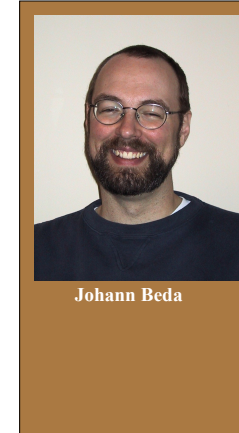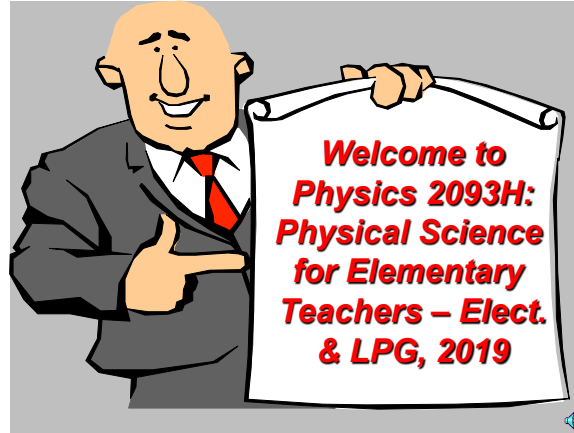## Physics 2093H

Trent University

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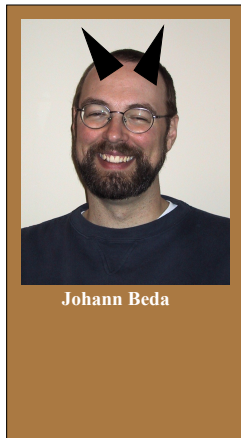
Then, up on the top tool bar of your screen click on:
"**Slide Show**" and then
"**View Show**"…..

Then hit the "**space bar**" once

Welcome to Physics 2093H: Physical Science for Elementary Teachers – Elect. & LPG, 2019

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

Johann Beda

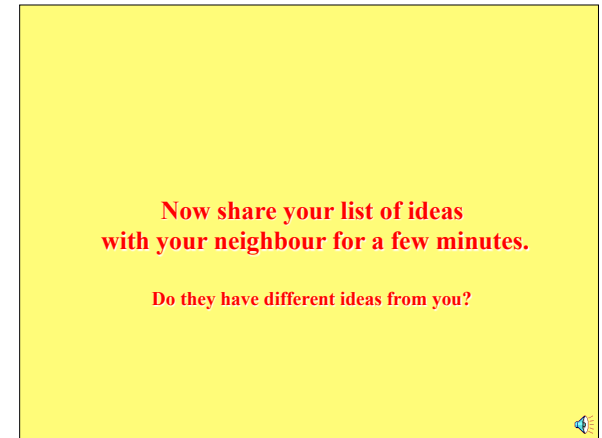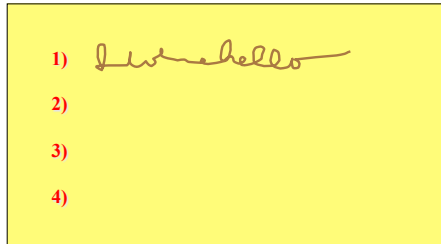
First: let's get to know who I am; that's me

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

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

Interested in how people learn science...

Johann Beda

I would like you to jot down (on the worksheets) three or four ideas about what type of person would get the most out of this class.

1)
2)
3)
4)

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

Do they have different ideas from you?

Who would you like to be?
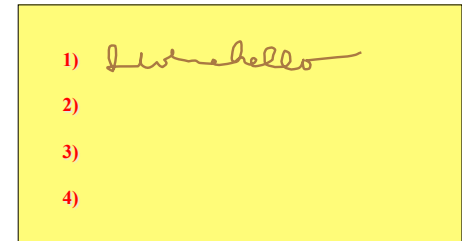
Your name here

Who would you like to be?

Write that name on your fancy new journal.
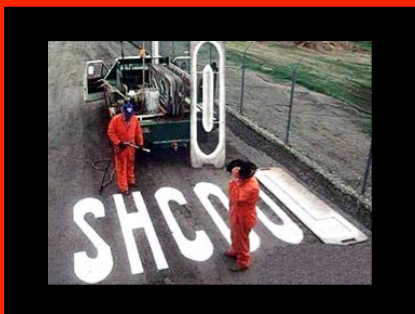
Your name here

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

1)
2)
3)
4)

Now share your list (and your name) 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?

SHC...

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

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 the course….

1)   Eat dough-nuts each class

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 the course….

1)

2)

3)

4)

Now here are some of my ideas about my expectations for the course….

1)   Safe Classroom

2)

3)

4)

Now here are some of my ideas about my expectations for the course….
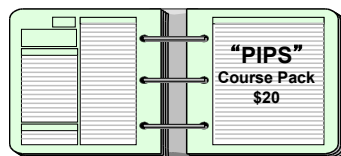
1)   Safe Classroom

2)   Restraint

3)

4)

Now here are some of my ideas about my expectations for the course….

1)   Safe Classroom

2)   Restraint

3)   Ontario 1-8 Curriculum

4)

Now here are some of my ideas about my expectations for the course….

