

Searching For The Center

Brief Overview:

This is a three-lesson unit that discovers and applies points of concurrency of a triangle. The lessons are labs used to introduce the topics of incenter, circumcenter, centroid, circumscribed circles, and inscribed circles. The lesson is intended to provide practice and verification that the incenter must be constructed in order to find a point equidistant from the sides of any triangle, a circumcenter must be constructed in order to find a point equidistant from the vertices of a triangle, and a centroid must be constructed in order to distribute mass evenly. The labs provide a way to link this knowledge so that the students will be able to recall this information a month from now, 3 months from now, and so on. An application is included in each of the three labs in order to demonstrate why, in a real life situation, a person would want to create an incenter, a circumcenter and a centroid.

NCTM Content Standard/National Science Education Standard:

- Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.
- Use visualization, spatial reasoning, and geometric modeling to solve problems.

Grade/Level:

These lessons were created as a linking/remembering device, especially for a co-taught classroom, but can be adapted or used for a regular ed, or even honors level in 9th through 12th Grade. With more modification, these lessons might be appropriate for middle school use as well.

Duration/Length:

Lesson #1	45 minutes
Lesson #2	30 minutes
Lesson #3	30 minutes

Student Outcomes:

Students will:

- Define and differentiate between perpendicular bisector, angle bisector, segment, triangle, circle, radius, point, inscribed circle, circumscribed circle, incenter, circumcenter, and centroid.
- Construct an incenter of a triangle.