

FEDERAL FUNDING FOR THE STEM PROGRAM

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Final Project:
Statistics & Design Bootcamps
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OVERVIEW

- What is STEM?
- Overview of Data Set
- Overview of Data Preparation
- STEM Data Set Summaries



Overall



Primary
Objective



Agency

WHAT IS STEM?

- STEM = Science, Technology, Engineering, and Mathematics
- STEM is an education policy focus in the US Federal Government
- Concerns about the state of STEM education in the United States and our competitiveness in the global market

DATASET OVERVIEW

- Full Dataset Location: <https://catalog.data.gov/dataset/2010-federal-stem-education-inventory-data-set>
 - Number of Rows: 252
 - Number of Columns: 230
 - Only includes investments greater than \$300,000
- Condensed Dataset for Analysis
 - Number of Rows: 252
 - Number of Columns: 10
 - Columns selected: Index Number, Investment Name, Agency, Subagency, Year Established, Funding (FY2008-FY2010), Mission Specific or General Stem, Primary Objective

DATASET PREP

- Selection of columns to analyze
- Cleaning of Data
 - Commas
 - Apostrophes
 - Data formatting - Primary Objective / Headers

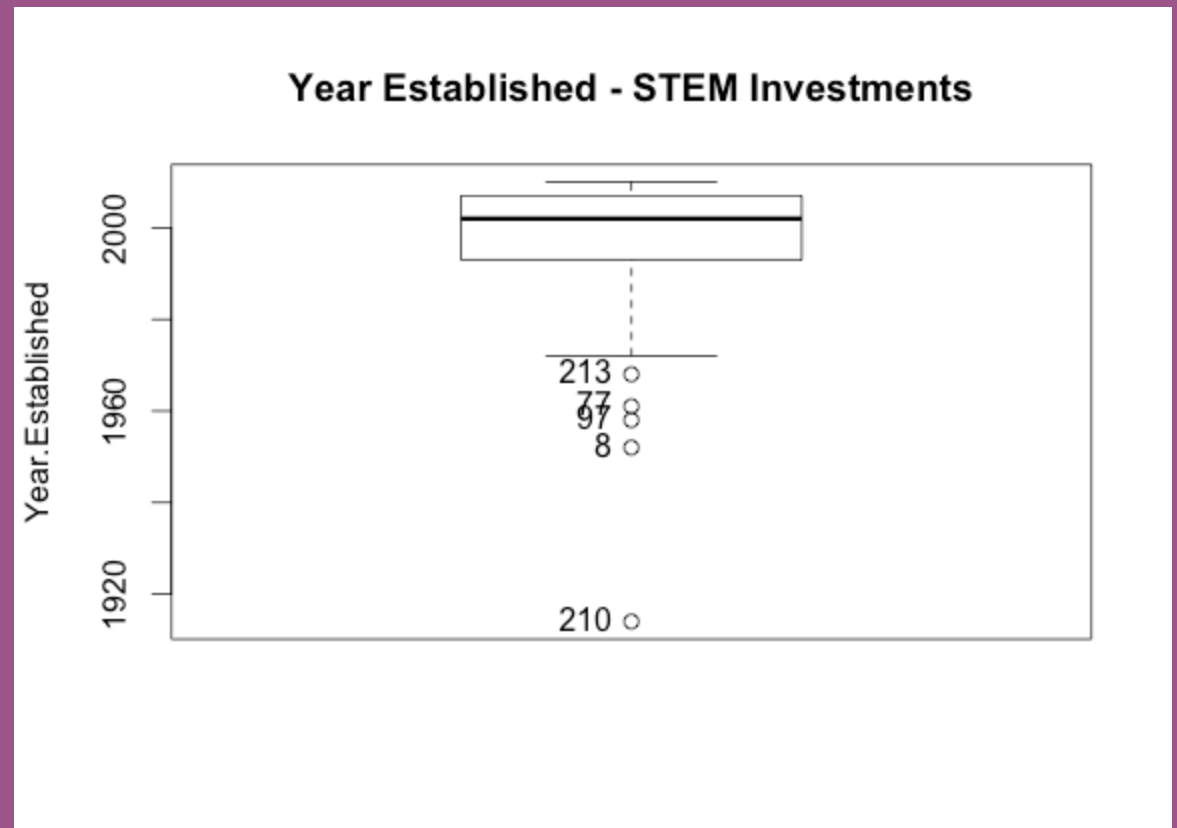
STEM DATA ANALYSIS

STEM DATA: OVERALL



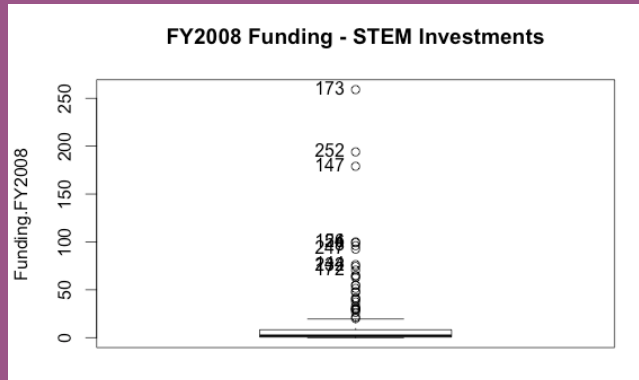
STEM DATA: OVERALL

- Total # of Investments: 252
 - Investments with Dates: 241
 - Investments w/o Dates: 11
- Earliest (Min): 1914
- Most Recent (Max): 2010
- 25% Quartile: 1993
- 75% Quartile: 2007

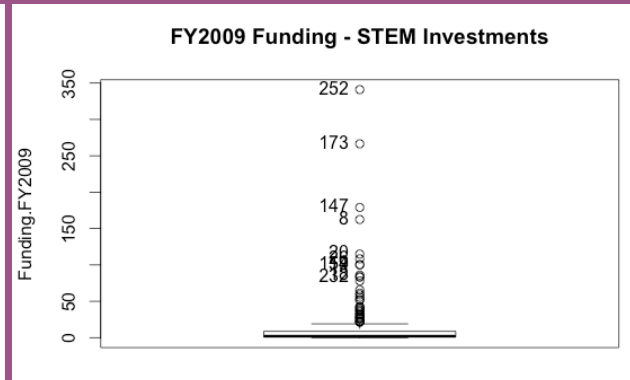


STEM DATA: OVERALL

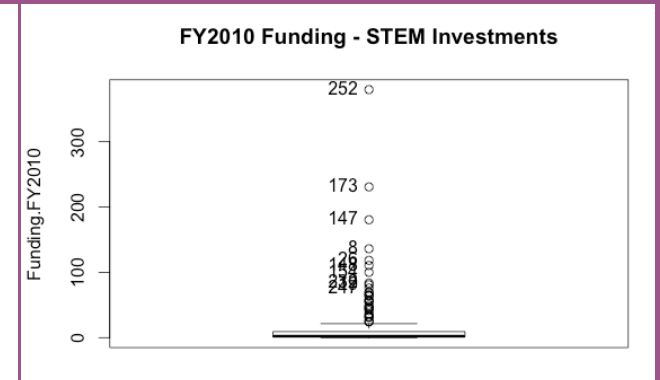
- Total \$ 9,576.51 million between FY2008-2010



- Funding Totals (FY2008)
 - Min: 0
 - Max: 259.08
 - Mean: 12.16048
 - Not available: 22



- Funding Totals (FY2009)
 - Min: 0
 - Max: 341.00
 - Mean: 13.8044
 - Not available: 9



