

# Welcome to Astronomy 115

<http://sdbv.missouristate.edu/mreed/CLASS/A115>

**“Evolution doesn’t care whether you believe in it or not, no more than gravity does. I want to rekindle excitement over what we’ve achieved as a species with the space program. We can’t afford to regress back to the days of superstition.”**

**Seth MacFarlane**

# Question #1

Would you like the class curved (fixed number of A grades, B grades, etc.), or would you like percentage grading (90% + is an A, 80-90% is a B, etc.)?

We will answer this on Monday using our Turning Technologies software

## Question #2

Would you like +/- grading? (There are no A+ or D- scores.)

We will answer this on Monday

**What is it that makes  
astronomy so interesting?**

**It is our interest in  
knowing the unknown.**

**The power to connect  
our imaginations to  
science.**

**What is it that makes astronomy so interesting?**

**It is our interest in knowing the unknown.**

**And that's what**

**science is all about!**

**Thinking new thoughts and testing them.**

# What shape is the Earth?



Prove it!



Middle ground –  
flat earthers vs scientists

Big think- flat earthers 1:00





**The Earth is roughly spherical (round in 3 dimensions)**

**Methods for proving this might include: using oceans (boat over the edge), flying around it, leave a string (unique solution?), satellite pictures from many angles.**

What is science?

Why do we do  
science?

# What is science?

Google says, “the intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment.”

more concise (by me):

understanding the world around us using observations, experiments, and deductive reasoning.

What is the scientific method?

What is the scientific method?

A way to distinguish between ideas (theories/hypotheses) to determine which is likely correct.

# The scientific method

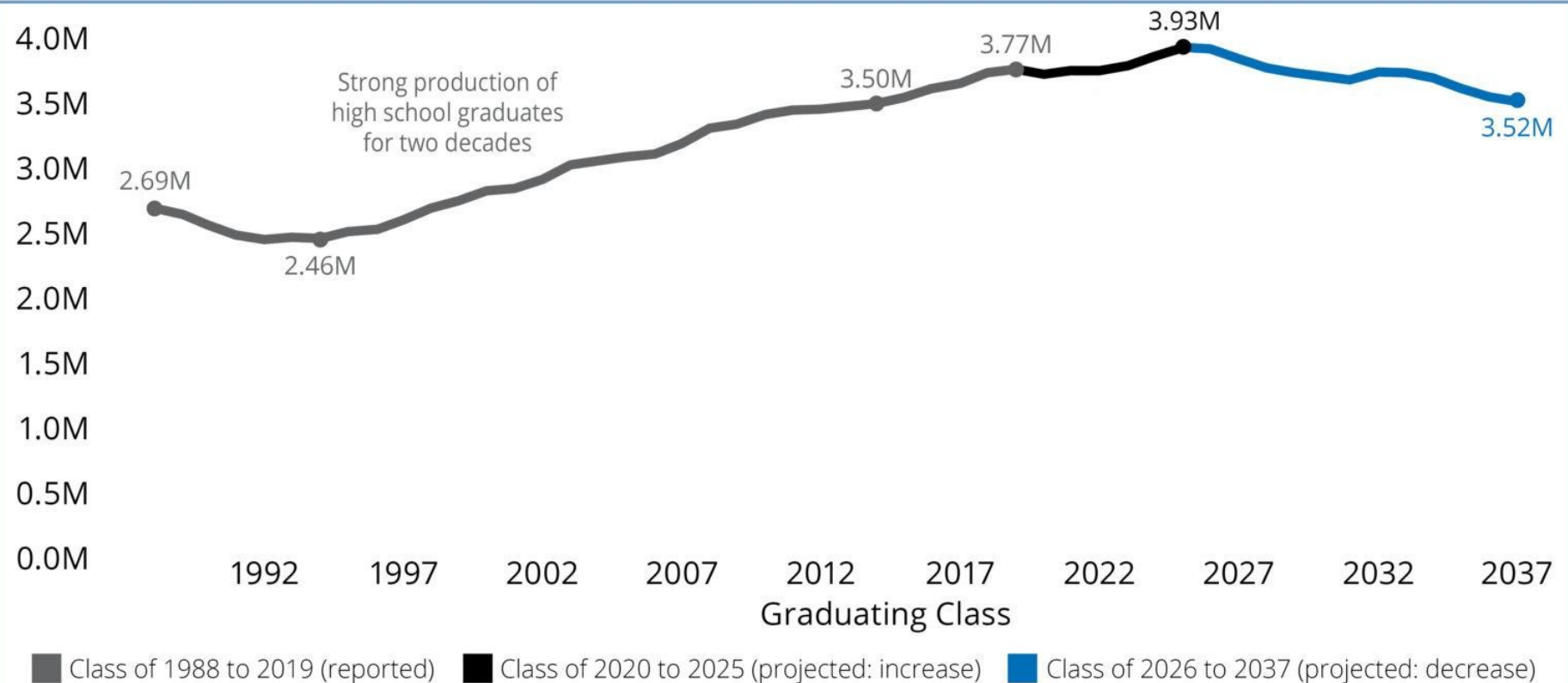
- Do an experiment or make an observation.
- Determine an explanation (theory) for the observation.
- From the theory, make predictions.
- Make further observations to test the prediction.
- Eliminate or refine the theory.

# Observation

High school graduations are expected to decrease in the U.S.

Provide an explanation why this is.

Figure 1. Slowing Growth in Number of U.S. High School Graduates, then Decline (U.S. Total High School Graduates)



Source: Western Interstate Commission for Higher Education, *Knocking at the College Door*, 10th edition, 2020. See [Technical Appendix](#) for detailed sources of data through the Class of 2019; WICHE projections, Class of 2020 through 2037.



# Observation

Declining HS graduation numbers.

Now you try to make a theory why that would be.

Now consider a way to test whether or not your idea is correct.