Animation Script

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Inspiring the next generation

Cancer Biology with Dr. Kelsey Fisher-Wellman

To make the most out of this script, you could:

- Stick it in your notebook as a record of watching Kelsey's animation
- Pause the animation and make notes as you go
- Add your own illustrations to the sheet
- Create your own animation to accompany it
- Add notes from classroom discussions
- Make notes of areas you will investigate further
- Make notes of keywords and definitions
- Add questions you would like answered – you can message Kelsey through the comments box at the bottom of his article: **www.futurumcareers.com/cancer-biology-with-dr-kelsey-fisher-wellman**

SCRIPT:

As a teenager, Kelsey loved playing baseball, which taught him valuable life lessons about how to recover from failure and grow from these experiences. He also enjoyed bodybuilding. He dreamed of becoming a strength and conditioning coach and worked as a personal trainer alongside his university studies in exercise science.

As part of his degree, Kelsey did an internship with the university football team. However, he didn't find the experience as inspiring as he had hoped. So, he did another internship, this time in a scientific research lab. There, Kelsey discovered a love for lab science and was inspired to pursue a career as a biomedical scientist.

Today, Kelsey is a cancer biologist at Wake Forest University School of Medicine. However, his journey has not been straightforward. Exercise science isn't a typical background for biomedical research, which meant Kelsey found it hard to get into a PhD program. But he persevered and gained a place in a PhD program studying bioenergetics, the study of energy transformation in living organisms. However, having not studied physics or biochemistry at university, Kelsey found himself behind his peers. So, he worked hard to catch up and taught himself from textbooks to learn the information he was missing.

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During his PhD, Kelsey fell in love with mitochondria, the structures in cells that convert energy from food into a form that our cells can use. He then spent several years studying energy-related muscle diseases, before changing direction to study cancer biology. Again, he worked hard to overcome the challenges of conducting research in a field in which he had no previous training.

Kelsey's dedication and determination paid off, and today he runs his own lab where he studies acute myeloid leukemia, or AML, a type of blood cancer that occurs when stem cells fail to specialize into blood cells. AML symptoms include tiredness and shortness of breath, vulnerability to infection, and excessive bleeding when injured.

Kelsey has developed a set of lab tests to study the differences between mitochondria in AML and healthy cells. He has discovered that while mitochondria normally convert energy from food into a molecule called ATP that cells use for energy, mitochondria in AML cells run this process in reverse and consume ATP instead.

Kelsey hopes scientists will be able to use this discovery to develop new treatments for AML that destroy the mitochondria in AML cells while leaving healthy cells unharmed. This could revolutionize cancer treatment and provide hope for the thousands of people diagnosed with AML every year.

Now that you've heard Kelsey's story, what could you achieve as a cancer biologist?

Let us know what you think of this educational and career resource. To provide input, simply scan the QR code or use this link: redcap.school.wakehealth.edu/surveys/?s=NPK347RYHCR3FNDC