

Geomancy

Target grade level: 9th grade +

Background: What is Geomancy?

“Divination by means of figures or lines or geographic features.” (www.m-w.com)

“It explores the realm where human consciousness meets and dialogues with the spirit of the earth. It empowers the harmonious interaction between person and place.” (www.geomancy.org)

“The idea that some ancient civilizations used geometry and site planning to capitalize on the energy of sacred places and buildings.” (Jessica Deckard)

How do archaeologists know?

One of the very first things archaeologists do when they find a site is to make a map. They use sophisticated instruments that use lasers to measure buildings and topographic features (like hills and rivers) very precisely. Some archaeologists are very interested in how and why ancient cities were laid out the way that they were, so they look at these maps and try to find geometric relationships between buildings.

We all know that two points define a line, so you can draw a line between two buildings and say that they are related. Likewise, we know that three points define a triangle, so you can draw lines between three buildings and say that they are related as well, but does this mean anything?? **NO!!**

In archaeology, what does matter is if you can find certain *types* of geometric shapes. Circles, isosceles or equilateral triangles, or squares are meaningful. Also important are sets of parallel lines, perpendicular lines, and radians. Archaeologists think that ancient people sometimes arranged buildings to create shapes like these for religious reasons. Perhaps ancient people created spaces and buildings that related to each other in meaningful ways to show how powerful their gods were, or to show the relationships between the people buried in funerary pyramids. We can see the relationship between buildings on a map, but we can't see what that relationship means.

Objectives: The students will

1. Seek out geometric patterns in built space.
2. Practice reading maps.
3. Identify isosceles triangles, parallel lines, right angles, and equilateral triangles using geometric proofs.

Activities

1. **Tikal site map.** The site of Tikal is one of the most famous of all Maya sites. It is located in northern Guatemala in the department (like our states) of the Peten. Maps of this site have revealed that the Maya had a very complex plan for the site. Three of the largest structures at the site form an isosceles triangle, and lines drawn from many doorways reveal several sets of parallel lines.
 - a. The book *Lords of Tikal* by Peter Harrison has lots of nice maps of Tikal. He is also interested in geomancy, so there is good information in that book about this subject.
2. Have students create maps of their own imaginary cities. Using graph paper, rulers and protractors, have them lay out the town and orient the buildings to each other in ways that imply some sort of relationship between the buildings. A writing exercise explaining why they placed buildings where they did could accompany this exercise.
 - a. For example, if we were to construct our own city from scratch, and we wanted it to be full of law-abiding people, we might build the courthouse right across the street from the jail (perpendicular to it), so that when you leave the courthouse you will be reminded of what will happen to you if you break the law.
 - b. Or we might want all our people to be in great physical shape, so we would build a fitness center. A business man might build a juice bar near the fitness center and another person might build an ice cream shop near it as well. What if these three businesses formed an isosceles triangle on a map? What might that mean to us, since we live in the society that built these buildings? Now imagine that you are an archaeologist working two hundred years from now. Could you identify the fitness center? How could you tell the ice cream shop from the juice bar? What meaning might you give to the fact that these three buildings form an isosceles triangle? How would that meaning change if you found a church instead of an ice cream shop?

Vocabulary

Geomancy

Isosceles triangle

Parallel lines

Perpendicular lines

radian

Site layout – The way in which a place, or “built space,” is organized. In the case of the Maya, there is usually an overarching connection between buildings, regardless of the time period in which they were constructed.

Sacred Space – A space created or defined by people, that holds special meaning for them.

References

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- 1988 Archaeoastronomy and Dynastic History at Tikal. In *New Directions in American Archaeoastronomy*. BAR International Series 454. Anthony Aveni, ed. Oxford: BAR. 1-16.

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- 1999 *Lords of Tikal*. London & New York.

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