Lesson Title:	Understanding Reflections by Paper Folding
Length of Lesson	1 Days
Created By	Michael Andre Hamilton
Subject	Geometry
Grade Level	10^{th}-12^{th} grade
State Standards	Geometry 2a
DOK Level	DOK 2
DOK Application	Graph, Compare, Estimate Infer, Predict, Interpret, Make Observation, Summarize
National Standards	Geometry for 9 – 12^{th} Math Standards
Graduate Research Element	Human Factors and Work Physiology

Student Learning Goal:

National Standards for Geometry for 9-12^{th}

A: analyze properties and determine attributes of two- and three-dimensional objects;
B: explore relationships (including congruence and similarity) among classes of two- and three-dimensional geometric objects, make and test conjectures about them, and solve problems involving them;
C: establish the validity of geometric conjectures using deduction, prove theorems, and critique arguments made by others;
D: use trigonometric relationships to determine lengths and angle measures.

State Standards for 9 – 12^{th} Geometry

A: Apply problem solving skills to solve and verify the solutions for unknown measures in similar polygons.

Materials Needed (supplies, hand-outs, resources):

- Tracing Paper
- Ruler
- Protractor
- Pencils
- Pencils compasses

Lesson Performance Task/Assessment:

- The students will understand how figures and it reflections are related

Lesson Relevance to Performance Task and Students:

The relevance of this lesson is to get the student to understand an original shape and it mirror image is related.

Anticipatory Set/Capture Interest:

At the beginning of class, I will discuss with them what are the different between look at objects with their eyes and looking at objects through a mirror. I will show them different mirror image and let them tell me what differences they notice.

Guided Practice:

1. Use a page of tracing papering and a ruler to draw a scalene triangle
2. Fold the paper so that the triangle is covered and write A,B,C on the triangle edges.
3. Unfold the paper and label the traced points as A-prime, B-prime, and C-prime respectively
4. Get the Student to draw a line from A to A- prime
5. Get them to measure the angles formed by the fold from A to A-prime
6. Repeat this process for B to B-prime and C to C-prime

Independent Practice:
The students and the instructor will work together in making the shapes and measuring the angles

Remediation and/or Enrichment:
Remediation
Individual IEP; partner help throughout lesson; shorten parts of assignment; focus on few process

Enrichment:
None

Check(s) for Understanding:
Day 1:

1. What do you notice when you draw the line from A to A- prime?
2. What angles was formed from the folds of each angle?
3. How is the reflection line related to the segment joining a point and its reflected image?

Closure:
Have an end of the class discussion

Possible Alternate Subject Integrations:
*None.

Teacher Notes:
Mississippi Prentice Hall Mathematics Geometry book was used as a guide.