and reevaluations of existing notions.

c) engages students in carefully designed collaborative activities.

d) leads students to constructing their own new notions and improved conceptual understanding. "

Source: "PIPS instructor's guide"

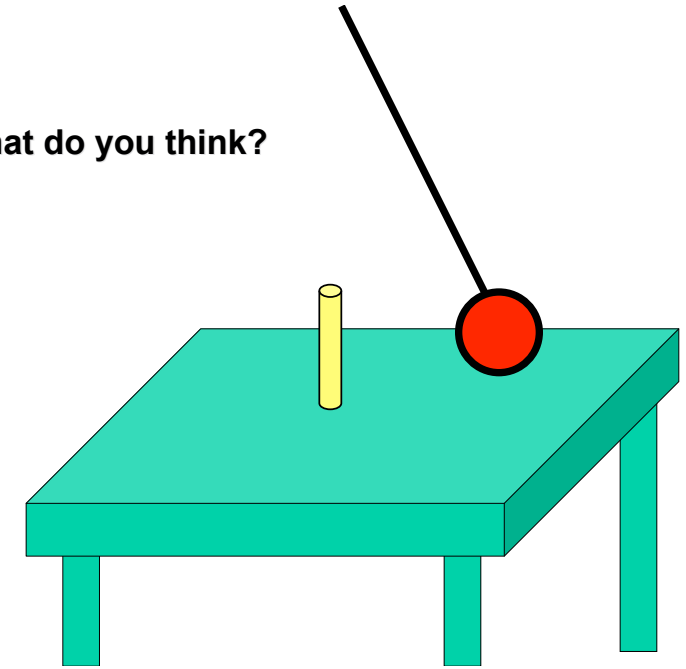
Engaged Learning in…..

- Light & Colour
- Electricity
- ~~Motion~~
- Pulleys, Levers and Gears

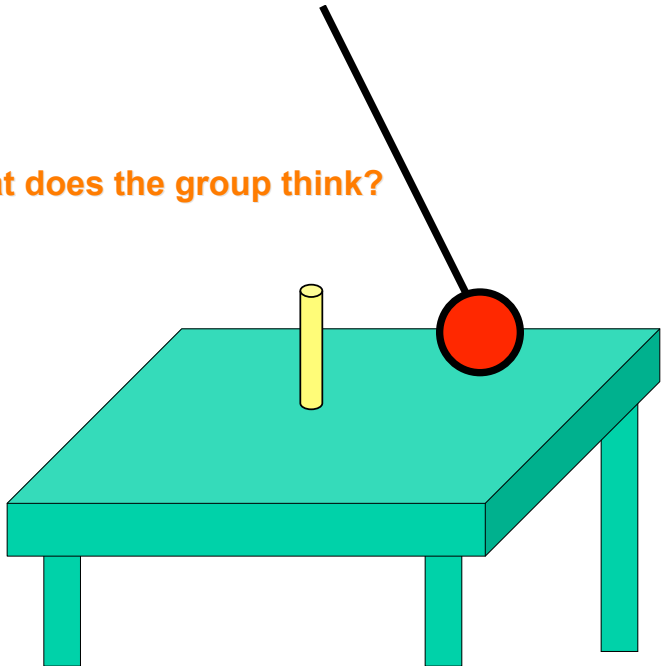
Let's examine an example taken from…..

- Light
- Electricity
- **Motion**
- Pulleys, Levers and Gears

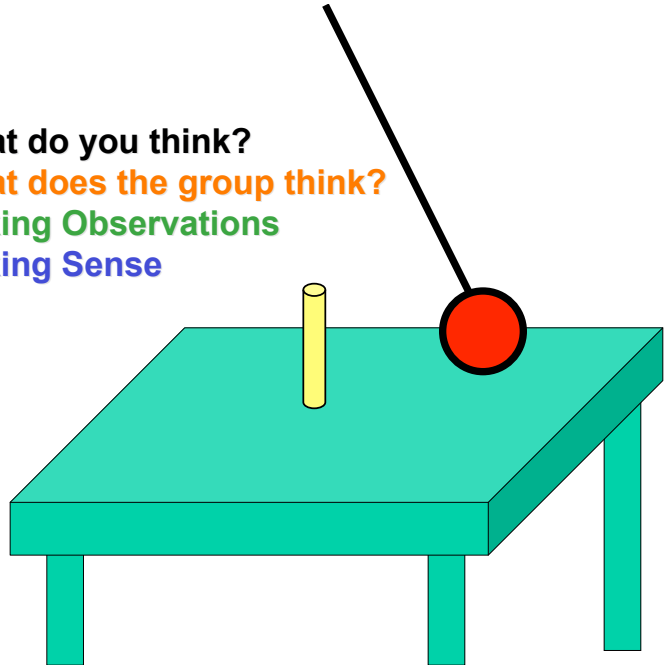
What do you think?



What does the group think?



What do you think?
What does the group think?
Making Observations
Making Sense



Other aspects of Physics 209...

- Journals
- Ontario's 1-8 Science Curriculum
- *How* we learn most effectively
- E-mail & web page communications

That's John Earnshaw facilitating someone's learning in the Physics 209 lab

Your five tasks before the next class:

1) Get your "trentu.ca" accounts activated.

nb: If you wish to use another e-mail address, set your "trentu.ca" e-mail to be automatically forwarded.

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3) Send me a short e-mail message (under 100 words, with "Physics 209 Intro" in the subject line) from your trentu.ca email account introducing yourself, and telling me your expectations for the course. (Do this soon, but at least a day before your next class.)

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3) Send me a short e-mail message from your trentu.ca email account introducing yourself, and telling me your expectations for the course.

4) Post a message in the class WebCT discussion forum.
(Use the forum "Intro Messages", make it under 100 words, and use the subject "HW01 - Intro Messages". Include something interesting - maybe your favourite cookie recipe.)

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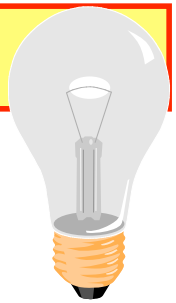
5) Bring $35 to next week class in room ESC 305:
(You will be given a journal and a weekly PIPS course pack)

PHYSICS 209…



"constructivist learning" by "engaged interactions"

Get your ID at http://www.trentu.ca/claimid

My name is Johann Beda
My e-mail address is jbeda@trentu.ca

The course WEB page is at:
http://www.trentu.ca/physics/jbeda/PHYS209/
http://www.trentu.ca/webct/