

# 2008 Math & Science Summer Program

Global Warming: Climate Change and the Impact on Kentucky



### Background/Program Description

- Lack of pre-college preparation is the single most important cause of under-representation of minorities in science and engineering careers.
- The program took place on the University of Louisville Campus for 4 weeks in June 2008.
- The newly revised program represents a partnership with numerous stakeholders and additional components such as service learning group work, mentoring, and hands-on learning.
- The program promotes and encourages challenging work, self-reliance, and scientific inquiry while explicating how content knowledge can be applied to address current day challenges related to the human impact on global warming.

### Participants

- The summer program served a total of 93 students who represented 17 JCPS high schools.

	N	%
<b>Gender</b>		
Male	28	32%
Female	60	68%
<b>Race/Ethnicity</b>		
African American	74	84%
White	7	8%
Asian	4	5%
Latino	1	1%
Other	2	2%
<b>Lunch Status</b>		
Free/Reduced	45	51%
Paid	43	49%
<b>Household Structure</b>		
Two Parent	29	34%
Single Parent	52	61%
Grandparent	4	5%

### Evaluation Results

- **Instructors:** Approximately 75% of participants rated their instructors as good or excellent.
- **Attendance:** The average attendance rate during the program was 57%. Thirty-two percent of participants attended between 16-20 days (representing an 80%-100% attendance rate).
- **Knowledge Growth:** Participants indicated statistically significant growth in knowledge of all math and science concepts taught – on the retrospective survey [See Figure 1 for math] and on the pre and post content test.

- **Increased Awareness:** Nearly all of the participants agreed that the program contributed to their awareness and understanding of (1) environmental issues, (2) other people and their views, and (3) how our decisions impact the environment.

*"This experience helped me learn more about global warming and earth and how I can change it"*

### Recommendations

- Strategies to **increase program attendance** should be pursued before and throughout the duration of the program. This may include altering the hours of operation and addressing 'participant voiced' barriers to attendance.
- **Recruitment:** Recruitment of more African-American males and other minority males should be strongly considered. Expanding recruitment into more schools is also recommended.
- **Follow-up:** Track participant's science and math achievement through the school year to determine if there is any sustained impact of the program post participation.

Figure 1: Participants' knowledge growth in math concepts (n=57).

