

BIOLOGICAL AND AGRICULTURAL ENGINEERING WITH DR TRISHA MOORE

TALKING POINTS

KNOWLEDGE:

1. How many trees are there on our planet? How many does that equate to for every human?
2. Can you list three or four reasons why trees are important to life on Earth?

COMPREHENSION:

3. In what ways can stormwater runoff cause problems for people?
4. What can trees and other vegetated systems do that make them a subject of interest for Trisha and her team? Why is this important to some urban areas?

APPLICATION:

5. What analytical approaches has Trisha taken during her research? What does this approach offer that other approaches might not? Can you think of any other approaches that you might take?

ANALYSIS:

6. Can you explain how the specific location of an urban area might affect whether urban tree canopies are effective in reducing urban runoff? How might differences in the type of tree affect their effectiveness?
7. Trisha believes that the challenges facing biological and agricultural engineers affect us all. Do you agree? Why is it important that we all find ways to overcome these challenges?

EVALUATION:

8. Do you think there might be any potential problems with planting trees in urban environments? If so, what might they be? How do you think we can overcome those problems?

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

ADVANCEMENT OF WOMEN IN SCIENCE AND ENGINEERING

Kansas State University has a range of outreach programmes that promote the advancement of young girls to women in STEM-related fields. They have four main programmes: GROW, EXCITE, SUCCEED and ADVANCE, and each works to increase the participation, retention and advancement of girls and women in Science, Technology, Engineering and Maths. You can find links to each programme below.

GROW: <https://www.k-state.edu/kawse/grow/>

EXCITE: <https://www.k-state.edu/kawse/excite/>

SUCCEED: <https://www.k-state.edu/kawse/succeed/>

ADVANCE: <https://www.k-state.edu/kawse/advance/>

MORE RESOURCES

- For those of you who are interested in reading the project report from Trisha's investigations, you can find a link to it here:

<https://www.waterrf.org/system/files/resource/2020-01/DRPT-4837.pdf>

It is quite complex, but it should give you a feel for everything that was involved in the project and there is an abstract at the start which explains the key findings. Challenge yourself to read a formal scientific report!

- TES has a page dedicated to agricultural engineering that is packed with activities and learning resources. Have a look through and get an idea of what you can expect if you decide to embark on a career in this field:

<https://www.tes.com/lessons/rhKJbWSpVx1-aA/agricultural-engineering>