

**The Cellular Phone**  
**Inventions that Shook the World Series**

**Vocabulary:**

Cell phone, cell network, Marty Cooper, microprocessor

**Pre-Viewing Discussion:**

What do you think inspired the creation of a truly mobile phone? How do you think competition may have factored in?

Do you have a mobile phone? How important is it to you? How do you use it? What do you do when you don't have your phone?

**Post-Viewing Discussion:**

Why is it more risky for a small company to take a big risk than for a large company?

What was AT&T doing that drove Motorola and Marty Cooper to create a mobile phone? How successful was Cooper in doing so?

What technology allowed for Cooper to make a small phone?

**Further Activities:**

Research the evolution of the mobile phone. How are today's phones the same, and how are they different, from those in the 1970s?

Analyze how mobile phones have changed our culture since the turn of the century. What are some of the benefits of having a mobile phone? What are some of the drawbacks?

**The Bomb Disposal Robot**  
**Inventions that Shook the World Series**

**Vocabulary:**

Robot, robotics, Lieutenant-Colonel Peter Miller

**Pre-Viewing Discussion:**

How do you think bomb squads diffuse bombs today? How do you think that is different from how they operated in the past?

What areas of our lives are made easier or safer because of robots?

**Post-Viewing Discussion:**

What drove the British military to pursue a bomb-diffusing robot in the 1970s? What were some of the new risks they were facing?

How was Peter Miller's robot supposed to work? What was it supposed to do with the car bomb?

How did Peter Miller create a remotely-controlled device to help diffuse bombs? What kinds of robots do we use today?

**Further Activities:**

Research the evolution of bomb diffusing operations. How do we handle bombs differently today than we did in the past? How do we handle them the same? What has changed about the bombs themselves?

**The Post-It Note****Inventions that Shook the World Series****Vocabulary:**

Chemical engineering, Arthur Fry, Spencer Silver, Adhesive, Post-It Note

**Pre-Viewing Discussion:**

How do you use sticky notes? Where are they most useful for you? How do you think the sticky note was invented?

**Post-Viewing Discussion:**

What kind of personality traits did you find in Arthur Fry and Spencer Silver? Did you like them or find their commentary enjoyable? Why or why not?

What was Silver trying to create when he created the adhesive that would eventually be on Post-It Notes? How did Fry build upon what Silver had created? Do you think Post-It Notes would have been invented if either Fry or Silver had worked at a different company?

What kind of recognition have Fry and Silver received for their invention? How do you think they might feel about that?

**Further Activities:**

In the program, Post-It Notes are compared to “Twitter before computers.” Using this concept, take a pad of Post-It Notes, and as a class, create a Twitter feed with them with Tweets relevant to your school or class.

***Student Activity*****The Hybrid Car****Inventions that Shook the World Series****Vocabulary:**

Hybrid car, Victor Wouk, electrical engineering, Manhattan Project, Charlie Rosen, chemical engineering, Federal Clean Car Incentive Program, emissions, pollution, Environmental Protection Agency, Prius

**Pre-Viewing Discussion:**

Have you ever been in a hybrid car? Did you notice a difference from a conventional car?

Why do you think hybrid cars are popular in America today?

**Post-Viewing Discussion:**

What is the main problem with a purely electric car? Why did Wouk decide to try to build a hybrid car?

How did the conflict in the Middle East contribute to the appeal of a hybrid car? What Federal guidelines or incentives were initiated during this time?

How successful were Wouk and Rosen at creating a hybrid car? How is the hybrid different from a conventional car?

Why did Wouk and Rosen's car not catch on? Why do you think Wouk allowed Toyota to use his ideas in creating the Prius?

**Further Activities:**

Research the environmental impact of hybrid cars compared to conventional cars. How much better are they for the environment? What about a purely electric car? Do you think these vehicles will continue to increase in popularity? Why or why not?

**The Digital Camera**  
**Inventions that Shook the World Series**

**Vocabulary:**

Digital camera, photography, Eastman Kodak, Steve Sasson, Charge Couple Device, film

**Pre-Viewing Discussion:**

Do you have a digital camera? When do you find you use it the most? How does your digital camera differ from a traditional film camera?

Digital cameras allow us to see the images we are capturing in real time, rather than waiting for them to be developed. What are the advantages and disadvantages of this?

**Post-Viewing Discussion:**

Why was Steve Sasson given this assignment? What do you think his bosses thought when he showed them his digital camera prototype?

How did Sasson use materials around him to create the digital camera? How did that help him?

What insights did Sasson provide into his inventing process during the program? What does that reveal to you about Sasson as a person?

**Further Activities:**

Research how digital cameras have changed from the 1970s to now. Why do you think they did not catch on until the 1990s? How have digital cameras changed our culture since the 1970s?