

Myth Busters

Choose one of the following “myths”; design an experiment to test it; deem it either plausible or busted, and present your case either in video or writing. Many of these involve large-scale, real-world phenomena that are impossible to test directly in a classroom. You will need to choose an appropriate small scale test for the effect. It’s also worth noting that more than one of these may in fact be true.

- Charge flows from the positive end of the battery to the negative end.
- Collisions involving collapsing (rather than rigid) bumpers or car bodies, transfer less force to the passengers.
- Skin is a good thermometer.
- In refraction the frequency of the wave changes.
- Light bulbs consume charge.
- North and South magnetic poles are the same as positive and negative charge.

NOTE: It is more useful to design an experiment whose outcome would bust the myth. This is because even if you design many experiments whose outcome supports the myth, all you can conclude is that some experiments support it – they do not prove the myth. It only takes one experiment, however, whose outcome is different from the prediction to disprove the myth.

Your presentation should consist of the following five parts. Each group need submit only one copy/video, but it should represent the significant input and effort of all group members. Each part probably deserves four or five good sentences at least, whether they are written in paragraph form or spoken for the camera. If you are producing a video, I suggest you plan on getting all of it in one take except for perhaps the experiment, which could be done as a separate take. This means you should have notes and have done a little rehearsing.

1. Name the “myth” and discuss the likely origin of the belief.
2. Discuss the relevant physics and your hypothesis.
3. Discuss your plan for testing the claim.
4. Present the evidence whether as a video clip, diagram, description or a table/graph of results.
5. Describe how the evidence supports a conclusion of either busted or plausible. If the evidence is still inconclusive, then what further tests would you like to run.

I’ll be looking for these for things in particular when I grade your work.

- ❖ Accurate application of physics concepts
- ❖ Development of a fair test
- ❖ Reasonable interpretation of results
- ❖ Clear and engaging communication
- ❖ Completeness and thoroughness

Today:

What myth will you investigate?

What is the plan for your test?

List of equipment you need