

K1 activity set – linking spatial thinking with vocabulary and math sense.

Most of these activities were tested in a 7-classroom K1 school in Harlem, New York; some were also tried in a K12 school in Jackson Heights, Queens, New York. Students in both schools scored well above their peers in other schools on language arts and math tests; they also showed greater improvement through the year.

Scientific integrity prohibits us from claiming a strong cause-and-effect relationship between these geography lessons and high reading or math scores. We can, however, claim that we have faithfully followed the first rule of the well-known Hippocratic oath used by the medical profession: “first of all, do no harm.”

The activities have been revised in response to a one-week planning workshop in summer, 2007, at which several teachers described their experiences with the lessons and suggested changes. They were revised again in summer, 2013, in response to comments from several teachers.

It is very important to note that the powerpoint screens or overhead transparency masters that accompany each lesson in this folder are not (repeat: NOT) intended for use in a primary-school classroom. Their purpose is to guide self-study and/or discussion among teachers.

The lessons themselves rely on small dolls, marbles, coins, string, and other manipulables, along with a wooden or cardboard model of the classroom and printed maps of the classroom, corridor, school, playground, local neighborhood, nearby park, and community. For ease in revision, all of the Harlem maps were prepared in a computer GIS, using standard ESRI software, and printed in several different formats, including black-and-white 8-1/2x11, color 11x17, and a few larger color maps up to 36x60. Teachers who do not have access to this software should consult their state geographic alliance or the geography department in a local university for advice and assistance in making these maps.

It also helps to have a professional or amateur carpenter and artist to help make materials.

In any case, it is emphatically NOT desirable to use generic materials about “a” school, “a” park, “a” playground, or “a” community to introduce students to the idea of representing the real world with a map or model. Many publishers provide materials like that, but we do not recommend using them at first. After students have mastered the idea of representation, a teacher can then use maps to help teach about other places.

That, in a nutshell, is the point of these lessons!

For a summary review of the research that underlies these lessons, see

Gersmehl, Philip J and Carol A. 2007. Spatial Thinking by Young Children: Neurologic Evidence for Early Development and “Educability” *Journal of Geography* 106: 181-191.