

## **WAMC Lab Template**

Math Concept(s): F-LE.3 “Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.”

Source / Text:

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Date:

### **Attach the following documents:**

Lab Instructions

Student Handout(s)

Rubric and/or Assessment Tool

Formative assessment through observation

**Indicate “SPECIFIC” relationship to Science, Technology, or Engineering**

Modeling in technology or Engineering. Modeling Growth in Science

**Short Description (Be sure to include where in your instruction this lab takes place):**

### **Lab Plan**

Lab Title: Who wants to be a Millionaire?

Prerequisite skills: Being able to graph and create tables for linear, quadratic, and exponential functions

Lab objective: For students to understand that an exponential model will always pass linear and quadratic despite starting with a lower value

### **Standards:**

Mathematics K–12 Learning Standards:

- F-LE.3 “Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.”

Standards for Mathematical Practice: MP1 MP2 MP4

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K-12 Learning Standards-ELA (Reading, Writing, Speaking & Listening):

- [CCSS.ELA-LITERACY.W.9-10.1.B](#)
- [CCSS.ELA-LITERACY.W.9-10.2.B](#)
- [CCSS.ELA-LITERACY.W.9-10.2.D](#)

Leadership/21st Century Skills:

21st Century Interdisciplinary themes (Check those that apply to the above activity.)

- Global Awareness       Financial/Economic/Business/Entrepreneurial Literacy       Civic Literacy  
 Health/Safety Literacy       Environmental Literacy

21st Century Skills (Check those that students will demonstrate in the above activity.)

**LEARNING AND INNOVATION**

Creativity and Innovation

- Think Creatively  
 Work Creatively with Others  
 Implement Innovations

Critical Thinking and Problem Solving

- Reason Effectively  
 Use Systems Thinking  
 Make Judgments and Decisions  
 Solve Problems

Communication and Collaboration

- Communicate Clearly  
 Collaborate with Others

**INFORMATION, MEDIA & TECHNOLOGY SKILLS**

Information Literacy

- Access and Evaluate Information  
 Use and manage Information

Media Literacy

- Analyze Media  
 Create Media Products

Information, Communications and Technology (ICT Literacy)

- Apply Technology Effectively

**LIFE & CAREER SKILLS**

Flexibility and Adaptability

- Adapt to Change  
 Be Flexible

Initiative and Self-Direction

- Manage Goals and Time  
 Work Independently  
 Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others  
 Work Effectively in Diverse Teams

**Productivity and Accountability**

- Manage Projects  
 Produce Results

Leadership and Responsibility

- Guide and Lead Others  
 Be Responsible to Others

# Applied Math Council

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**Teacher Preparation: (What materials and set-up are required for this lab?)**

Materials

- Computers, Calculators, student handout

Set-Up Required:

- Getting computers, having a handout for every student

**Lab Organization Strategies:**

Leadership (Connect to 21<sup>st</sup> Century Skills selected):

- Students will need to show 21<sup>st</sup> century skills by working independently. Using the internet effectively to create tables and graphs, communicate their ideas clearly in a paper, and research pertinent information when it comes to investing their money

Cooperative Learning:

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Expectations:

- Students are on task, using the computers appropriately, managing their time well. Using Desmos, Excel, or another graphing tool to produce their graphs, google docs to write their papers

Timeline: 1-2 days

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**Post Lab Follow-Up/Conclusions:**

Discuss real world application of learning from lab

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Career Applications

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Optional or Extension Activities

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