

WAMC Lab Template

Math Concept(s): Algebra: Classifying Triangles

Source / Text: Algebra textbook, guided notes

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Attach the following documents:

- Lab Instructions
- Student Handout(s)
- Rubric and/or Assessment Tool

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

Lab Plan

Lab Title: Triangle Scavenger Hunt

Prerequisite skills: Understanding and identify types of triangles
Right, Obtuse, Acute, Equilateral, Scalene, Isosceles

Lab objective: Students will be able to identify the different types of triangles seen in daily life.

Standards: (Note SPECIFIC relationship to Science, Technology, and/or Engineering)

Mathematics K–12 Learning Standards:

- Math: HSG-CO.C.10 Grade 9, Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180° ; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*

Standards for Mathematical Practice:

- 4. Model with mathematics
- 7. Look for and make use of structure
- 8. Look for and express regularity in repeated reasoning

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

- RST.9-10.4 Determine meaning of symbols, key terms, or other domain specific words and phrases as they are used in specific technical context.
- SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners building on others' ideas and expressing their own clearly and persuasively.

- SL.9-10.4 Present information, findings, and supportive evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task

K-12 Science Standards

- HS-PS1-7. Use math to support claims

Technology

- 5. Computational Thinker - Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

Engineering

- HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

Leadership/21st Century Skills:

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| <u>21st Century Interdisciplinary themes</u> (Check those that apply to the above activity.) Global Awareness Financial/Economic/Business/Entrepreneurial Literacy Health/Safety Literacy Environmental Literacy | | Civic Literacy | |
| <u>21st Century Skills</u> (Check those that students will demonstrate in the above activity.) | | | |
| LEARNING AND INNOVATION <u>Creativity and Innovation</u> Think Creatively Work Creatively with Others Implement Innovations <u>Critical Thinking and Problem Solving</u> Reason Effectively Use Systems Thinking Make Judgments and Decisions Solve Problems <u>Communication and Collaboration</u> Communicate Clearly Collaborate with Others | INFORMATION, MEDIA & TECHNOLOGY SKILLS <u>Information Literacy</u> Access and Evaluate Information Use and manage Information <u>Media Literacy</u> Analyze Media Create Media Products <u>Information, Communications and Technology (ICT Literacy)</u> Apply Technology Effectively | LIFE & CAREER SKILLS <u>Flexibility and Adaptability</u> Adapt to Change Be Flexible <u>Initiative and Self-Direction</u> Manage Goals and Time Work Independently Be Self-Directed Learners <u>Social and Cross-Cultural</u> Interact Effectively with Others Work Effectively in Diverse Teams | Productivity and Accountability Manage Projects Produce Results <u>Leadership and Responsibility</u> Guide and Lead Others Be Responsible to Others |

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

Materials

- Handout from Teacher
- Pencil

Set-Up Required:

- Review triangle classifications
- Provide examples on the board
- Hand out worksheet
- Read directions verbatim

Lab Organization Strategies:

Leadership (Connect to 21st Century Skills selected):

Cooperative Learning:

- Students will be able to choose to work alone or in groups.
- Students will be flexible
- Manage Time

Expectations:

- It is expected that students will follow directions given by Teacher (and on handout). Students will follow the time allotment and use their time to identify triangles outside and label them on their sheets. It is expected that student will work together and collaborate to share their findings.

Timeline:

- This activity will take approximately 20 minutes outside to complete with 5 minutes for share out. 25 minutes total.

Post Lab Follow-Up/Conclusions:

Discuss real world application of learning from lab

- Concrete practice will allow students to better retain their learning. Students see these various types of triangles in their everyday life and will be better able to identify them.

Career Applications

- Ability to know and identify types of triangles enables students to enter a variety of career fields. Mathematician, Engineer, Architect.
- Agriculture

Optional or Extension Activities

- Students have the option to identify more than one of the same triangle, label it and draw it out.
- Students will choose to share their findings to the class.

<https://wa-appliedmath.org/>