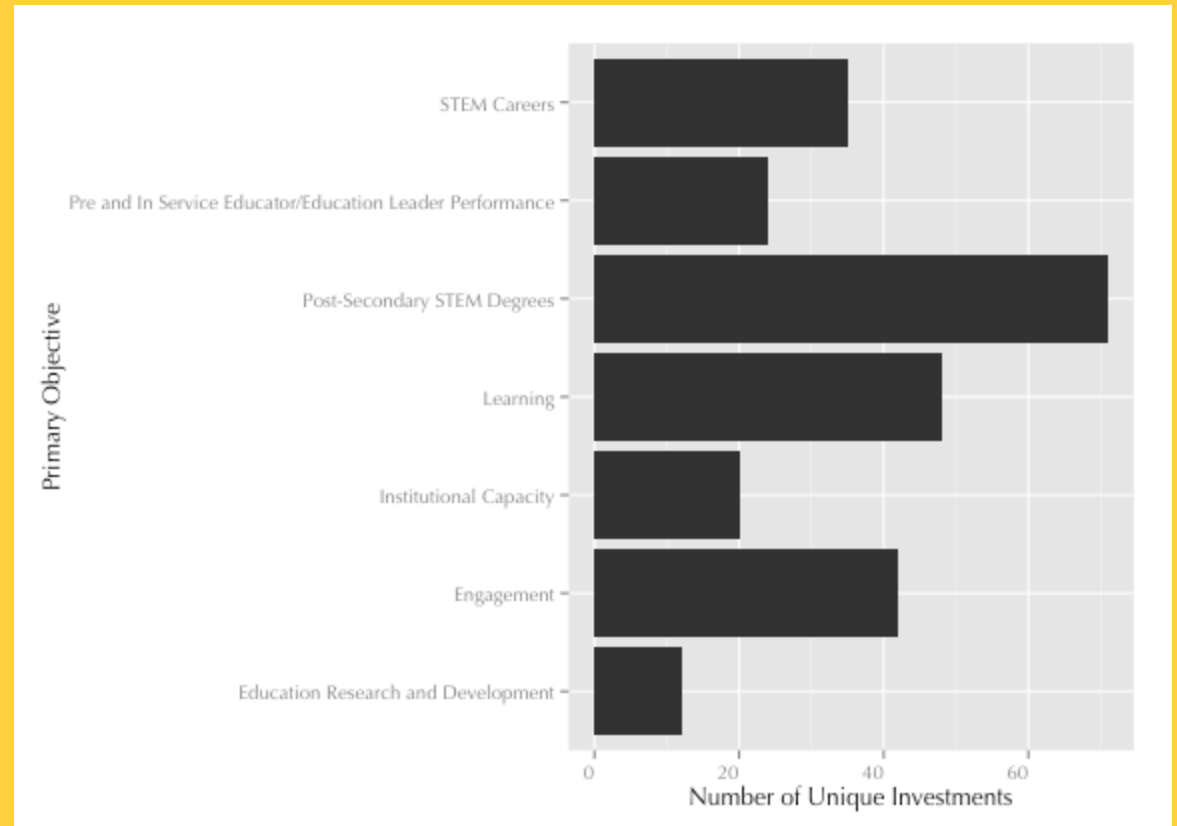
- Funding Totals (FY2010)
 - Min: 0
 - Max: 379.78
 - Mean: 13.59266
 - Not available: 0

