

Coordinate Grid: Mapping an Archeological Site

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(One of three lesson plans that can be done as correlated activities. The others are

Mapping a Site Using a Coordinate Plane and **Finding Math in the Dirt.**)

Lesson Overview: Archeologist preserves the context of a site through the use of a rectangular grid or Cartesian coordinate system. Coordinate grids are reflexive frames that extend infinitely in two or more directions from zero. Two defines each or more number lines called axes. Axes are usually, but not always, perpendicular to each other. All axes intersect in a common point called the origin (that is, the zero points of the axes coincide). In a plane, one axis is usually horizontal, the other vertical, and they usually have the same scale. In space, (as in archeology) two axes are horizontal and perpendicular to each other, with a third axes vertical to both.

This lesson focuses on distance and pacing and the second on coordinate grids.

Objectives: This activity is intended to help children develop a sense of distance.

- pacing off distances in order to be able to estimate a distance
- estimating distances
- reasonable numbers

Materials: paper, pencils, measuring tape or rulers

TEKS [mathematics] 4.8; 4.12; 4.14; [social studies] 4.7; 4.8; 4.9.

Activity: Ask children how they might calculate the length of the playground.

Step 1: Share about the ability to calculate using a pacing technique. (For example, my pace is one for two feet)

Step 2: Go to the playground and have them figure their pace for 10 yards or 30 feet.

Step 3: Record on a chart the length of their paces. Use a unit that the whole class accepts.

Step 4: Have them figure the length and width of their playground.

Closure: Discussion--Archeologists preserve the context of a site by mapping it on a Cartesian coordinate system. Lead students to understand why pacing may be an important tool for the initial mapping of a site.

Extension:

Use these same numbers to begin a lesson on area. Create a site on the playground by planting artifacts. The students can then grid the playground and map the artifacts.

(For a related lesson, go to Mapping a Site Using a Coordinate Plane.)