

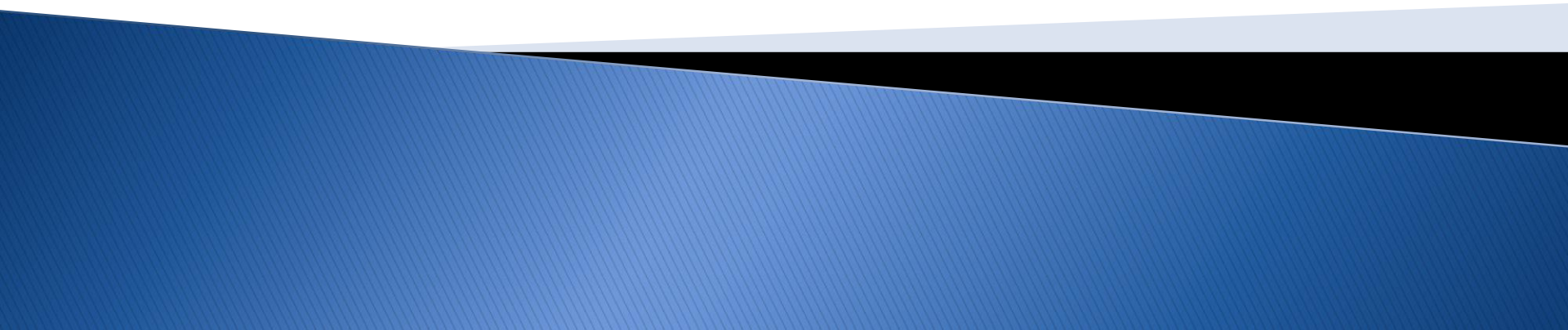
**Welcome**  
**Earth Science**  
**Fall 2013**



# Every Ten Seconds...

<http://bigpicturesmallworld.com/movies/TenSeconds/introTenSeconds.html>

**In Ten Seconds: write a  
one word reaction to the  
video on your note card**



RED : “How do you spend your free time?”

Orange : “What is your most treasured possession and why?”

Pink : “If you could visit any country, where would you go and why?”

Yellow : “Who is your hero (who do you admire) and why?”




# The Inquiry Cubes : Activity 1



# Scientific Thinking: Truth Without Certainty

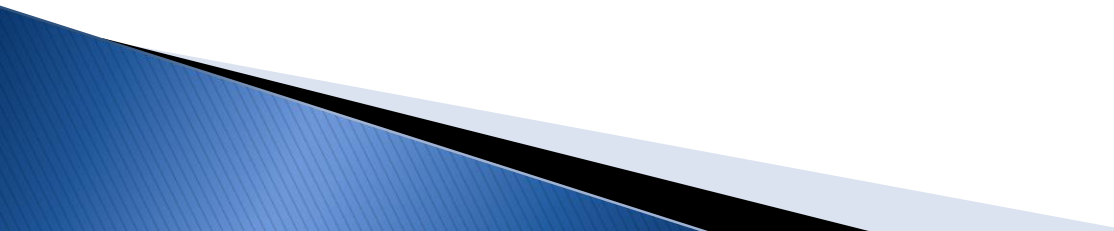
- ▶ A Way of Knowing about the world
- ▶ Limited to what we can sense
- ▶ Scientific explanations are always theories, never fact...because science is always subject to new data
- ▶ Theories remain standing until they are disproved or modified

# Scientific Method

1. Make an observation – senses
  2. Ask a question
  3. Develop a **hypothesis** : a proposed answer to the question/ tentative explanation
  4. Design and perform experiments to test hypothesis
  5. Analyze and interpret data
  6. Make a Conclusion: either Support or Reject Hypothesis
  7. If Support : Keep Testing To Verify
  8. If Reject: Revise and Start Again
  9. Share Knowledge
- 

# **Scientific Theory:**

**A well-tested explanation for a set of observations or experimental results**

- Theories are never proved**
  - Theories become stronger if the facts continue to support them**
  - If an existing theory fails to explain new facts or discoveries, it may be revised or replaced**
- 



# **Scientific Law:**

**A statement that describes an observed pattern in nature without attempting to explain it**

# Why is the Scientific Method different from other forms of inquiry?



# Because it can be tested !

