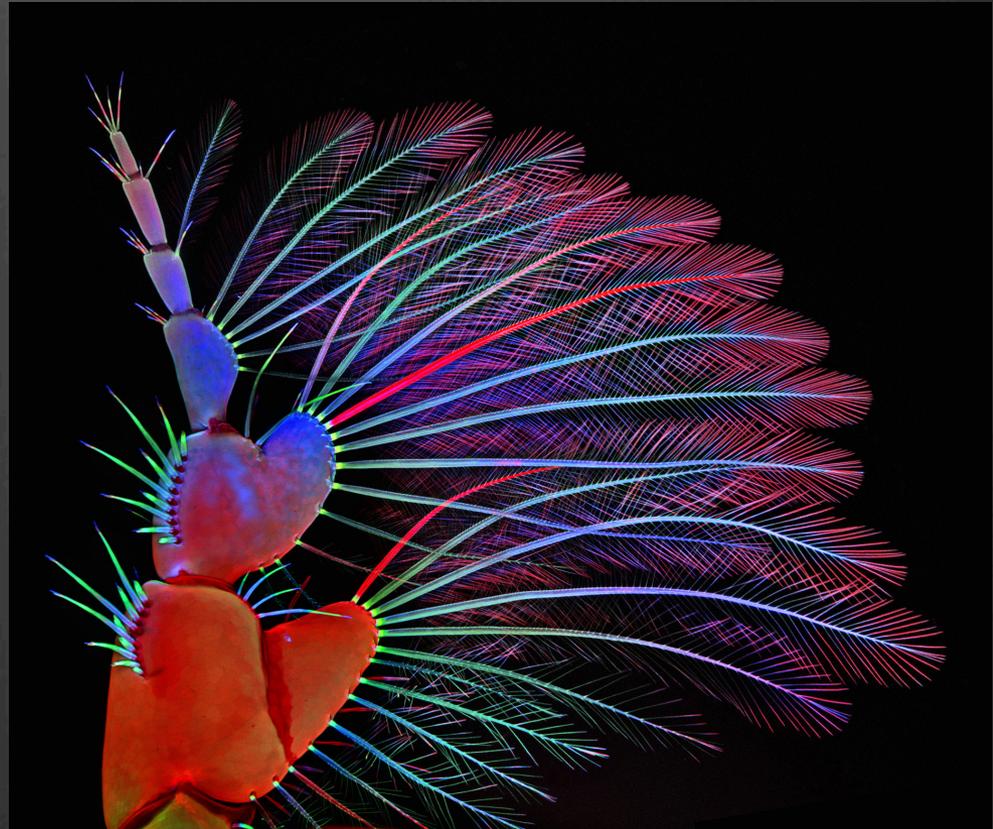


Warm-up: Are all questions scientific? Are there limitations to science? Explain your answer.

Homework:

1. Textbook reading pp 1-15.
2. Notice something. And write a question about it.
3. Now formulate a testable hypothesis. Need help? Watch assigned video. Due Monday 8/17 A, Tuesday 8/18 B.



Objectives for today:

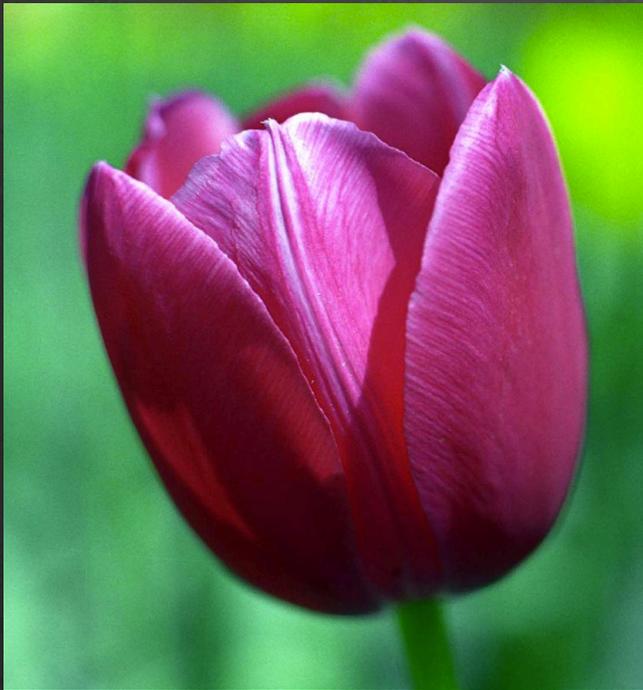
- ④ State the goals of science.
- ④ List the steps of the scientific method.
- ④ Write a hypothesis statement.
- ④ Distinguish between dependent and independent variables.
- ④ Practice writing a procedure.

