

The Parachute

Inventions that Shook the World Series

Vocabulary:

parachute, Stefan Banic, Franz Reichelt, drag, air resistance

Pre-Viewing Discussion:

When was the parachute invented? Who designed the first parachute?

Many ideas for inventions are formed when a creative mind sees a problem to solve or opportunity to seize. What problem or opportunity do you think might inspire the creation of a parachute?

What are some of the risks inventors of the parachute would need to take to recognize success?

Post-Viewing Discussion:

What inspired Banic to invent the parachute? Why was it important to him?

What happened to Franz Reichelt?

How did increasing the surface area of his parachute help improve Banic's design?

What did Banic do to get a patent for his parachute? What did he do with the patent once he secured it?

How did Banic's parachute shape our military?

Further Activities:

Research the history of aviation in the military. Describe initial applications of flight and how we use aviation in the military today. What innovation helped make airpower so integral to our military forces? What are/were some of the biggest challenges to making airpower practical?

Compare and contrast the inventors Stefan Banic and Franz Reichelt. Include their parachute designs and personal characteristics.

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

The Safety Hood (Gas Mask)
Inventions that Shook the World Series

Vocabulary:

Garret Morgan, safety hood, gas mask

Pre-Viewing Discussion:

Why do you think tragedy sometimes spurs innovation? What kind of working environment or problem do you think inspired the creation of a gas mask?

How successful do you think rescues were before firefighters had equipment to protect them?

Post-Viewing Discussion:

How did the safety hood filter inhaled air? How did it release exhaled air?

What happened the first time Morgan used the hood in a real life-and-death situation?

Further Activities:

Research the life of Garrett Morgan. What were his accomplishments other than inventing the safety hood?

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

The Pop-Up Toaster
Inventions that Shook the World Series

Vocabulary:

Toaster, Charles Strite, baffle, entrepreneur

Pre-Viewing Discussion:

How do you like your toast? How do you make it just the way you like it?

How did people toast bread before the modern toaster?

Post-Viewing Discussion:

Why did Strite create the pop-up toaster?

What challenges did Strite face when he was inventing the toaster? How did he overcome them?

How did Strite create a business for himself with his toaster?

Further Activities:

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

The Thompson (Tommy) Submachine Gun
Inventions that Shook the World Series

Vocabulary:

machine gun, General John Thompson, World War I, stalemate, breech lock, John Blish

Pre-Viewing Discussion:

Discuss how weaponry has evolved during the 20th century. How do you think machine guns have evolved since General Thompson invented the submachine gun in 1918?

How important do you think previous innovation and inventions are in the development of new weapons?

Post-Viewing Discussion:

Why did General Thompson leave the army? What benefits did he think the private sector would provide?

What were some of the differences between the bolt action rifle and a machine gun?

How did Thompson solve the ammunition problem? What other problems did he have to solve?

Further Activities:

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

The Sonar Detector
Inventions that Shook the World Series

Vocabulary:

Sound waves, Reginald Fessenden, navigation, hydrophone, oscillator, sonar

Pre-Viewing Discussion:

How do you think Fessenden's previous work creating the AM radio might have helped him create sonar?

What are some examples of sonar in the natural world? Where do we see sonar being used today?

Post-Viewing Discussion:

How did the Titanic fit in to Fessenden's work with sonar? Why did he want to create better navigation?

How did the Oscillator work? How effective was it when Fessenden went out to sea to test it?

Further Activities:

Research Reginald Fessenden's other inventions. How were they all related or unrelated? Do you think he built upon initial successes to create new inventions?

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