

Get the Facts Out

Secondary Teaching Benefits Compared to Industry and University Teaching

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Workshop Plan

5 min	Introduction
20 min	Data Mining Part 1
10 min	Origin Story
15 min	Data Mining Part 2
5 min	Get the Facts Out Toolkit

Workshop Goals

Participants will be able to:

- Provide realistic information about STEM industry, college faculty, and secondary faculty salaries;
- Generally explain retirement options for teachers compared to private sector STEM jobs;
- Provide accurate teacher retention data.

Presenters will be able to:

- Translate participants' perspectives into effective messaging for recruiting math and science teachers.

Teaching Myths & Realities



Data Mining

- Each group (~4 individuals) will receive 4 documents; each person should review 1 document.

The Wall
Street
Journal:
Salary by
Major

High School
and College
Teacher
Salaries

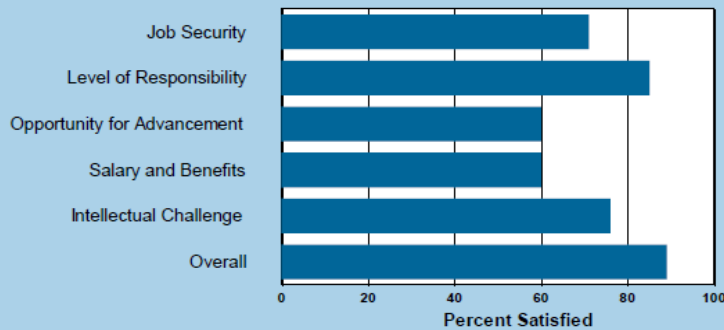
Teacher
Opportunities
and Benefits

American
Institute for
Physics - Job
Satisfaction
Statistics

- After reviewing the documents, share your findings with the rest of the group.

2011/2012 and 2013/2014

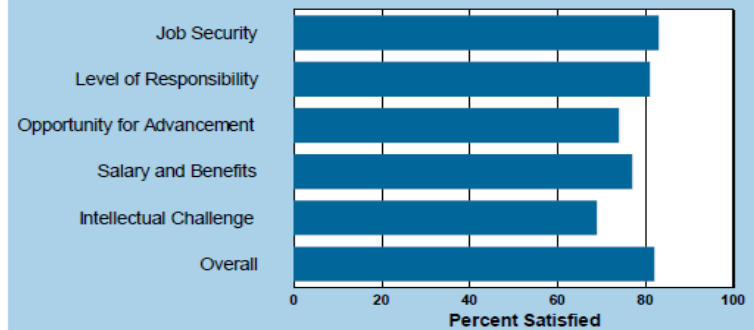
Job Satisfaction of Physics Bachelor's in High School Teaching Positions, Classes of 2011 & 2012 Combined.



Percentages represent the physics bachelor's who chose "very satisfied" or "somewhat satisfied" on a four-point scale that also included "somewhat dissatisfied" and "very dissatisfied."

<http://www.aip.org/statistics>

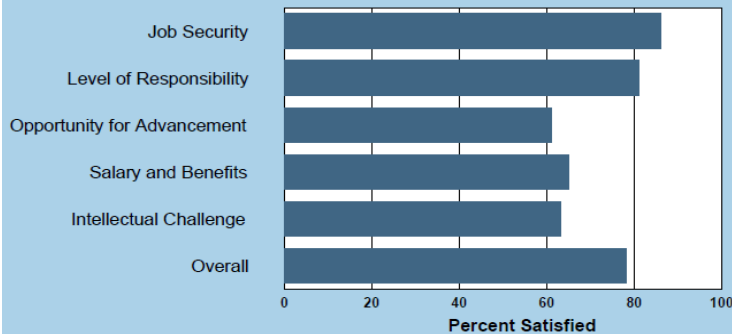
Job Satisfaction of Physics Bachelor's in Private Sector STEM Positions, Classes of 2011 & 2012 Combined.



