

Name: Paula Wood  
Grade Level: 7 - 12  
Topic: ABC Geometry Book  
Class Time Needed: 1 day per nine weeks – all other work will be done outside of class

A. Objective

Students will create an ABC book that is grade appropriate using the 100 word list created by the class from the word taxonomy kept throughout the year. (PASS Process Standard 2-1, 2-2, 2-3, 5-1, 5-2)

B. Materials

- a. Card stock
- b. Straightedge, protractor, compass
- c. Laptop
- d. Printer
- e. Binding materials

C. Resources

- a. Examples of ABC books
- b. Geometry textbook
- c. Class notebook with word taxonomy
- d. Internet
- e. Other library resources

D. Introduction

- a. The class will be given the 100 word list from the instructor and then as a group will discuss other words they feel should be included possibly in place of some of the words on the list. If necessary the list will be expanded to the 110 word list or even 125 word list depending on student input.
- b. Each nine weeks students will be responsible for creating the following number of pages for their book.
  - i. 1<sup>st</sup> nine weeks → 6 pages
  - ii. 2<sup>nd</sup> nine weeks → 7 pages
  - iii. 3<sup>rd</sup> nine weeks → 7 pages
  - iv. 4<sup>th</sup> nine weeks → 6 pages
- c. Each page will include the following:
  - i. The letter of the alphabet
  - ii. The word being illustrated
  - iii. A graphic representing the word (this may be constructed, computer generated, or an actual picture). All pertinent parts must be labeled appropriately.
  - iv. Four points pertaining to the word for that letter in a bulleted list.

v. A page border.

- d. The book must also have a cover (includes the title of your book and a graphic and/or border), a title page (includes your name and the due date), and a back cover. Remember there should be a common theme throughout the book to help tie everything together.
- e. Final ABC book will be due in May. Daily grades will be taken as each deadline is met.

#### E. Assessment

- a. Each nine weeks the pages due will be assessed using the score sheets attached. The grades will be counted as daily grades.
- b. A final grade will be given and counted as a test grade using the final score sheet given.

#### F. Modifications

Modifications can be made based on abilities of students. One simple modification for lower ability students would be to only require three points of information on each letter. Also higher level students who might finish early would be encouraged to create a presentation of their work using PowerPoint and/or the Smart Board.

#### G. Reflection

This is a project I have used in the past to represent geometric terminology and student understanding. I have not used the format presented here but I am going to alter the plan and implement the revised plan soon. In the past my students have enjoyed creating the ABC book and have realized that the entire process is not as easy as it first seemed.

Also I like to have student input on things like the 100 word list because sometimes students feel that terms I did not select are very important and should be included. Often these are terms that they found interesting, difficult to remember, etc.

## 100 Word List

|                        |                           |                      |
|------------------------|---------------------------|----------------------|
| Adjacent angles        | Graph                     | Polygon              |
| Arc                    | Hypothesis                | Postulate            |
| Arc measure            | Incenter                  | Prism                |
| Bisector               | Indirect proof            | Proof                |
| Arc length             | Inductive reasoning       | Proportion           |
| Annulus                | Identity                  | Pyramid              |
| Axis of symmetry       | Inductive reasoning       | Pythagorean triple   |
| Argument               | Image                     | Quadrilateral        |
| Circumcenter           | Inscribed angle           | Ray                  |
| Circumscribe           | Intersect                 | Reflection           |
| Centroid               | Intercepted arc           | Reflex angles        |
| Complementary          | Intercepts                | Regular              |
| Chord                  | Inscribed circle          | Resultant vector     |
| Collinear              | Isosceles triangle        | Rhombus              |
| Concave polygon        | Kite                      | Rigid transformation |
| Equiangular            | Length                    | Rotation             |
| Equilateral            | Line                      | Secant               |
| Convex polygon         | Lateral area              | Sector               |
| Coplanar               | Iteration                 | Similar              |
| Corresponding angles   | Line segment              | Sine                 |
| Coordinate             | Linear pair               | Skew lines           |
| Distance formula       | Magnitude                 | Slope                |
| Deductive reasoning    | Major arc                 | Supplementary        |
| Corresponding angles   | Median                    | Tangent              |
| Cosine                 | Midpoint of a segment     | Transformation       |
| Concurrent             | Midsegment of a trapezoid | Transversal          |
| Congruent              | Minor arc                 | Two-column proof     |
| Equivalence Properties | Paragraph proof           | Trapezoid            |
| Head to tail method    | Parallel                  | Vanishing point      |
| Hypotenuse             | Parallelogram             | Vector               |
| Face                   | Perpendicular             | Vector sum           |
| Exterior angle         | Point                     | Vertex               |
| Glide reflection       | Point of tangency         | Vertical angles      |
| Golden ratio           |                           |                      |

# ABC Book Score Sheet

## 1<sup>st</sup> Nine Weeks

| Letter | Required Element  | Points Possible                           | Points Received | Comments |
|--------|---|---|-----------------|----------|
|        | Page 1<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 2<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 3<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 4<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 5<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 6<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | <b>TOTAL POINTS</b>   | <b>114</b>                                |                 |          |

# ABC Book Score Sheet

## 2<sup>nd</sup> Nine Weeks

| Letter | Required Element  | Points Possible                           | Points Received | Comments |
|--------|---|---|-----------------|----------|
|        | Page 1<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 2<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 3<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 4<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 5<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 6<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 7<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | <b>TOTAL POINTS</b>   | <b>133</b>                                |                 |          |

# ABC Book Score Sheet

## 3<sup>rd</sup> Nine Weeks

| Letter | Required Element  | Points Possible                      | Points Received | Comments |
|--------|---|--------------------------------------|-----------------|----------|
|        | Page 1<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 2<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 3<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 4<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 5<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 6<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 7<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | <b>TOTAL POINTS</b>   | <b>133</b>                           |                 |          |

# ABC Book Score Sheet

## 4<sup>th</sup> Nine Weeks

| Letter | Required Element  | Points Possible                           | Points Received | Comments |
|--------|---|---|-----------------|----------|
|        | Page 1<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 2<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 3<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 4<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 5<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | Page 6<br>Letter<br>Word<br>Graphic<br>Point 1<br>Point 2<br>Point 3<br>Point 4<br>Neatness | 1<br>1<br>3<br>3<br>3<br>3<br>3<br>3<br>2 |                 |          |
|        | <b>TOTAL POINTS</b>   | <b>114</b>                                |                 |          |

## ABC Book Final Score Sheet

| Required Element                      | Points Possible | Points Received | Comments |
|---------------------------------------|-----------------|-----------------|----------|
| Cover Page                            | 3               |                 |          |
| Title Page                            | 3               |                 |          |
| Back Cover                            | 3               |                 |          |
| Binding                               | 3               |                 |          |
| Score from 1 <sup>st</sup> nine weeks | 114             |                 |          |
| Score from 2 <sup>nd</sup> nine weeks | 133             |                 |          |
| Score from 3 <sup>rd</sup> nine weeks | 133             |                 |          |
| Score from 4 <sup>th</sup> nine weeks | 114             |                 |          |
|                                       |                 |                 |          |
| <b>TOTAL POINTS</b>                   | <b>506</b>      |                 |          |