

August 26, 2019

Find your name at a table. Sit anywhere at that table

Measuring your Molecular Kinetic Energy

- How are you doing today? How was your summer break?
- What are you looking forward to this week? This year?
- How did you feel about the summer homework? Easy? Challenging? Just Right?
- Is there anything that you need help with?

Entry: On the notecard in front write the following

- The name that you would like to be called, your last name, and something (or things) that I should know about you
- What projects have you had in the past that you would like to revisit?
- What projects have you had in the past that you never want to do again?
- What projects have you seen others do that you REALLY wanted to do?

A little about me



Physics Physics Everywhere

Standard Model of Elementary Particles

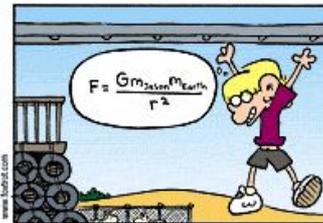
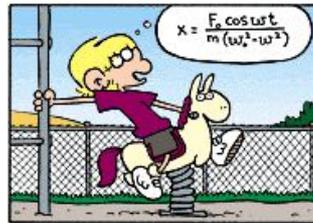
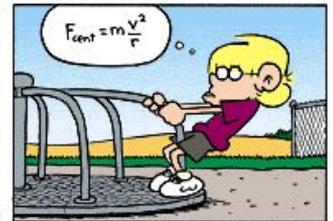
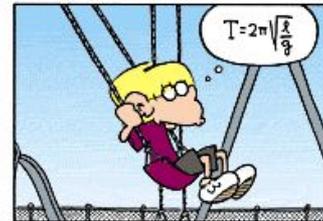
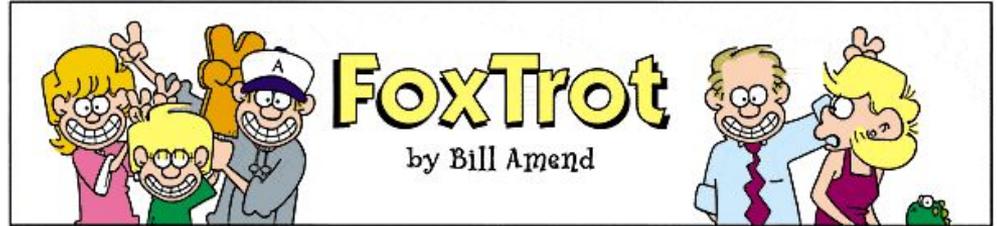
three generations of matter (fermions)

	I	II	III		
mass	$=2.2 \text{ MeV}/c^2$	$=1.28 \text{ GeV}/c^2$	$=173.1 \text{ GeV}/c^2$	0	$=125.09 \text{ GeV}/c^2$
charge	$2/3$	$2/3$	$2/3$	0	0
spin	$1/2$	$1/2$	$1/2$	1	0
	u up	c charm	t top	g gluon	H Higgs
	d down	s strange	b bottom	γ photon	
	e electron	μ muon	τ tau	Z Z boson	
	ν_e electron neutrino	ν_μ muon neutrino	ν_τ tau neutrino	W W boson	

QUARKS (left side)

SCALAR BOSONS (right side)

GAUGE BOSONS (bottom side)



Habits of a Scientist/Engineer

1. Asking questions and define problems
2. Develop and use models
3. Plan and carry out investigations
4. Analyze and Interpret Data
5. Use Mathematical and Computational Thinking
6. Construct Explanations and Design Solutions
7. Engage in Argument from Evidence
8. Obtain Evaluate and Communicate Information



Some Quick Class Info

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- Class Routines
- Homework, Hand in and Hand Back, Late Work
- Lab Notebooks
- Notes
- No Food on Lab Days, Other Times TBD
- Grading
- Honors
- Syllabus
- Toothless
- Seating
- Electronics
- Norms

Physics of Atoms

— August 26, 2019 —

Words and ?'s You Identified in Feynman Reading

- What puzzles me is...
- I'd like to talk with people about...
- I'm confused about...
- Don't you think ___ is similar to ...
- Do you agree that the big idea of ___ seems to be ...
- I have questions about ...
- I think ___ means ...
- Do you think ...
- What does it mean when Feynman says ...
- Do you agree that ...

Discussing the Feynman Lecture

Turn to your table partner (or partners) discuss the questions you had and the words you found interesting.

Write your questions and words in your notebooks

Write your 2 favorite questions and 2 favorite words on the whiteboard

