Handout CME 1
ACTIVITY 1: COMMUNITY MATHEMATICS VISITS

PURPOSE: To deepen your knowledge about math teaching, your students, and the local community (ies) that your school serves by closely examining and documenting mathematical resources that can be used for math lesson planning purposes.

PRIMARY GOALS:

1) To increase your knowledge of students' communities, including the knowledge and expertise of community members.
2) Reflect on what you learned about the community as a mathematical resource and how it might support your mathematics instruction.

GROUPS: PSTs complete this assignment in groups of 2-4.

ASSIGNMENT:

A. Visit one or more locations in the community. You might visit locations in the community surrounding your field experience school. Or, if the students attending the school live in a different community, you might visit a location in the children's community. Whenever possible, walk (versus drive) around the community. Also, we recommend selecting locations that are familiar to students (i.e., locations you learned about from your case study student, places that you know are familiar to children in your field experience classroom, places that draw many families in the community, social hubs). Finally, consider inviting a parent or community member to serve as a "guide" for your community walk.

During your visits, **Look For And Document Evidence of Mathematics**. This could include: people using mathematics, mathematical concepts or principles "in action," mathematical relationships, quantities, figures, etc. **Talk to individuals** who work/play/shop in the setting about how they use mathematics. Take/draw pictures and field notes. Identify how each picture or experience you document provides evidence of mathematics. Pay attention to any mathematical practices you notice - this includes mathematical practices of *adults* in the setting (e.g., store owners, employees, parents who frequent the location) and mathematical practices of *children* in the setting (e.g., students, siblings, cousins, etc). Finally, take note of things in the neighborhood that you hadn't noticed before or that surprise you.

During your visit, refrain from making judgments about the neighborhood. The goal of the community visits is to learn from the community itself. It is an opportunity for you to identify resources for your lesson planning and for building relationships with community members. It is also a time for you to confront stereotypes or assumptions you may have had.

B. Formulate A Series of Questions And Data Sources about the context that could be ***mathematized***. Start by reviewing the pictures and notes that you took, and brainstorming a list of possible questions and data sources. Try to generate questions that "matter" – in other words, these should be questions that you, students, or someone else in the school or community would actually want answered. You might consider questions that involve comparisons of some kind, or questions that relate to issues of equity and/or fairness. Also, make sure that your questions can be answered using mathematics.

Consider the data, as evidenced in your photos and/or fieldnotes that could be gathered to answer your questions. This might be data that is immediately evident in the context (the price of an item; the cost of gasoline, the number of tickets required to earn certain prizes), or data that you need to generate (you can measure distances, take temperatures, keep track of time, look at menus, record examples of shapes, keep track of people who visit an establishment or cars that drive by, or the items that people order, etc.). Data collection may also involve talking to people at the site (interviewing employees, etc.) and/or gathering data from other sources (e.g., the internet, phone calls).

C is an additional option, if PSTs are talking about community visits with children in their field experience classroom after the visits.

C. Talk With Students In Your Field Experience Class About Your Community Visits. Show your students your photographs and artifacts from your community visits and have them tell you what they know about these places, and if relevant what they (or their family members) do at these places (including what they or their families might be do that involves mathematics). You will be amazed at how much more they will share with your photos in hand! If possible, have your group member(s) present when you share to help take notes on students' comments, reactions, ideas, etc.

D is another additional option, if PSTs are preparing a group presentation about their community walk.

D. Organize Your Information To Share With Others. Gather all the information and/or artifacts that you gathered during your "visit" and any other relevant data that might help you answer your question. Meet in your groups to discuss how you can represent your information (stories, pictures, graph, table, chart, diagram, photos, etc) to communicate what you learned to others. You might use Microsoft EXCEL (or another similar program) to represent the data. You might consider what each representation shows and what additional questions it raises. In a powerpoint (or other presentation), present the mathematics question(s) and summarize data collected (including example photos, photos of artifacts that you collected, etc) that document the mathematics practices evidenced in your community walk.