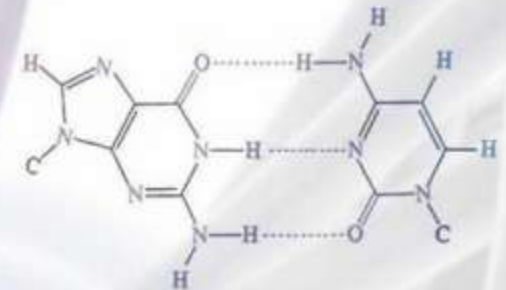




# Worthington Science

- Science Curriculum Changes
- Resources
- Glimpse into ongoing work
- Worthington Science Day



**TIME**

for  
change

# Science Standards



2002  
Ohio Science  
Standards



2010  
Ohio's New  
Science  
Standards



2012  
Next  
Generation  
Science  
Standards  
(NGSS)

Not yet  
adopted in  
Ohio

# Where are we in Worthington?

- Grades K-10 are currently teaching the 2010 Ohio's New Science Standards
- Grades 5, 8 and 10 are still accountable to 2002 standards for the 2014 OAA/OGTs
- The 2014 OAA/OGTs are dual aligned to the 2002 and 2010 science standards.

# Levels of Inquiry

Inquiry Level		Question	Procedure	Solution
1	<b>Confirmation Inquiry</b> – Students confirm a principle through an activity when the results are known in advance.	✓	✓	✓
2	<b>Structured Inquiry</b> – Students investigate a teacher presented question through a prescribed procedure.	✓	✓	
3	<b>Guided Inquiry</b> – Students investigate a teacher presented question using students' designed/selected procedures.	✓		
4	<b>Open Inquiry</b> – Students investigate questions that are students formulated through students designed/selected procedures.			

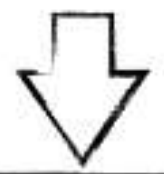
Source: Rezba, R.J., T. Auldrige, and L. Rhea. 1999. Teaching & learning the basic science skills



**DEFINE**  
the problem

**COLLECT**  
information

**HYPOTHESIS**



**EXPERIMENT**

**BRAINSTORM**  
AND ANALYZE  
ideas

**DEVELOP**  
solutions /  
build a test  
a model

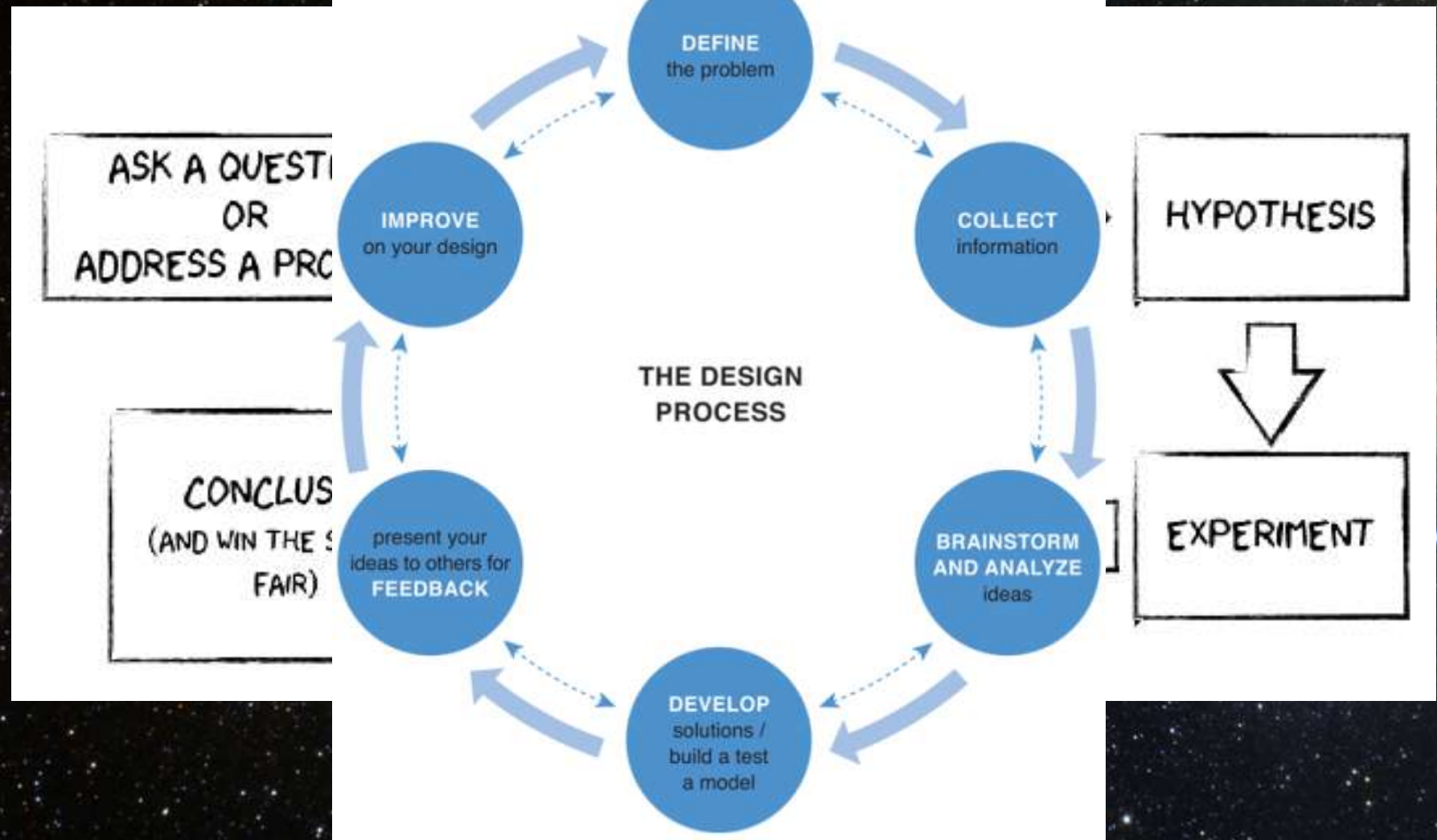
present your  
ideas to others for  
**FEEDBACK**

