
Digital Resources to Enhance Creative Mathematical Thinking in a Biomathematics Context

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Outline

1. The MC Squared Project
2. The Math for Biology c-book unit Content
3. Widget instances and CMT Enhancement

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The MC Squared Project



- This project aims at designing and developing an intelligent computational environment, called **C-book Technology**.
- The C-book technology provides an authorable dynamic environment extending e-book technologies to include diverse dynamic widgets, an authorable data analytics engine and a tool supporting asynchronous **collaborative design** of educational resources, called **c-book units**.
- The project focuses on studying processes of **collaborative design** of digital media intended to enhance **creative mathematical thinking**.

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The Math for Biology c-book unit Content

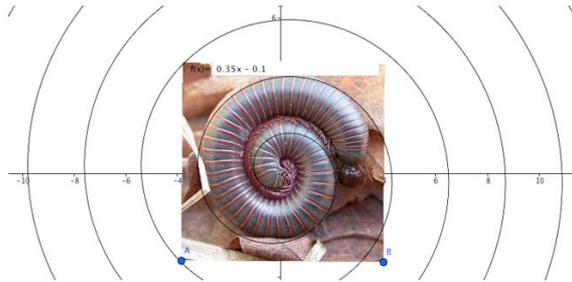
- **Introduction:** Biomathematics - its meaning and study fields.
- **Mathematical Approximation:** Modeling biological traits.
- **Golden Ratio:** Its occurrences in nature, paintings, architecture and Fibonacci numbers.
- **Spiral in Nature:** Analysis of spiral images and building artwork.

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Widget Instances and CMT Enhancement

1. DGS widget enabling students to upload their own spiral pictures and try out some formula that fit them.

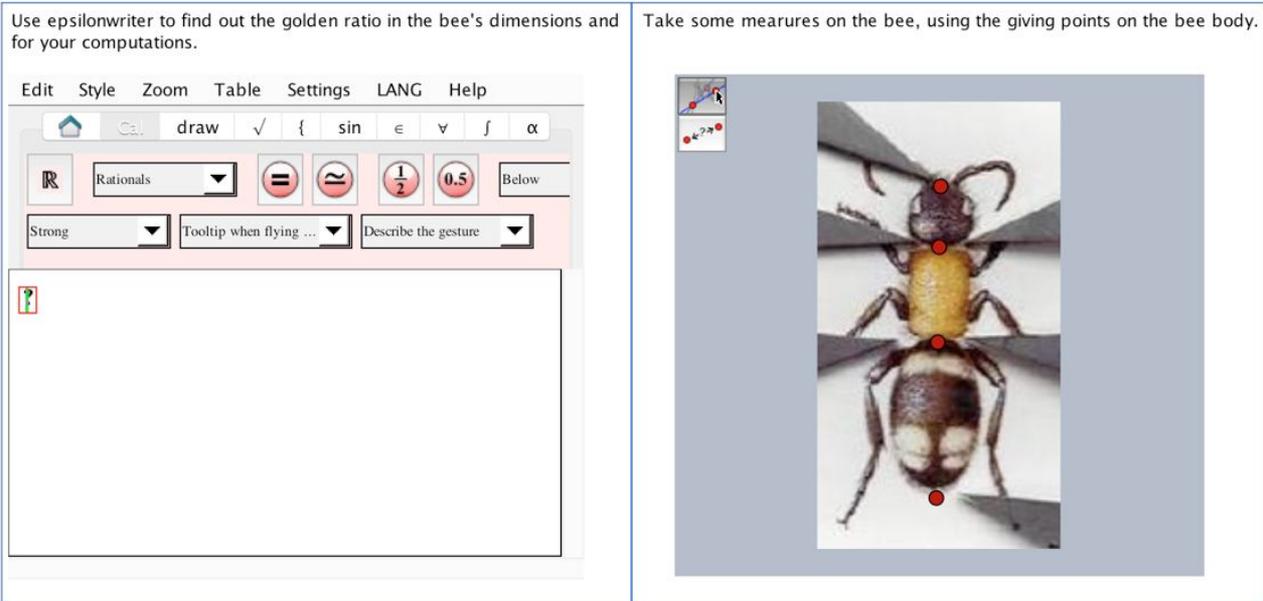


Widget Instances and CMT Enhancement

2. Cross-widget communication to allow sending messages between Cinderella and EpsilonWriter.

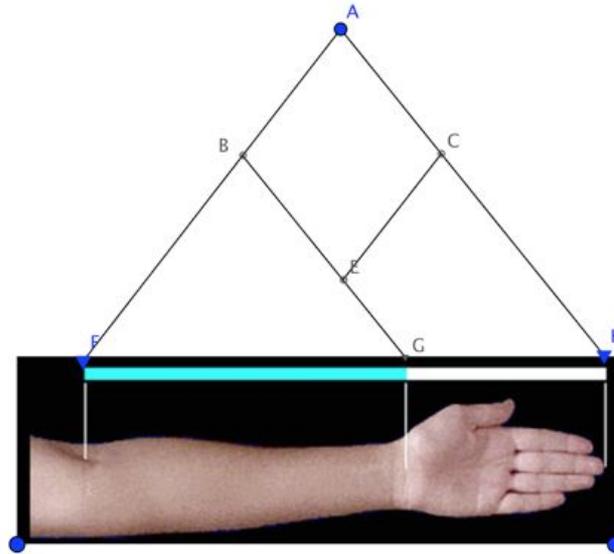
Use epsilonwriter to find out the golden ratio in the bee's dimensions and for your computations.

Take some mearures on the bee, using the giving points on the bee body.



Widget Instances and CMT Enhancement

3. DGS golden ratio compass tool for checking golden ratio.



Thanks for Your Attention!