

**The Television**

**Inventions that Shook the World Series**

**Vocabulary:**

Image, television, broadcast

**Pre-Viewing Discussion:**

What do you think the first television looked like? How do you think it worked?

**Post-Viewing Discussion:**

What was John Logie Baird's background and history? What drove him to create the TV?

How did Baird's TV work?

**Further Activities:**

Research the evolution of the television from Baird's first machines to the 3D, smart televisions on sale today. How did the invention of the TV change the 20<sup>th</sup> century and our history?

Describe the personal characteristics inventors seem to share. Evaluate why these traits seem to be important for the successful inventor.

**The Liquid Fuel Rocket**  
**Inventions that Shook the World Series**

**Vocabulary:**

Fuel, rocket, Da Laval nozzle, Robert Goddard, thrust

**Pre-Viewing Discussion:**

What common objects can you think of that remind you of rockets? Do you think the technology is similar to what is used in spacecraft?

Have you ever wanted to be an astronaut? Why or why not?

**Post-Viewing Discussion:**

Why didn't Goddard want to write up his findings? Do you think his concerns were justified? How were his ideas received when he finally did publish a paper?

How did Goddard view failure?

How did Goddard eventually solve the problems he had with solid fuels? Did liquid fuels cause him any other problems?

Why was Goddard known as the father of space travel?

**Further Activities:**

Write a biography of Robert Goddard. Be sure to include his personal characteristics that ultimately made him successful, his challenges, and his accomplishments.

**Movie Sound****Inventions that Shook the World Series****Vocabulary:**

Lee de Forest, Audion tube, Photion, Optical Sound, Theodore Case, Exciter Lamp, Hugo Riesefeld

**Pre-Viewing Discussion:**

What do you think it would be like to see a summer blockbuster without any sound? How do you think it would be a better experience? What would be some of the major drawbacks?

What are some of the differences between silent films of the early 20<sup>th</sup> century and the sound films that followed? How does the storytelling differ? How is the storytelling the same?

**Post-Viewing Discussion:**

What are the problems that de Forest has to combat during his tests? How does he change his process to solve the problems?

What do you think about de Forest's relationship with Case? What can we do to help make it easier to work with people we may not get along with?

**Further Activities:**

Write a biography of Lee de Forest. Be sure to include his personal characteristics that ultimately made him successful, his challenges, and his accomplishments.

**The Lie Detector**

**Inventions that Shook the World Series**

**Vocabulary:**

Lie detector, polygraph, John Larson, physiology

**Pre-Viewing Discussion:**

Have you ever taken a lie detector test? What do you think that would be like?

Why do you think lie detector tests are effective? Do you think their results should be allowed in court? Why or why not?

**Post-Viewing Discussion:**

Why was John Larson opposed to physical intimidation of suspects?

How did Larson's device measure physiological factors? How were those measurements represented on the device?

What was important about the questions that Larson asked the test subject and the suspects in the robbery? Why are the actual questions so important?

**Further Activities:**

Write a biography of John Larson. Be sure to include his personal characteristics that ultimately made him successful, his challenges, and his accomplishments.

**Einstein's Fridge****Inventions that Shook the World Series****Vocabulary:**

Coolant, compressor pump, electromagnetic energy, electromagnetic pump, Freon, nuclear energy

**Pre-Viewing Discussion:**

Did you know that Einstein created a refrigerator? Why do you think he did so?

How are refrigerators cooled today? How do you think that is different from how they were cooled in the 1920s?

**Post-Viewing Discussion:**

Why did Einstein want to create a better way to cool a refrigerator?

How did Einstein think he could move the coolant without having moving, mechanical parts on the fridge? Did his idea work?

Why do we not use electromagnetic pumps to cool our fridge today? Where are electromagnetic pumps used?

**Further Activities:**

Write a biography of Albert Einstein. Be sure to include his personal characteristics that ultimately made him successful, his challenges, and his accomplishments.