

Virtual Discovery Kit.

A is for Autos.

Automobiles take us places, from school, to work, to leisure. Learn about the history of cars, Michigan's impact in the automobile industry, traveling and what draws people to own and drive cars.

Travel through A is for Autos in the GRPM digital Collections at <https://grpmcollections.org/Detail/occurrences/356> then have fun with these activities.



Automobile History.

Many historians agree that the first true automobile was built in France in **1769** by Nicolas-Joseph Cugnot. This 'automobile' was actually a giant steam-powered tricycle that had a maximum speed of only 2 miles per hour (mph) and could run for only 20 minutes at a time.



In the **1880s**, inventors began to focus on designing cars that worked well enough to be used every day. Some of these early designs used steam, some used gas, and some used electricity. Ultimately, gas-powered cars were shown to work best because they were easy to use and could travel longer distances.



The patent for the world's first gasoline-powered automobile was filed by Carl Benz in Germany in **1885**. It was a three-wheeled vehicle that could reach a maximum speed of 10 mph.



In the United States, the first working, gas-powered automobile was built in Springfield, Massachusetts in **1893** by Charles E. Duryea and J. Frank Duryea. America soon became known as a world leader in the automobile industry. There were 30 car manufacturers in the country by **1899**, and approximately 485 more companies had opened by **1910**.



Automobiles have been a very important part of Michigan's history. The city of Detroit is recognized as the historic center of the American automotive industry; it even has the nickname "Motor City."

- Ransom E. Olds is considered by many to be the founder of Detroit's car industry with his company Olds Motor Vehicle Company (**1897**), later named Olds Motor Works then REO Motor Car Company.
- Henry Ford is another Michigander who, with his Ford Motor Company (**1903**), helped establish Detroit and the whole state as a leader in automobile manufacturing. Henry Ford developed a world-changing innovation known as the assembly line in **1913**.



Olds and Ford had profitable business philosophies of "low cost, high volume." Their innovations set an example that revolutionized the way manufacturing companies around the world operated.



By **1920**, Ford, General Motors and Chrysler had emerged as the three largest automobile manufacturers in the United States. They are still big players in the industry today and are based in Detroit, Michigan.



Since then, the automobile industry has become one of the world's biggest industrial fields. Car production has skyrocketed worldwide with a wide range of products offered at all price types, from the most affordable to the most expensive luxury cars.



Innovators are testing what the future looks like for automobiles. Work has been done to make cars more environmentally sustainable, by exploring alternative-fuel vehicles powered by electricity, ethanol or hydrogen fuel cells. There are even examples in many places of self-driving cars. Who knows what future innovations will bring to our cars!



What do you think?

- If you could travel through time and drive any of the cars pictured on the time line, which would it be?

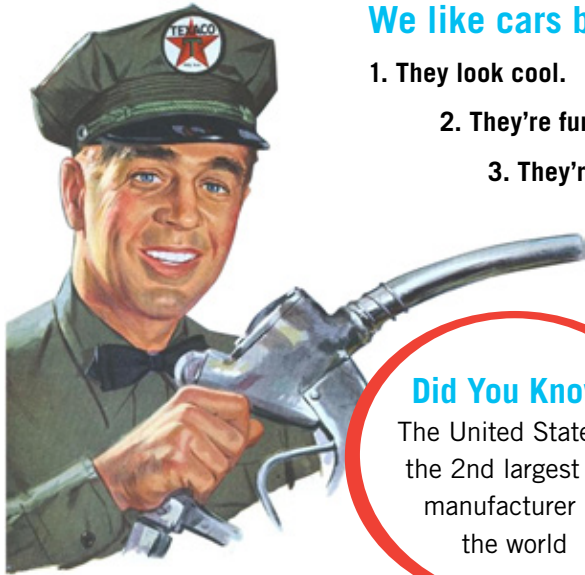


References:

- <https://www.history.com/topics/inventions/automobiles>
- <https://www.britannica.com/technology/automobile/History-of-the-automobile>
- <https://www.si.edu/spotlight/early-cars>
- https://bentley.umich.edu/wp-content/uploads/2014/09/Automotive_History_Subject_Guide.pdf
- <https://www.mercedes-benz.com/en/classic/museum/benz-patent-motor-car-2/>
- <https://ref.sabanciuniv.edu/sites/ref.sabanciuniv.edu/files/foresight-2020-fullreport-20060301.pdf>

Why do people like cars?

