

Exciting girls, minorities and rural youth about engineering through 4-H

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Abstract – A series of 4-H projects on engineering design are being developed to appeal especially to youth who are female, African -American, Hispanic, Native American or live in rural areas. These populations are under-represented in engineering professions and our goal is to get them interested in engineering design at a young age. Data collected from focus groups with 4th and 8th grade students in these populations is being used to identify specific strategies to recruit the target youth to the 4-H engineering design projects. Preliminary results show that girls and boys have similar interests, especially in 4th grade. Ethnic background seems to make little difference also at that age. Engineering design topics that appear to excite these youth, and have components that are age-appropriate, include: playgrounds, animal habitat (in a zoo, for example) and vehicles (robots; mouse-trap cars). Ideally, a young person with an aptitude and interest in things related to engineering would start a 4-H project at the “beginner level”, and each year select a more challenging project from the series to continually build interest in a career in engineering. This program has the potential to reach a large number of youth. Nationally, 4-H has almost 7 million members, of which 3.4 million are female, 1.0 million are African -American, and 0.6 million are Latino. About 40% (2.7 million) live in rural areas. This series of engineering design projects may also attract more target youth into 4-H. Included are procedures and results that can apply to any effort to teach engineering design at a young age.