

STREAM Monarch Research Project

Top 5 reasons to research Monarchs

- 1. Students and parents of all ages can get hands on experience**
- 2. Fast growing species**
- 3. Monarchs need our help to survive**
- 4. Community involvement**
- 5. Perfect species for research, writing, and using the Engineering Design Process**

Standards:

ACE Collaborative – Grade 5 Science

Standard A – Science Connections that reveal God’s Creation

Standard B – Nature of Science as created by God and discovered by man

Standard C – Science Inquiry that reflect God’s created order

Standard F – Life and Environmental Science as created by God

Standard G – Applications that reflect God’s goodness

Standard H – Personal, Social, and Moral Aspects of Science

ACE Collaborative – Grade 5 Language Arts

Standard B – Writing: Utilizing the writing process to support Catholic ideas and values

Standard C – Oral Language: Speaking to God’s people with clarity and respect

Standard F – Research and Inquirey: Investigating God’s creation and presenting conclusions clearly and intelligently
(Organize & Report)

Next Generation Science Standards: Encompasses all of the NGSS Standards

- 1. Asking questions and defining problems**
- 2. Developing and using models**
- 3. Planning and carrying out investigations**
- 4. Analyzing and interpreting data**
- 5. Using mathematics and computational thinking**
- 6. Constructing explanations and designing solutions**
- 7. Engaging in argument for evidence**
- 8. Obtaining, evaluating, and communicating information**

Note: I am going to discuss 2 different examples of projects my students have done with our Monarch Project. Each example can be modified to fit your own classroom needs and interests.

Example 1

Engineering Design Process

Identify: You have a Monarch caterpillar and you are responsible for its care through its life cycle.

Investigate: How will you accomplish this?

Imagine: What materials will you need? What do you know about Monarch caterpillars?

Plan: Draw out a design for what you will need to solve this problem. List your materials and any other items you feel you need to be successful.

Create: Time to engineer!

Test: Is your design plausible, will it accomplish what you need it to etc. Record your data, analyze results, and draw a conclusion.

Improve: Reflect on what revisions you may need to make. What worked, what didn't etc.

Communicate: Explain your results using evidence you found with this design challenge.

Example 2

You will be given time to observe and if possible, handle the caterpillars today. You will focus on using your 5 senses today and then have time to observe and reflect on your new multi-legged friend.

- 1. Select a caterpillar to study. If you take it out of its habitat, you are responsible for safely returning it when you are done with your observations.**
- 2. Use your 5 senses to answer the following questions. You will be given 5 minutes to answer them.**

I noticed.....

I wonder.....

It reminds me of.....

3. Using your answers from #2, write a prayer that reflects your thoughts.

4. Using your answers from #2, write a poem that reflects your thoughts. (Use poem prompt if needed.)

You can incorporate technology by typing your prayers or poems and then printing them off using the software available at your school. Students can also draw what they see or produce a video on their observations. The possibilities are endless.

Using STREAM Concepts – It is important for students, teachers, parents, and your community to start using STREAM terminology. Sometimes just making a list of what they just accomplished helps in creating an environment where students realize they just engineered a design, or communicated their results, etc. With increased use of these terms, the school environment will change as far as attitudes, feelings of accomplishment etc.

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