Goals for this workshop

- Develop a set of modules for teaching first year biology using the modeling format
- These modules/investigations will address specific (identified) Indiana Biology Standards
- Write descriptions of these investigations so that
    1. They are understandable to other modeling teachers – to the **"Biology Modeling Community"**
    2. They are in a consistent format.

    *3. Ensure that the completed lesson descriptions tell a **consistent biology story (the modeling format)** and consistent with the story of the standards*

The Biology modeling curriculum story and the Standards

The Set-up from workshop 1a

MACRO:

Evolution-Macro:	Standards: B.8….
Interdependence:	Standards: B.4…
Matter, Cycles, Energy Transfer	Standards: B.3..

MICRO:

Genetics-Microevolution	Standards: B.7…, B.8..
Molecular Basis of Heredity-Microevolution	Standards: B.8…
Cellular Reproduction	Standards: B.6…
Cellular Structure-Microevolution	Standards: B.5.. B.6….
Matter, Cycles, and Energy Transfer: Micro	Standards: B.4…
Cellular Chemistry	Standards: B.2…..

Questions: Does this development make sense?
What is the ordering of curriculum?
The story development? (Story threads?)
Which parts are done? Which parts are needed?
Consistency?

Today:
Preliminary discussion;
Putting all the modules (from the 2 workshops) into place….

Beyond:
the "modeling in the modules"

Completing the Curriculum
What we have done/need to do….

	Authors	Sections(chapters) done	Sections to complete
B1:	-	-	-
B2:	-	-	-
B3:	Marian		
B4:	-	-	-
B5:	Shelly/Laurie/Mark/Rose		
B6:	-	-	-
B7:	Emily, Carrie, Larry, John	7.1 – 7.5	All done – preliminary activities
B8:	Rick/Yvette; Coleen/Anne	8.1, 8.2, 8.3, 8.5, 8.6	8.4, 8.7
AP:	Kim, John	No set of standards –> 7 modules + beginning of AP Bio-story	

Bibliography

The Learning Connection – the Biology modeling instructors
https://learningconnection.doe.in.gov/Login.aspx?ret=%2fdefault.aspx
NISMEC http://www.nd.edu/~nismec/nismec11.htm
I-STEM https://www.istemnetwork.org/index.cfm
MOSART http://www.cfa.harvard.edu/smgphp/mosart/index.html
ASU Modeling site http://modeling.asu.edu/

Other Bio sites
MUSE: *Modeling for Understanding in Science Education for grades 8 to 12 in astronomy and advanced biology* John J. Clement, Mary Anne Rea-Ramirez

Shadyside Academy http://www.shadysideacademy.org/page.cfm?p=6817

EXTENDING OUR GREAT BEGINNING

The coming year

Saturday workshops
November 3 (University HS) Dec 3 at Notre Dame and March?

Next summer - two weeks?

Classroom needs

Classroom visits

New proposal
– beyond the second year…..

Have you forgotten wintertime?