1) **Safe Classroom**

2) **Restraint**

3) **Ontario 1-8 Curriculum**

4) **Have Some Fun Together**

Text / Workbook:

"Powerful Ideas

in

Physical Science"

"PIPS"
Course Pack
$20

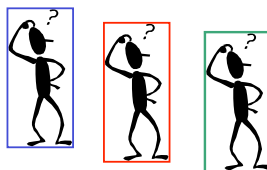**"PIPS" presents Case Studies that will ….**

"PIPS" presents Case Studies that will ….

- clarify things you already know

"PIPS" presents Case Studies that will ….

- 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

"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

PIPS

"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

"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"**
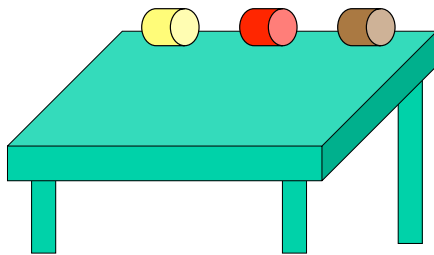

Engaged Learning in…..

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

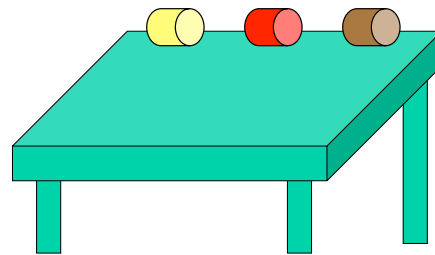**Let's examine an example taken from…..**

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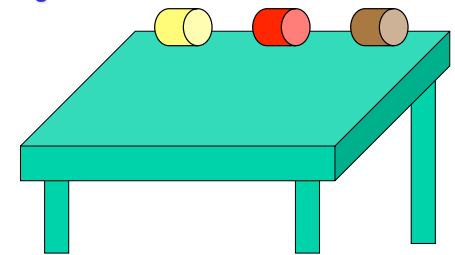- Pulleys, Levers and Gears

---

What do you think?

What does the group think?

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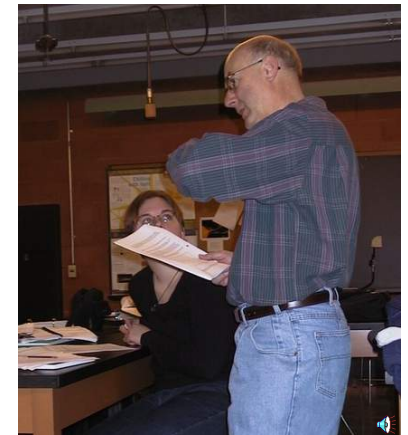**Making Observations**
Making Sense

Other aspects of Physics 2091H...

- **Journals**

- **Ontario's 1-8 Science Curriculum**

- *How* **we learn most effectively**

- **E-mail & other communications**

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

Your tasks before the next class:

- Get your "trentu.ca" accounts activated and complete the myLearningSystem demographics survey.

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

Your tasks before the next class:

- Get your "trentu.ca" accounts activated and complete the myLearningSystem demographics survey.

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

  If you had an account previously, but have not used it recently, you may have to logon to
  https://www.trentu.ca/mytrent/activate.php

Your tasks before the next class:

- Get your "trentu.ca" accounts activated and complete the myLearningSystem demographics survey.

- Upload a short computer file to myLearningSystem with your response to the "Everything You Thought You Knew About Learning Is Wrong" article.
  With SafeAssign

Your tasks before the next class:

- Get your "trentu.ca" accounts activated and complete the myLearningSystem demographics survey.

- Upload a short computer file to myLearningSystem with your response to the "Everything You Thought You Knew About Learning Is Wrong" article.

- Send me a short e-mail message (under 100 words, with "Physics 2093H 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.)

Your tasks before the next class:

- Get your "trentu.ca" accounts activated and complete the myLearningSystem demographics survey.

- Upload a short computer file to myLearningSystem with your response to the "Everything You Thought You Knew About Learning Is Wrong" article.

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

- Post a message in the online class discussion forum.
  (Use the topic "Homework 01/Assignment 0" in the category "Homework and Assignments". Make it under 100 words, with the subject "HW01 - Intro Messages". Include something interesting - maybe your favourite cookie recipe.)

Your tasks before the next class:

- Get your "trentu.ca" accounts activated and complete the myLearningSystem demographics survey.

- Upload a short computer file to myLearningSystem with your response to the "Everything You Thought You Knew About Learning Is Wrong" article.

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

- Post a message in the online class discussion forum.

- Bring $20 to next class in room ESC 305
  (You will be given a journal and a weekly PIPS course pack)

Your tasks before the next class:

- Get your "trentu.ca" accounts activated and complete the myLearningSystem demographics survey.

- Upload a short computer file to myLearningSystem with your response to the "Everything You Thought You Knew About Learning Is Wrong" article.

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

- Post a message in the online class discussion forum.

- Bring $20 to next class in room ESC 305.

- Look at Assignment #1.

PHYSICS 2093H…

"constructivist learning" by
"engaged interactions"

Get your network ID at **https://www.trentu.ca/mytrent/activate.php**

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/PHYS209x/
http://www.trentu.ca/mytrent/