

ACTIVITY 2

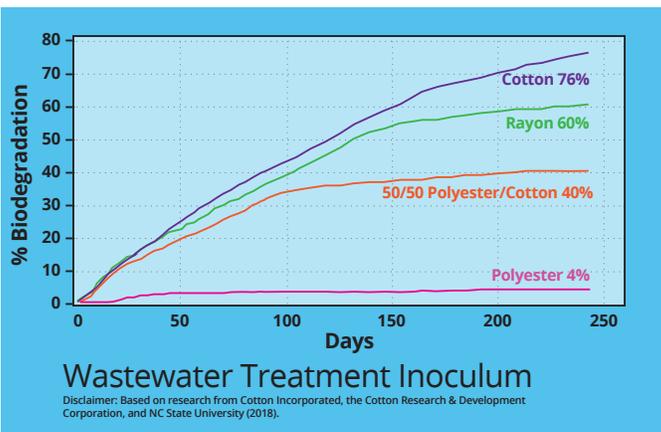
Break It Down!



REPRODUCIBLE MASTER: G5-8

Our clothes can shed microfibers when we wear and wash them. These tiny fibers can find their way into our water systems through washing machine drains. If they build up in freshwater and salt-water environments, they could even harm the ecosystem.

The cotton industry and North Carolina State University did a study to examine how textile microfibers break down or degrade in aquatic environments. They compared cotton, rayon (a manufactured fiber made from wood), polyester (a synthetic fiber made from crude oil), and cotton/polyester blends. Visit cottontoday.cottoninc.com/how-quickly-do-textile-microfibers-degrade-in-aquatic-environments to learn more about the study.

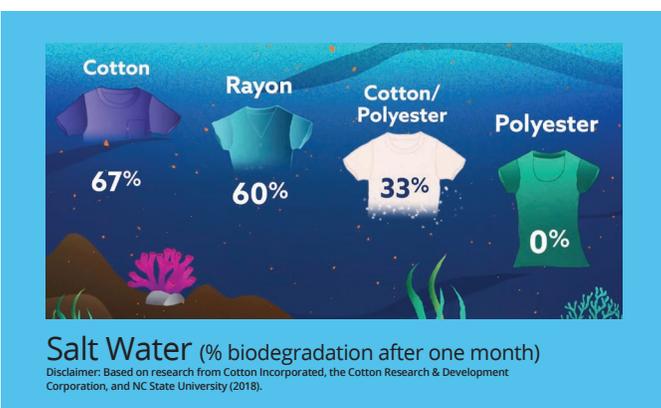
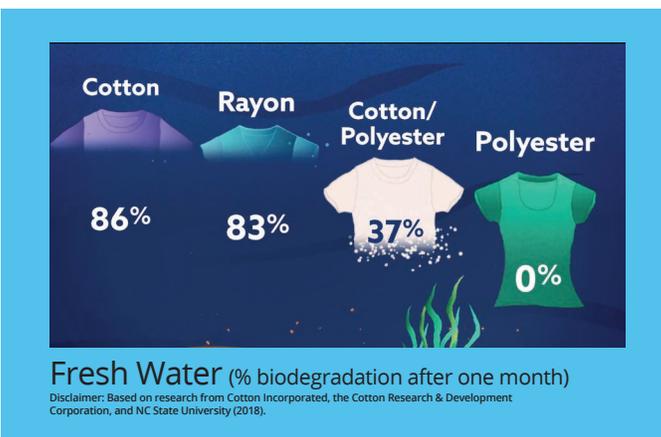


Part 1: Use the information you learned and the graphics at left to answer these questions.

1. What is the difference in the percentage rate of degradation between cotton and the cotton/polyester blend microfibers in fresh water? _____ In salt water? _____
2. In which aquatic environment — fresh water or salt water — did the cotton microfibers degrade the most? _____
3. Look at the wastewater treatment graph. What do you predict will happen to the cotton microfibers after 250 days, based on the data pattern? _____
4. Why do you think the cotton microfibers degraded more rapidly than the cotton/polyester microfibers?

5. Why could the accumulation of polyester microfibers become an issue in aquatic environments?

6. How can the choice of textiles used to make clothing help with the issue of degradation?



Part 2: Use the other side of this sheet to create a bar or line graph to represent and compare the results of the freshwater and salt-water studies.