**IMPROVE**  
on your design

**ASK A QUESTION**  
OR  
**ADDRESS A PROBLEM**

**CONCLUSIONS**  
(AND WIN THE SCIENCE  
FAIR)

THE DESIGN  
PROCESS



# Course Overview

- General Science Curriculum
  - Earth and Space Science
  - Life Science
  - Physical Science
- Content Specific Courses
  - Regular, Honors, STEM
    - Physical Science
    - Biology
    - Chemistry
  - Natural Systems Science (NSS)
  - AP Biology
  - AP Chemistry
  - AP Environmental Science
  - AP Physics





# Course Overview

- English Language Arts integrations
  - Formally grades 6-12
  - Reading and Writing in Science
  - Informational text
  - Primary sources
  - Supporting claims, arguments and counter arguments with research, primary sources and personally gathered data.



# Resources

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- 3
- 4
- 5

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# Science Resource Work

## Earth and Space Science

Content Statement	Progressing	Meeting	Exceeding
Minerals have specific, quantifiable properties		<p><a href="#">Mineral Identification-Ck12</a> This goes into the different ways of identifying mineral.</p> <p><a href="#">Mineral information-Ck12</a> This is a quick fact sheet for mineral identification.</p> <p><a href="#">Minerals-Ck12</a> This goes into what are minerals and how they are formed.</p> <p><a href="#">Minerals, Rocks and Soil-ScienceA-Z</a> This A to Z book is an introduction to rocks, minerals and soil.</p> <p><a href="#">Minerals Study Guide-Ck12</a> This is a study guide to minerals.</p>	<p><a href="#">Minerals-ck12</a> This goes into the grouping of minerals by subgroups. Everything highlighted in yellow goes deeper into the content.</p>

March 1, 2014  
Thomas Worthington H.S.  
300 W. Dublin-Granville Rd  
Worthington, OH 43085

Kindergarten  
through  
Grade 12

# Worthington



# Day



Students

[Worthington.k12.oh.us/ScienceDay](http://Worthington.k12.oh.us/ScienceDay)

- ◆ Invention Convention
- ◆ Design Challenge

Register online at:  
[worthington.k12.oh.us/ScienceDay](http://worthington.k12.oh.us/ScienceDay)

Phone: 614-450-8025  
E-mail: [bgeniusz@worthington.k12.oh.us](mailto:bgeniusz@worthington.k12.oh.us)



Students use the engineering design process to solve a problem based upon real world needs.

The Worthington Science Day is designed to help students:

- ◆ Learn and practice critical thinking, inquiry, technological design and investigative skills.
- ◆ Learn research methods and encourage the development of research techniques - obtain data, keep a research log or notebook, learn graphing and develop conclusions.
- ◆ Foster imagination and creative thought.
- ◆ Develop organizational skills.
- ◆ Work independently as well as in a group.
- ◆ Enhance communications skills.
- ◆ Meet others interested in science study.
- ◆ Earn recognition for academic excellence.