STEM DATA: PRIMARY OBJECTIVE



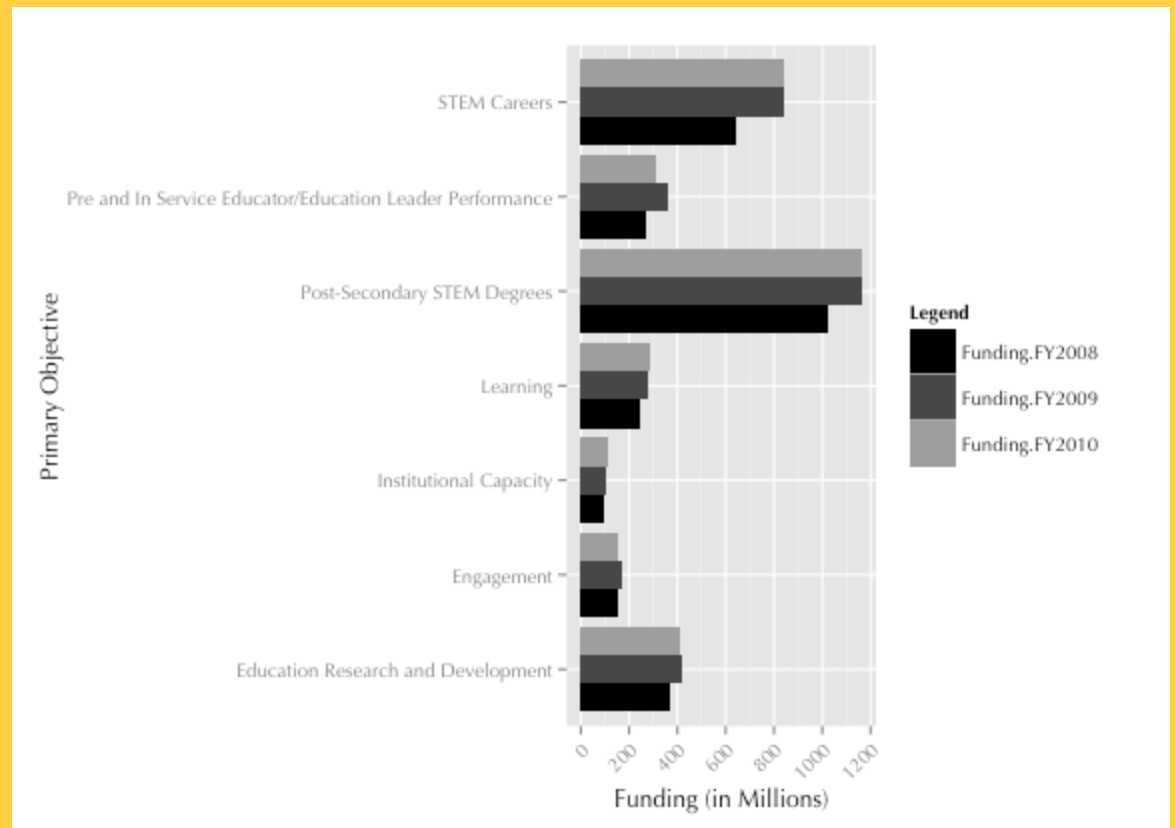
STEM DATA: PRIMARY OBJECTIVE

- Total # of Primary Objectives: 7
- Total # of Investments by Primary Objective
 - Education Research and Development: 12
 - Engagement: 42
 - Institutional Capacity: 20
 - Learning: 48
 - Post-Secondary STEM Degrees: 71
 - Pre and In Service Educator/Education Leader Performance: 24
 - STEM Careers: 35



STEM DATA: PRIMARY OBJECTIVE

	FY2008	FY2009	FY2010
Education Research and Development	366.04	415.99	408.85
Engagement	152.28	171.71	155.37
Institutional Capacity	95.84	100.8	112.95
Learning	246.35	282.05	285.69
Post-Secondary STEM Degrees	1023.02	1164.46	1165.9
Pre and In Service Educator/Education Leader Performance			
STEM Careers	641.09	844.91	840.67

