

Ben's Guide to the U.S. Government for Kids

Learn more about our nation and its government by visiting <http://bensguide.gpo.gov>. There you will find links to information on the three branches of government, symbols of the U.S. government, historical documents, and games and activities.

Science Means Business

Scientific inventions and innovations paved the way for many processes and devices businesses use today. Read about four pioneers who chose careers in science and helped businesses grow.

Interview a Business Owner

Use the questions here to interview an adult your family knows who owns a business. Or contact the local Chamber of Commerce for the name of an entrepreneur or small-business owner who would be willing to be interviewed.

Ask the interviewee:

- What kind of business do you own? What do you like or dislike about owning a business?
- How did you know you had the ability to be a business owner? What skills do you need to run a business?
- What are some of the risks involved in owning a business?
- Who is your competition?
- How do businesses in the United States compete with others around the world?
- What are some things you learned in school that helped you in your business?
- What subjects could be taught in school to help young people who want to become entrepreneurs?

If you cannot interview a small-business owner, research a scientific innovator and business person like those found in this flier. Write a paragraph or two describing the person, their skills and interests, their invention, and how they made their business a success.

And don't forget:

- Use a strong introductory statement.
- Check your spelling.
- Use complete sentences with proper punctuation.

George Carruthers



NASA

Accomplishment: Lunar Ultraviolet Camera

Birth: 1939

An early interest in physics led George Carruthers to study to become an astrophysicist or astronomer.

Dr. Carruthers is famous for creating the ultraviolet camera/spectograph, a device that splits light from an object into wavelengths so it can be studied. The device was a gold-plated instrument mounted on a tripod, which the National Aeronautics and Space Administration (NASA) used during the Apollo 16 space mission in 1972. This device allowed scientists to examine the Earth's atmosphere and aurora, various nebulae, and star clusters. It remains on the moon today.

Stephanie Kwolek



Science History Institute

Accomplishment: Kevlar

Birth: 1923

Death: 2014

Stephanie Kwolek enjoyed sewing and working with fabrics as a young girl. She thought that one day she might like to become a fashion designer.

Kwolek eventually put her passion and interests to work, not as a clothing designer, but in the laboratory working as a chemist. There she developed a line of stiff, ultra-strong fibers for industrial use. One of the fibers became known as "Kevlar," a heat-resistant material five times stronger than steel.

Do you know the item Kevlar is best known for? It is the material used in the light-weight protective vests worn by many police officers and military members throughout the country.

An Wang



Estate Of Evelyn Hofer/Getty Images

Accomplishment: Magnetic Core Storage

Birth: 1920
Death: 1990

Before the invention of the computer memory chip came the device known as the ring of iron!

In the early days of stored-program computers, a donut-shaped magnetic ring was used to hold the computer's memory. Its inventor was the Chinese-American An Wang.

To expand his work with dynamic memory, Dr. Wang started Wang Laboratory. With just \$600 and no materials or customers, success was not a sure thing. However, the company grew to produce the first line of affordable computers and computer equipment.

Believe it or not! As a boy, Dr. Wang enjoyed studying mathematics. Could that be the reason he chose to call his first computers calculators?

Enhanced Activity: What's the Average Price?

Find the average cost of goods in the exercise below.

Matt builds and paints birdhouses for a hobby and has decided he will sell them at the flea market. He wasn't sure what to charge, so he did some research online. Here is a list of prices he found for birdhouses similar to his:

Pet store	\$20.99
Discount store	\$7.00
Gift shop	\$32.99
Specialty shop	\$25.00
Craft store	\$19.99
Department store	\$14.50
Internet shopping	\$22.07

To find the average cost, add all the prices and divide by 7.

Work Space

Shirley Ann Jackson



Drew Angerer/Getty Images

Accomplishment: Telecommunications Innovator

Birth: 1946

Dr. Shirley Ann Jackson is a brilliant physicist who conducted research to better understand electrons and how they organize themselves and react to changes in temperatures. Her visionary work—using math, science, and technology—enabled others to invent the touch tone telephone, Caller ID, and Call Waiting systems.

With hard work and determination, Dr. Jackson became the first African-American woman to earn a doctorate from the Massachusetts Institute of Technology.

In 2016, United States President Barack Obama awarded Dr. Jackson the National Medal of Science, the nation's highest honor for contribution in science and engineering.