The A is for Autos exhibit at the GRPM displays historical objects and photographs relating to automobiles. Check out the exhibit's digital collection at <https://grpmcollections.org/Detail/occurrences/157>



We like cars because...

1. They look cool.
2. They're fun to drive.
3. They're powerful.
4. We made them here.
5. They take us places.

Did You Know:

80 foot long semi-trucks can carry over 80,000 pounds of product at once!

Did You Know:

The United States is the 2nd largest car manufacturer in the world

Did You Know:

There are 70 interstate highways in the lower 48 states, covering 164,000 miles, and connecting 45 capital cities with every major metropolitan center in the U.S.!



What do you think?

- Do you agree with the 5 reasons we like cars at the GRPM? Why or why not? What would you change on our list?

References:

- <https://www.popularmechanics.com/cars/trucks/g116/10-things-you-didnt-know-about-semi-trucks/>
- <https://www.fhwa.dot.gov/policyinformation/pubs/hf/pl11028/chapter1.cfm>

Be curious.

How have car designs changed over time?

Take a look at these examples of iconic cars spanning more than 100 years:

1909 Ford Model T

- Manufactured by the Ford Motor Company from 1908 until 1927
- Designed as “practical, affordable transportation for the common man”



1967 Pontiac GTO

- from 1964-1974
- Often credited as America’s first true muscle car
- Design goal was having a bigger engine in a lighter car



2019 Jaguar I-Pace

- Manufactured by Jaguar Land Rover since 2018
- Awarded the 2019 World Car Design of the Year
- Was the company’s first all-electric vehicle



Compare and contrast these cars:

- Which design do you like the most? Why?

- How have automobiles changed over time? What’s stayed the same?

What do you think cars will look like 100 years from now?

- Sketch your ideas below. Label the parts that make it unique and futuristic.

We’d love to see your ideas! Share your design with the GRPM by sending it to info@grpm.org.

References and Photos:

- http://www.worldcarawards.com/files/2019_WCA_Design.pdf
- 1909 Ford Model T - <https://www.britannica.com/technology/Model-T>
- 1967 Pontiac GTO - <https://www.autoinfluence.com/seven-iconic-muscle-cars-time/>
- 2019 Jaguar I-Pace - <https://insideevs.com/jaguar/i-pace/>

Museum Artifact Study

Artifacts are all around us; they are the objects humans make and use. They frame our understanding of our world and the people in it. Everyday objects hold many stories and pieces of information that we can uncover! Take a shoe for instance. It can become the spark for a study of fashion or advertising; it can generate comparisons of human and animal feet; it could even spark questions about gender, sports and culture.¹

'Reading' an Object

Museums tell the story of the past through objects or artifacts made by or used by people in those times. Learning to 'read' an artifact is a skill to be acquired through practice, just like reading a book. Artifact observation helps teach us how to really look at an object and make inferences. Some questions you can ask of any artifact are:

What is it?

- Describe or draw the object.
- What does it look like, feel like, sound like?
- How big is it?
- What materials is it made from?

What Was it Used For?

- What can you infer based on your observations?

Who Made the Object?

- Who used it? Owned it?

How Has it Changed Over Time?

- Do we use the same or similar object today? If yes, explain.
- If we no longer use the object, what has taken its place?

What is the Object's Social Significance?

- Why was it chosen for this collection?
- What story does it tell us? What can we learn from it?

Where Was This Object Created?

- Where was it used?
- What can we learn about this object based on where it came from?

When Was This Object Created/Used?

- What does this tell us about the time period in which the object was created?
- What can we learn about the world through this piece? How has the world changed?

Practice your artifact observations with the Artifact Observations Guide!

You can make a detailed observation of each item in the [A is for Autos Discovery Kit Collection](#).



