

Introduction to Physical Science

What is Science?
Presented by Robert Wagner

What Is Physics?

- Physics can explain a wide variety of phenomena
 - Flight of birds
 - Color of flowers
 - Falling objects
 - Subatomic particles
 - Structure of galaxies
 - And More!

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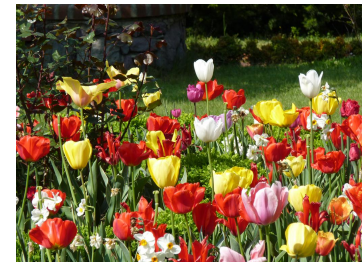


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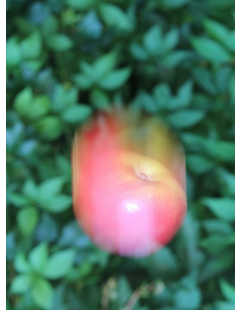


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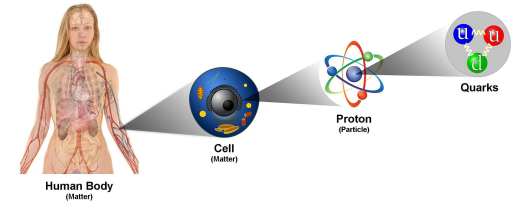


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Applications of Physics

- Used in everyday life
 - Microwave ovens
 - MRI
 - Electrical Circuits
 - Earthquakes
 - Musical instruments
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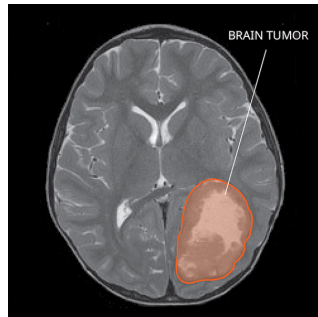


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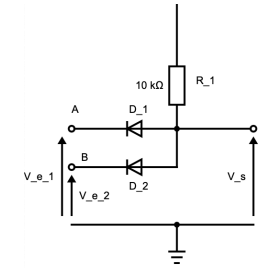


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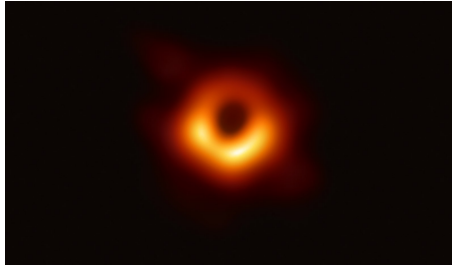


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Models, Theories, and Laws

- Theory/Law
 - Must be testable - “The Moon is made of Green Cheese!”
 - Based on observations and study
- Model
 - Simplified representation of how things work
 - Make assumptions for simplification

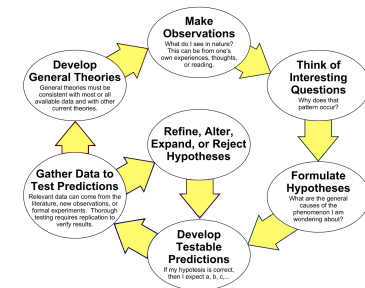
The Scientific Method

- Starts with an observation - but never ends!
- Come up with an hypothesis to explain the observation
 - Must make a testable prediction
- Test the predictions made - make more observations
- Predictions found to be correct
 - Great! Make more predictions and continue testing
- Predictions found to be incorrect
 - Oops! Modify or reject your hypothesis

The Scientific Method

The Scientific Method as an Ongoing Process

- The scientific method as an ongoing process:



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Summary

- Physics can help us to find the explanations for a variety of phenomena in nature
- We study physics to learn about the world around us
- The scientific method is a never ending process that allows scientists to continually modify, refine and improve their theories and models