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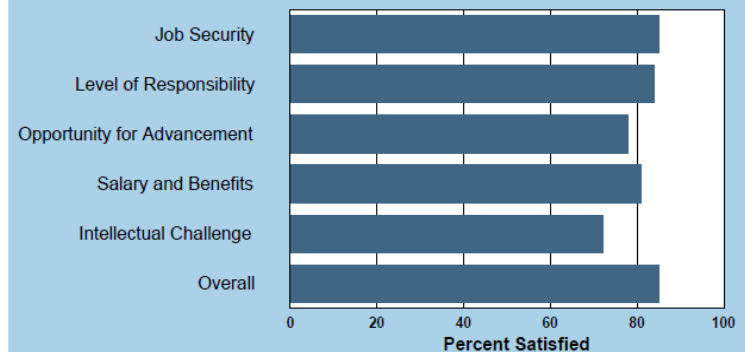
Job Satisfaction of Physics Bachelors in High School Teaching Positions, Classes of 2013 & 2014 Combined



Percentages represent the physics bachelors who chose "very satisfied" or "somewhat satisfied" on a four-point scale that also included "somewhat dissatisfied" and "very dissatisfied."

Figure based on the responses of 123 physics bachelors employed in high school teaching positions.

Job Satisfaction of Physics Bachelors in Private Sector STEM Positions, Classes of 2013 & 2014 Combined



Percentages represent the physics bachelors who chose "very satisfied" or "somewhat satisfied" on a four-point scale that also included "somewhat dissatisfied" and "very dissatisfied." STEM refers to natural science, technology, engineering and math.

Figure based on the responses of 670 physics bachelors employed in private sector STEM positions.

Teacher Retention

What fraction of grade 7-12 teachers remain in the profession at year 5?

- A. 28%
- B. 41%
- C. 59%
- D. 78%
- E. 90%

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†2015 U.S. Dept. of Ed

Public School Teacher Attrition and Mobility in the First Five Years:

Results From the First Through Fifth Waves of the 2007–08 Beginning Teacher Longitudinal Study

Report Out

- What did your group find interesting and/or surprising?

MythBusters: Origin Story

Teacher Advisory Group (TAG) Meeting at Colorado School of Mines – Fall 2017.

Table 1

- Lockheed Martin
- Colorado Department of Education (CDE)
- Four experienced teachers

Table 2

- Anadarko Petroleum
- Colorado Department of Higher Education (CDHE)
- Three experienced and two newer teachers

The Mines TAG Discussion

- Conversations started with
 - Teachers in Colorado start at \$24,500
 - 186 day contract is a misnomer, teachers work all summer for free.
 - Industry provides a match on 401K contributions and schools do not.

Not a single person in the room has worked for less than \$34k/yr.

The Mines TAG Discussion

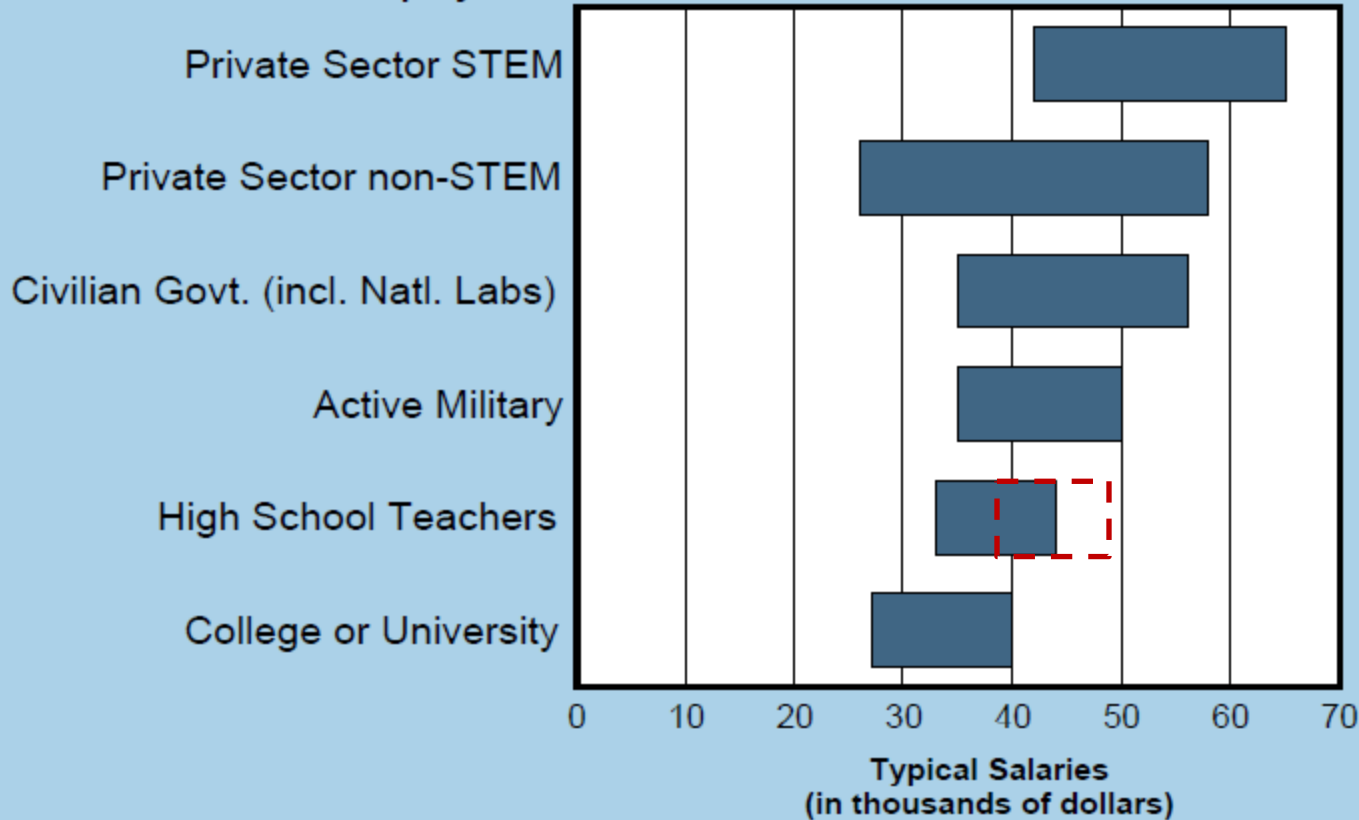
- After the presenters encouraged them to use the data at hand, the conversation turned to:
 - Teachers in Colorado typically start at \$38,500 - \$44,800
 - Steps are very nice and industry folks have to change companies for that type of raise
 - Industry folks floored that Colorado teachers retire in mid to late 50's with a ~90% pension

