

Real World Geometry: An Art Project

DUE: NOVEMBER 7 2016

Geometry (and mathematics generally) is all around you, all the time. This project will explore this phenomenon in more detail. Your task is to create a poster, picture book, digital presentation, or other product (with prior teacher approval) with *original* images of 15 geometric terms from the choices below. You may use existing photos you have already taken, but not photos from magazines, newspapers, etc.

acute angle	incenter	rotation
adjacent angles	inscribed figure	sector
alternate interior angles	isosceles triangles	secant line
angle bisector	median (of a triangle)	semicircle
arc	midpoint	scalene triangles
chord	midsegment	segment bisector
circumcenter	obtuse angle	similar triangles/figures
circumscribed figure	parallel segments	skew lines (segments)
complementary angles	parallel planes	slope
concentric circles	parallelogram	square
congruent angles	perpendicular segments	supplementary angles
congruent triangles	plane	tangent line
coplanar points	prism	translation
corresponding angles	radius	transversal
diameter	ray	trapezoid
dilation	rectangle	vertical angles
equilateral polygon	reflection	
hemisphere	rhombus	

Most students will succeed by taking photographs for the terms, whether in your home or around the school or other places. Drawings are acceptable only if they represent real-world objects or formations (so no sketches of abstract shapes). You are encouraged to use your art form as an inspiration. [Photographs of dancers, instruments, etc.]

Comments:

- You must use original images or sketches. Do not use images from the internet, although image searches for “[term] real world” may help you get some inspiration.
- Images must be of actual objects/forms, not mathematical drawings or figures or abstract objects.
- Architecture, bridges, machines (cars, bicycles, computer parts, electronics, etc.) are good places to look
- Electronic submissions are fine: please attach a single file (Powerpoint, for example) as an email to mohyuddin_n@hcde.org . If you use Google Slides, share the file with the same address.
- If you are unsure about a term’s meaning or if a picture matches the term, feel free to ask me or others.
- Do not procrastinate! It will be nearly impossible to complete this project in just a day or two.

Requirements

- Outline each object in the photograph/sketch so that the object is clearly marked for the viewer.
- Caption each image with the term itself and a short definition (Be sure your definition is mathematically correct. Some terms have multiple meanings.)
- Your images should have a cohesive theme and be presented with a creative title.
- Only one term per image. You may re-use the same image multiple times, but your project must have 15 images. Exception: Squares, rectangles, rhombuses, and parallelograms can only be used once, so don’t use a photo of a square object for all 4 terms.

How will this be graded?

Each term/photo will be graded separately on two criteria: geometric accuracy (60%) and creativity (30%). The remaining 10% is for neatness, clarity, and theme/title. Accuracy and creativity will be graded on the same 4-point scale as assessments, with superb examples earning a 5. The final grade will be entered into Powerschool as an assessment task counted 3 times (so that it has as much weight as a typical weekly assessment).