Consider the following:

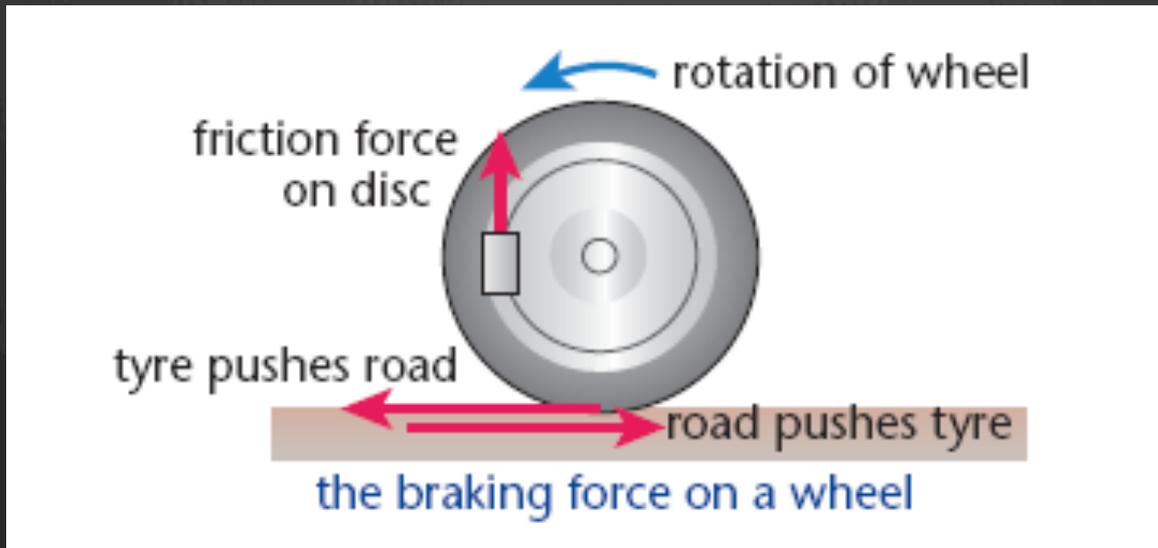
What will happen when water is poured into a beaker of strong acid?



Which is prettier, a tulip or a rose?



What is the effect of varying road surfaces on acceleration?

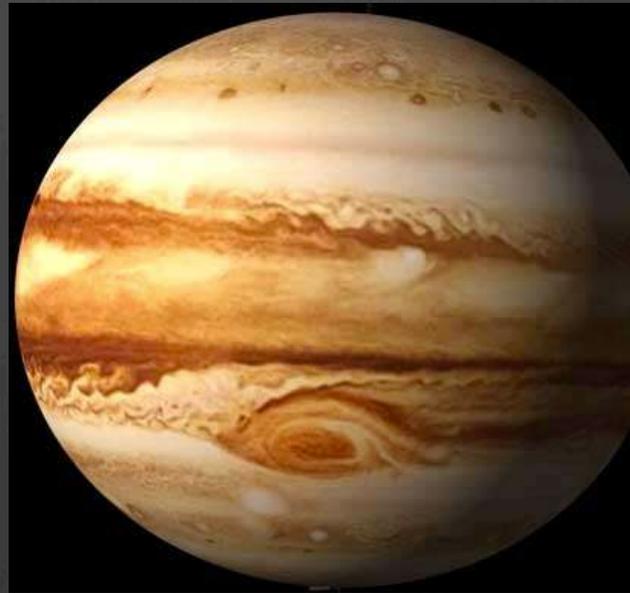


Which is a better good luck charm,
a four leaf clover or a horseshoe?



What affects whether a person prefers science or English classes?

What causes the red spot on Jupiter?



How does the composition of concrete affect its strength?

Why won't my car start this morning?



What makes a question scientific?

A scientific question can be
addressed through the
scientific method...or
experimentation

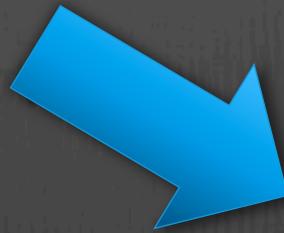
Curiosity! Noticing and making observations.

Have you noticed anything around our campus that you have wondered about?

- ⊗ <http://ed.ted.com/lessons/how-simple-ideas-lead-to-scientific-discoveries>

Distinguish between
observation and
inference...

Distinguish between
observation and
inference..



Observation is something that you see directly.

Inference is interpretation based on experience or observations.

Science is a way of knowing. A goal of science is to provide **TESTABLE** explanations for events in the natural world.



Elements of a scientific investigation:

- Observations
- Testable hypothesis
- A clearly communicated method
- Data collection and analysis
- conclusions

Peer Review

- Critical feedback from ‘peers’.
- What is a ‘peer’ in this case?

Why is this important?

Must be clearly communicated!

We are going to practice writing
a set of detailed instructions.

“Discovery consists of looking at the same thing as everyone else and thinking something different.” Albert Szent-Gyorgyi