The Mines TAG Discussion

- Many teachers say the number one benefit to teaching is spending their summer and winter breaks with their kids.
- Industry folks were surprised at the AIP survey showing 80% satisfaction for private sector STEM physics grads since they observe *lower* satisfaction than that.
- Often make \$4 - \$12K during the year coaching, tutoring, in-school subbing, etc.

Typical Starting Salaries for Physics Bachelors, Classes of 2013 & 2014 Combined

Employer



Starting Salaries

← School year
- - - +\$4-8K

This figure includes only bachelors in full-time, newly accepted positions. Typical salaries are the middle 50% i.e. between the 25th and 75th percentiles. STEM refers to positions in natural science, technology, engineering, and math. Data are based on respondents holding potentially permanent jobs in private sector STEM positions (498), private sector non-STEM positions (114), civilian government positions (52), the active military (44), high school teaching positions (82), and universities or colleges (84).

The Mines TAG Discussion

- Lockheed Martin employee said that when advertising salaries, the monetary value of the pension should be included.
- Estimates Yearly Annuity Value at \$17.3k/year
- Industry value at \$3k/year
- Suggested a recruitment sheet similar to industry job offer.

Teaching vs. Industry

Teaching

Salary + Retirement Benefits
Mid-Career Salary + Benefits

- Early: \$43K+ \$17K = **\$60K**
- Mid: \$75K+\$17K = **\$92K**

Contract

- 9-month contract
- 74 days not on contract
- Retire late 50's with 87.5% of HEI

Lockheed Martin

Salary + Retirement Benefits
(4% contribution into 401K)

- Early: \$66K + \$3K = **\$69K**
- Mid: \$95K + \$3K = **\$98K**

Contract

- 12-month contract
- 10 – 40 days off
- Retire at 65 salary depends on market performance & life expectancy

The Mines TAG Discussion

- *"We have done this to ourselves [teachers]. It's so important to keep pushing to improve teachers' salaries and to stop districts from taking away from salaries; but, now look what we've done to the public's view of the profession."*

– Barbara Hickman, CDE

Data Mining Part 2

Do a web search to find information relevant to you. Some ideas are:

- Salary schedules for districts near your institution where program graduates are likely to be hired.
- Teaching salaries at your institution for people with comparable levels of education.
- Pension or teacher retirement plan for your state.

Report Out

- What teacher data for your state did you find during your search? Where did you find it?
- How can you share this information with others?

Close of “Faculty MythBusters”

I would feel comfortable with my favorite student becoming a secondary teacher.

