

WAMC Lab Template

Math Concept(s): Represent data with plots on the real number line (dot plots, histograms, and box plots).

Source / Text: Applied Math Patterns and Functions

Developed by: Coord green Book

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Attach the following documents:

Lab Instructions handout

Student Handout(s) handout

Rubric and/or Assessment Tool handout

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

Science is about data collection, and interpretation of the data

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

Lab Plan

Lab Title: Drawing under pressure

Prerequisite skills: understanding patterns, finding range, finding average, graphing

Lab objective: collect data and interpret the relationship between time and quality of output

Standards:

Mathematics K–12 Learning Standards:

- Represent data with plots on the real number line (dot plots, histograms, and box plots).

Standards for Mathematical Practice:

2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
6. Attend to precision.

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

- Formal complete sentence format will be used for the answers to the analysis questions

Leadership/21st Century Skills:

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

- | | | |
|---|---|---|
| <input type="checkbox"/> Global Awareness | <input type="checkbox"/> Financial/Economic/Business/Entrepreneurial Literacy | <input type="checkbox"/> Civic Literacy |
| <input type="checkbox"/> Health/Safety Literacy | <input type="checkbox"/> 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

INFORMATION, MEDIA & TECHNOLOGY SKILLS

- Information Literacy
- Access and Evaluate Information
 - Use and manage Information
- Media Literacy
- Analyze Media
 - Create Media Products

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

Productivity and Accountability

- Manage Projects
 - Produce Results
- Leadership and Responsibility
- Guide and Lead Others

- Make Judgments and Decisions
- Solve Problems
- Communication and Collaboration
- Communicate Clearly
- Collaborate with Others

- Information, Communications and Technology (ICT Literacy)
- Apply Technology Effectively

- Social and Cross-Cultural
- Interact Effectively with Others
- Work Effectively in Diverse Teams

- Be Responsible to Others

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

Materials

- Metric ruler, pencil, worksheet, calculator

Set-Up Required:

- Acquire materials

Lab Organization Strategies:

Leadership (Connect to 21st Century Skills selected):

- Kids will work in groups, some of them will be leaders
- They have to analyze the data they collected both in table and graph form
- They only have a limited time to complete the exercise

Cooperative Learning:

- They will work in groups to compare data after they have completed the activity on their own

Expectations:

- Students will use time effectively
- Students will work together to complete activity

Timeline:

- One 55 minute class period

Post Lab Follow-Up/Conclusions:

Discuss real world application of learning from lab

- Work related stress
- Functioning under pressure
- Quality of work output

Career Applications

- All careers

Optional or Extension Activities

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