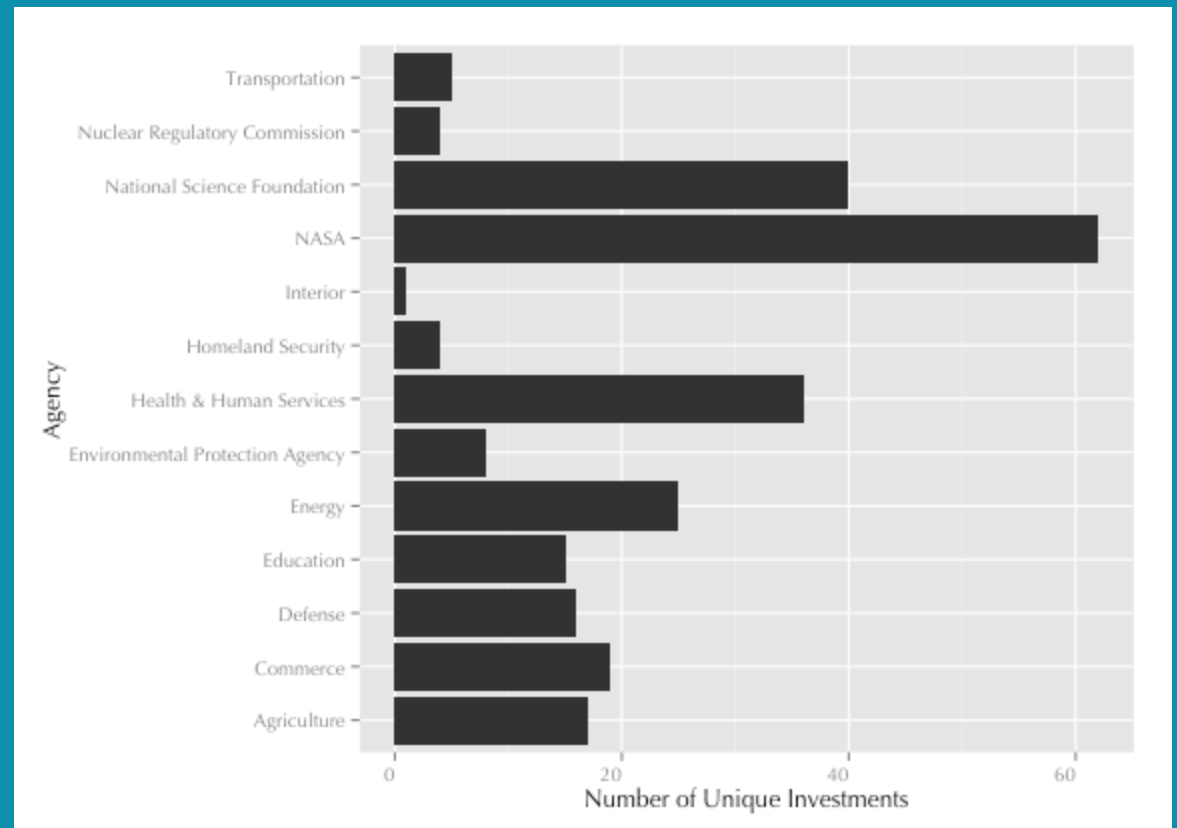


STEM DATA: AGENCY



STEM DATA: AGENCY

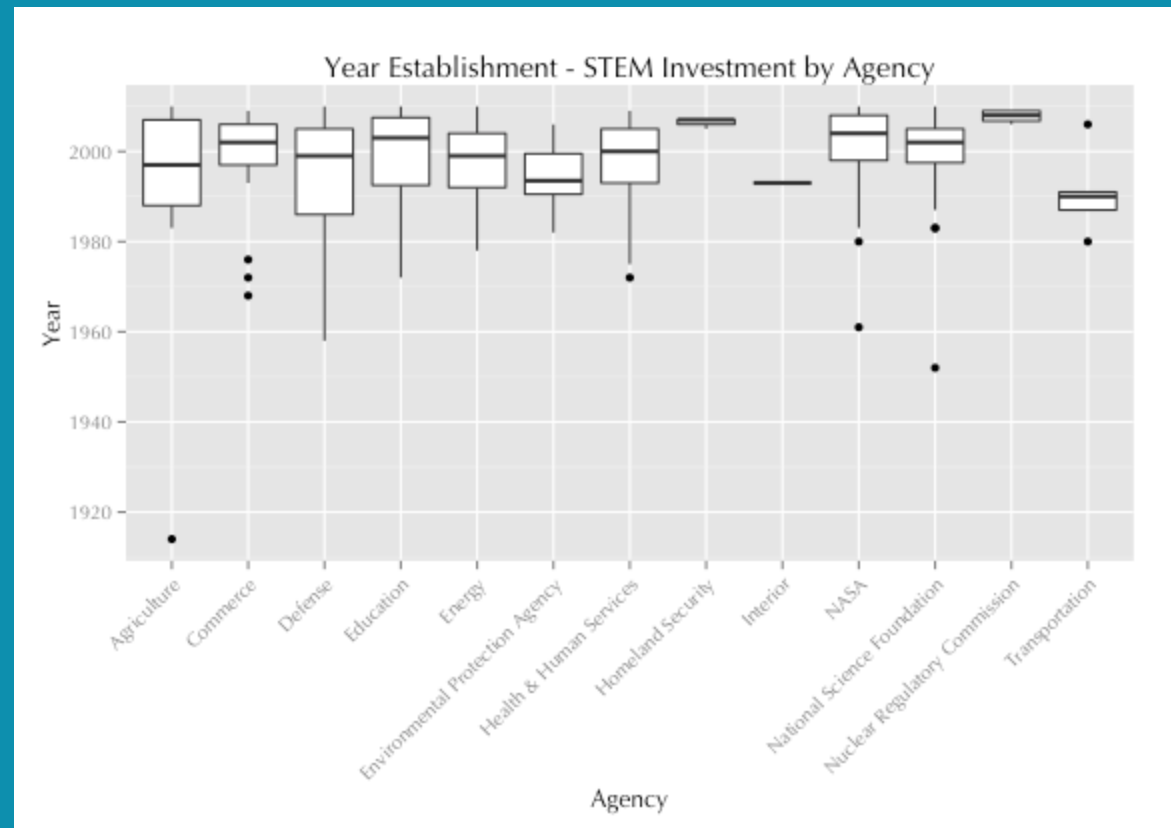
- Total # of Agencies:
- Total # of Investments by Agency
 - Agriculture: 17
 - Commerce: 19
 - Defense: 16
 - Education: 15
 - Energy: 25
 - Environmental Protection Agency: 8
 - Health & Human Services: 36
 - Homeland Security: 4
 - Interior: 1
 - NASA: 62
 - National Science Foundation: 40
 - Nuclear Regulatory Commission: 4
 - Transportation: 5