- A. Strongly agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly disagree

Get the Facts Out Toolkit

- Research-based resources for changing the conversation around math and science teaching at your institution
 - Testimonial
 - Poster
 - Brochure
 - Flyer
 - Faculty MythBusters Presentation
 - Student MythBusters Presentation
 - P-TaP Survey

TEAM-UP TEACHER EDUCATION ALLIANCE
MINES - UNC PARTNERSHIP

Teaching MythBusters: What is the teaching profession actually like?

1

Turn & Talk

- What are the reasons individuals are interested in teaching?
- What are barriers that prevent individuals from pursuing a teaching career?

2

Myths

Teachers live in poverty	Teachers can't retire	Teachers leave the profession after a few years
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3

Starting salaries

Which is closest to the typical starting salary for K-12 teachers in the Denver area?

- \$23,000
- \$32,000
- \$43,000
- \$52,000
- \$65,000

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Mid-career salaries

After 15 years of teaching and earning a master's degree, which is closest to the typical Colorado K-12 teacher salary?

- \$30,000
- \$45,000
- \$60,000
- \$75,000
- \$90,000

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Teacher Salaries

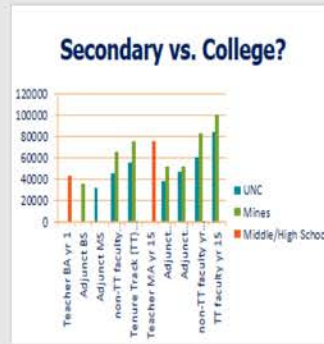
9 month (\$40K annualized): \$53K, \$75K-\$100K

	BA yr 1	BA yr 5	MA yr 5	MA yr 15
Douglas County Schools	\$43,000	\$48,397	\$51,773	\$69,579 - 74,000
Jefferson County Schools	\$38,760	\$44,943	\$49,839	\$66,904 - \$73,103
Boulder Valley Schools	\$44,812	\$48,032	\$61,907	\$68,349 - \$99,673
Denver Public Schools	\$41,689+	\$42,681+	\$48,203+	\$66,953 - \$81,027+ (yr 13)

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Additional Opportunities for Income

7



8

Myths

Teachers live in poverty	Teachers can't retire	Teachers leave the profession after a few years
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Colorado Teacher Benefits Information

Retirement
Colorado schools offer PERA Retirement Benefits

- Begin teaching at 22 years old, full retirement benefits at 57
- -87.5% of highest annual income
- Minimum of \$10,000/year value over industry 401K plans

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Teaching vs. Industry

Teaching	Lockheed Martin
Salary + Retirement Benefits Mid-Career Salary + Benefits	Salary + Retirement Benefits (4% contribution into 401K)
• Early: \$43K + \$17K = \$60K	• Early: \$66K + \$3K = \$69K
• Mid: \$75K + \$17K = \$92K	• Mid: \$78K + \$3K = \$81K
Contract	Contract
• 9-month contract	• 12-month contract
• 74 days not on contract	• 10 - 40 days off
• Retire lose 50% with 87.5% of HEI	• Retire at 65 salary depends on market performance & life expectancy

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Loan Forgiveness Programs

Direct/FFEL \$17,500 for 5 years of consecutive teaching in a low income school	Perkins
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TEACH Grants, \$4,000 / year

12

Myths

Teachers live in poverty	Teachers can't retire	Teachers leave the profession after a few years
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Teacher Retention

What fraction of grade 7-12 teachers remain in the profession at year 5?

- 28%
- 41%
- 59%
- 78%
- 90%

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Retention and Job Satisfaction

- 78% of secondary teachers continue into year 5.¹
- Five out of six science teachers said they would choose the same career again.
- 27.8% of Teach For America Teachers remain in the profession after 5 years.²

¹2005 U.S. Dept. of Ed. Public School Teacher Attrition and Mobility in the First Five Years. Results from the First Through Fifth Waves of the 2007-08 Beginning Teacher Longitudinal Study
²Donalson & Johnson. "Teach For America teachers: How long do they teach? Why do they leave?" Phi Delta Kappan 93.3 (2011): 47-51.

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Development

- Idea for PTaP at PhysTEC conference
- TAG meetings at Colorado School of Mines
- 100Kin10 Project Team
 - Created complete drafts resources and corresponding booklet
- NSF IUSE Grant
 - Will study how best to “get the facts out”
 - Working with 7 other institutions

Coming Soon!

- The Get the Facts Out Booklet will be available online on September 11th
- URL: GetTheFactsOut.org (not active yet!)
- Want access to the resources sooner? Give us your name/contact info and we will email them to you.

Questions?

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