BROKEN ARROW â€” A $10,000 grant from an MIT-backed initiative is allowing a group of Broken Arrow High School students to continue a project that seeks to help feed people living in poverty in Kenya. Donna Gradel, who teaches environmental science at BAHS, applied for the InvenTeam initiative, which is administered by Massachusetts Institute of Technologyâ€™s School of Engineering, and was among 15 recipients chosen for this yearâ€™s grant. Her team is the first in Oklahoma to get the grant, which was founded in 2002. The program is funded by the Lemelson Foundation, established by prolific U.S. inventor Jerome Lemelson and his wife. The foundationâ€™s mission is to use the power of invention to improve lives, through inspiring and enabling the next generation of inventors to promote economic growth in the U.S. and social and economic progress for the poor in developing countries. Gradel is excited about what the opportunity means for her students, and she says the goal of the program is not so much the actual invention. â€œThe main thing is that the students go through the process,â€• she said. The Broken Arrow team is working to create a low-cost and sustainable formula of fish food to be used in a full-size aquaponics system that Gradel and a group of students installed in a remote Kenya village two summers ago. The team â€” made up of 12 students, Gradel and some school and community mentors with engineering backgrounds â€” is working on an algae and mealworm mixture of food for tilapia. During one of their meetings last week â€” the team meets on Sundays and after school on Thursdays â€” the group members were working on harvesting their own algae. Libby Smith, a high school senior in the group, cultivated the algae in her home and was storing it in her garage until it was ready to be brought to school. â€œIâ€™ve learned all about the cycle and the need for sustainable fish,â€• Smith said. One of the appealing things about the initiative for students is that the goal of the program is to invent technological solutions for real-world problems. Gradel said some of the students on the team simply joined because

they wanted to help improve the lives of kids in African orphanages. In the process, theyâ€™re learning that difficulties can arise at every turn. Students found out that current costs to maintain the aquaponics system cannot be sustained. â€œCurrently, it costs the orphanage $3.30 a day (approximately 3.15 pounds of fish food) to provide one meal of fish per week for 40 orphans,â€• says the website the students set up about their project. â€œThe total cost for one month of food is approximately $99. To increase the current harvest to feed 140 orphans would triple the current cost of fish food to $19.80 per day ($594 per month); this is economically unfeasible.â€• The groupâ€™s formula goes back to what tilapia generally eat in the wild, and will be composed of mealworm, algae, ground rice waste, beeswax and a few other components. The production of the food will include harvesting the ingredients, mixing and grinding them, dehydrating the mix and producing pellets. The process will include designing and constructing the harvesting system, which will include a solar dehydrator. The teams will showcase their projects at Eureka- Fest in June. The event is the Lemelson-MIT Programâ€™s public, multiday celebration of the inventive spirit at MIT in Cambridge, Mass. Applications for next yearâ€™s grants are available at lemelson.mit.edu/inventeams . Nour Habib 918-581-8369 nour.habib@tulsaworld.com