STEM DATA: AGENCY

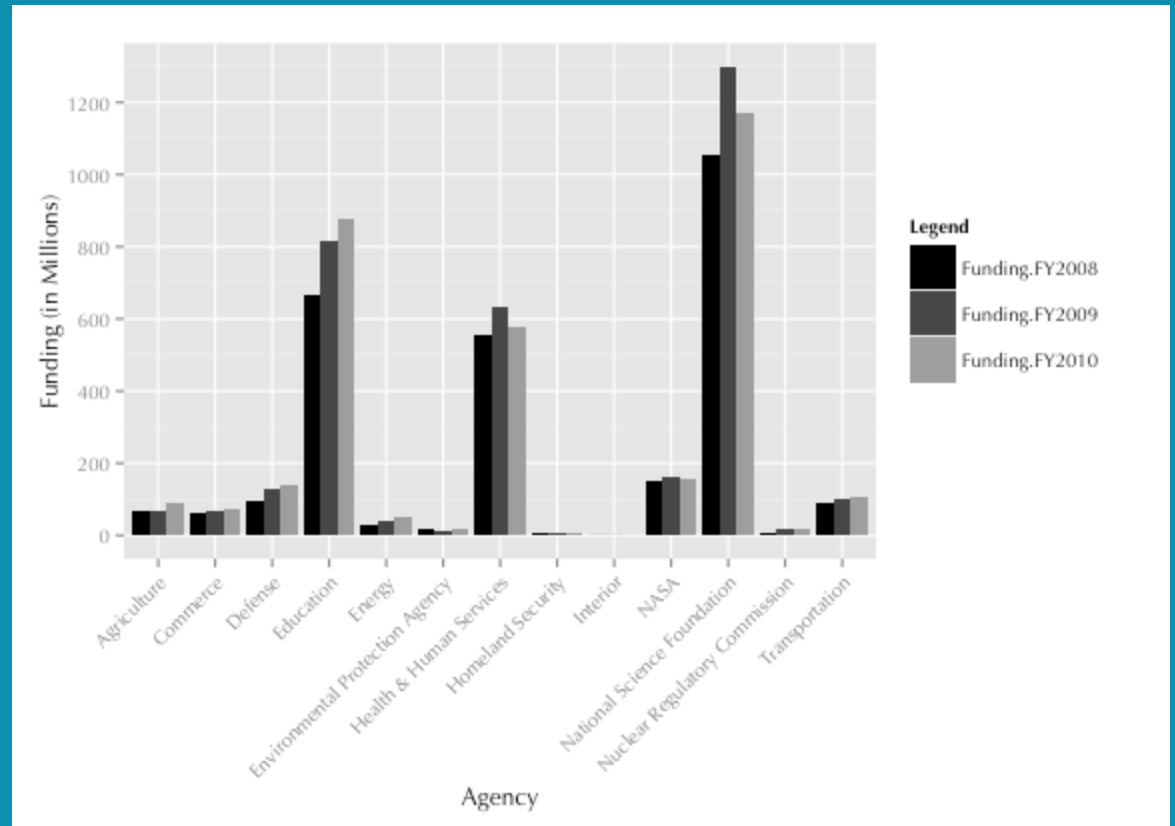
- Year Established by Agency (min-max)**

- Agriculture: 1914-2010
- Commerce: 1968-2009
- Defense: 1958-2010
- Education: 1972-2010
- Energy: 1978-2010
- Environmental Protection Agency: 1982-2006
- Health & Human Services: 1972-2009
- Homeland Security: 2005-2007
- Interior: 1993-1993
- NASA: 1961-2010
- National Science Foundation: 1952-2010
- Nuclear Regulatory Commission: 2006-2009
- Transportation: 1980-2006



STEM DATA: AGENCY

	FY2008	FY2009	FY2010
Agriculture	68.82	65.49	91.25
Commerce	59.21	65.97	72.79
Defense	94.9	125.75	141.43
Education	664.05	815.88	875.67
Energy	26.76	40.03	50.63
Environmental Protection Agency	18.12	14.24	17.59
Health & Human Services	554.74	630.83	576.93
Homeland Security	7.65	6.79	6.81
Interior	0.49	0.52	0.57
NASA	152.96	159.93	157.6
National Science Foundation	1052.14	1298.82	1169.28
Nuclear Regulatory Commission	5.72	16.34	16.34
Transportation	91.35	101.32	103.87



QUESTIONS?