

# What Am I? Group Activity (2+ players)

**Scenario:** We are surrounded by inventions that we rely on every day. Some are very recent innovations, while some have been around for thousands of years. Play with friends and family and see if you can guess what invention you have on your back. Use the question suggestions to help you.

**This activity is designed to have kids and grown-ups reflect on inventions that we use everyday and the people involved in creating them. There are new innovations all the time. We rely on engineers, scientists, tinkerers, and entrepreneurs to create the technology we use.**

1. To do this activity, cut the invention picture pages along the dotted lines.
2. Get enough binder clips (or tape) for each person who will have an invention on their back.
3. Clip one invention to each person's back – including any grown-ups in the room.
4. Print out as many question cards (next page) as needed for each person to have one, or share them.
5. Let each player ask others in the room for hints, using the suggested questions or their own to see if they can guess the invention on their back.
6. You can offer incentives or prizes for the first few people to guess, if you would like. If time permits, switch around the inventions and have everyone guess again!
7. Spend some time reflect on the inventions using the discussion questions at the end.

### Possible Questions:

- Am I used for entertainment?
- Do I make noise?
- Am I something you can watch?
- Am I a tool?
- Am I a material that things are made of?
- Am I something electronic?
- Do I need electricity to work?
- Do I generate electricity?
- Would I see it in my house? At school? Outside?
- Am I bigger than a lunchbox?
- Am I bigger than a truck?
- Am I heavy? (sticky?, breakable?, etc.)
- Am I a structure?
- Am I a building?
- Can you use me to get somewhere?
- Can I be worn?
- Can you write on me?
- Am I a...

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# Possible discussion questions (after playing)

Leading Question	Connection to Engineering & Science
Did everyone figure out what they were? Any surprises?	Each thing is a technology that someone invented. Inventors use scientific knowledge for practical purposes. What kind of people do you suppose invent technologies? Often we call creation of technology “Engineering.” But, often there is science to figure out, and math. The person who gets credit for an invention might be an engineer, a scientist, a mathematician – or just some person tinkering in their garage!
Who had something more than a <b>1000 years</b> old? (Wheels, Bridges, Glass)  Who had something more than <b>100 years</b> old? (Light Bulb, Flashlight, Batteries, Plastic, Skyscraper)	Were you surprised at how long ago they were invented?  People have been creating technology for a long time. A lot of the technology we see around us and/or use everyday was invented long ago, like concrete and steel. Engineers help to improve technology, for example by making it more energy efficient, better for the environment, or safer to use.
Who had something that is a <b>material</b> ? (Glass, Plastic, Spandex)	Discovering, inventing, and improving materials are done by chemical engineers and materials scientists. Sometimes materials are invented accidentally, when a scientist was trying to invent something else. Examples are the adhesive in sticky notes and Kevlar (the material used in bulletproof vests). These were both invented by women. Both men and women are inventors and engineers.
Did anyone have a piece of technology that <b>you can’t touch</b> ? (Video Game, Wi-fi)	Technology can be a process, a system, or something like an app. It might not be something you can touch. These types of technology are created by software engineers, electrical engineers, or computer engineers.
Who had something that <b>makes electricity</b> ? (Batteries, Solar Panels)	People that work to invent and improve batteries and solar panels include chemical engineers, chemists, and electrical engineers.
Who had something that <b>uses electricity</b> ? (E.g., Radio, Light Bulb, TV, Computer, Remote Control, Robot, Camera, Wi-fi)	Electrical engineers work with electricity and electronics. A lot of these also have logic in them, so there are often people like software engineers and hardware engineers involved.
Who had something that <b>moves</b> ? (Bicycle, Car, Wheel, Rocket, Robot)	Mechanical engineers work with things that move. Aerospace engineers work with rockets and planes.
Who had a <b>structure</b> ? (Bridges, Skyscraper)	Civil engineers and structural engineers work on large structures, like bridges and buildings, to make sure they are safe. Structural engineers may also be involved in designing structural parts of cars, like the frame, to keep passengers safe. For large structures, materials are critical to the design, so materials engineers and materials scientists are important team members, too.



# Television

- Televisions were first invented in the 1920s
- Commercial broadcasting in the US didn't begin until the late 1940s
- By 1954, more than half of households owned one



# Computer

- Early computers were invented in the 1940s
- Early personal computers were invented in the 1970s, but were not widely used until the 1980s



# Flashlight

- The earliest flashlights were invented in the late 1890s
- Today's flashlights are powered by batteries
- Flashlights are a tool



# Batteries

- The earliest type of battery was called a “voltaic pile” and was invented by a person named Volta in 1800
- Batteries provide electricity
- Most batteries power smaller, portable devices like flashlights





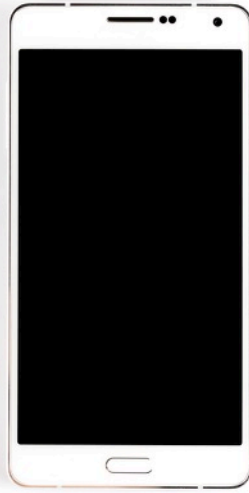
# Remote Control

- The first remote control for a television was invented in 1950
- Remote controls are electronic devices
- Remote controls use electricity provided by batteries
- A remote control is a tool



# Video Game

- Although very early video games were created in the 1950s, but were not common until the 1970s and 1980s
- Video games usually make noise, and are usually for entertainment
- Video games are software, but they run on something electronic



# Cell Phone

- Cell phones became widely available in the 1980s, although technology was initially developed in the 1940s
- Cell phones are tools – but modern phones are often used for entertainment, too
- Cell phones use electricity provided by batteries



# Plastic

- What we normally call “plastic” was invented in 1907
- Plastics are materials – a wide variety of things are made from plastics





# Radios

- The thing we call “a radio” that plays music and talk from radio stations was invented in 1920
- Radios make noise, use electricity, and may be used for entertainment



# DVD

- DVDs were invented in 1995
- DVDs are often used to store data for entertainment, such as movies
- When DVDs are used to store movies, they can be watched and do make noise



## Wi-Fi Network

- “Wi-Fi” is a technology for wireless local networks
- The technology for Wi-Fi was invented in 1997
- Wireless networks use electricity
- A wireless network could be used to access entertainment



## Solar Panels

- The first use of solar cells for houses was in 1973
- Before 1973, early solar cells were used on spacecraft orbiting Earth and other remote places, like lighthouses, offshore oil rigs, and railroad crossings
- Solar panels generate electricity using the sun



# Glass

- Early glass was made thousands of years ago by ancient civilizations
- Glass is a material that is used to make things like windows, eyeglasses, and drinking glasses



# Spandex, Stretch Jeans, Yoga Pants,...

- Spandex is a material used to make stretchy clothing, like yoga pants
- Spandex is an invented material – you cannot find it in nature
- Spandex was invented in 1958
- Spandex is stronger and more elastic than rubber!



# Light Bulb

- The light bulb was invented around 1879
- Light bulbs require electricity to work
- Light bulbs are breakable



# Sticky Notes (Post-it Notes)

- The adhesive (sticky stuff) used in sticky notes was created by accident in 1968
- In 1974, someone finally thought of a use for the adhesive – keeping a paper stuck in place but removable
- The adhesive is a material; the note could be a tool of sorts



# Wheel

- The first wheeled vehicles were created thousands of years ago
- Wheels are used to create things that move, like cars and bikes
- A wheel can be considered a tool



# Skyscraper

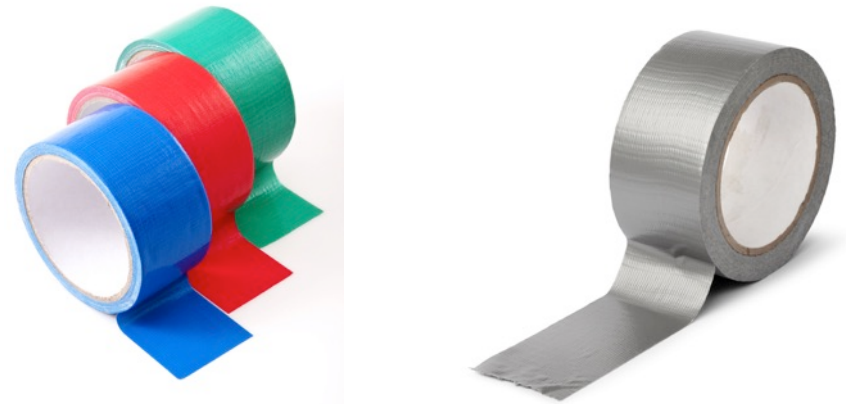
- The first skyscrapers were built in the late 1800s
- A skyscraper is a structure – specifically a building – that is very tall
- Skyscrapers are incredibly heavy buildings, made of materials like concrete and steel





# Bridges

- Early people created “bridges” by using logs or stones
- Even constructed bridges are thousands of years old
- Bridges are structures and tend to be very heavy
- You can use a structure to get from one side of an obstacle to the other



# Duct Tape

- Duct tape is a material used for a wide variety of things
- One side of the duct tape is very sticky – stickier than other tapes
- On “Mythbusters”, they used it to make boats, shoes, hats,...
- Duct tape might make noise when you remove it from something





# Bicycle

- The first bicycles were invented in the 1800s
- Bicycles can help you get someplace



# Car

- There was rumored to be a steam-powered car in China in the 1600s, but the first cars with motors or engines weren't invented until the 1800s
- Cars can help you get someplace
- Cars are vehicles, and tend to be quite heavy



## Rockets and Space Craft

- The first rocket was launched into space in 1957 – more than 50 years ago
- Spacecraft are used to get places in space, such as the moon, Mars, or the International Space Station
- Rockets are very heavy



## Robot

- Robots are electronic tools that may do a wide variety of things
- The Mars rovers are robots that have been used to move over and explore Mars; other robots make cars and other things
- Robots require some form of electricity to work



# Camera

- A “daguerreotype” was an early camera-like invention that could reliably capture
- The first film cameras were sold in 1888
- Early cameras used chemical reactions to form images, but modern ones use electricity from batteries