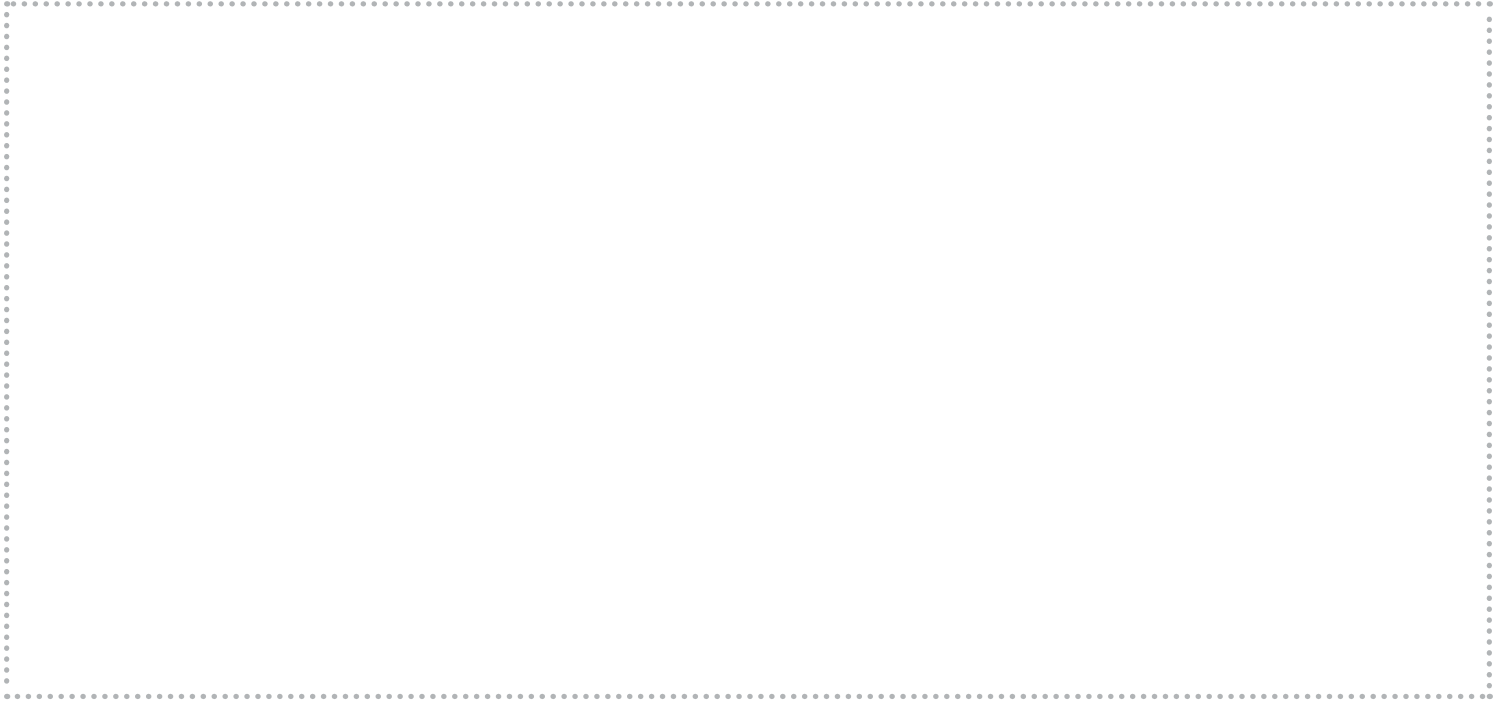
¹ A Teacher's Guide to Learning from Objects, Gail Durbin, Susan Morris, Sue Wilkinson, 1990, English Heritage.

Artifact Observations

Object Name: _____ Accession Number: _____

Describe and/or sketch your detailed observations of the object.

Consider its texture, appearance, shape, and size. Record labels, patterns, markings and anything else you think is interesting!



Record Measurements:

Don't forget the units!

Length: _____

Width: _____

Height: _____

Record Materials.

What is the object made from?

1. _____

2. _____

3. _____

4. _____

5. _____

Other thoughts and wonderings.

What did you learn about this object?

What are you curious about?



High Speed Challenge

Since August 2019, the Bugatti Chiron Super Sport 300+ has been the fastest production car in the world. It can reach speeds over 304 miles per hour (mph). At that speed, you could drive more than 5 miles in just 1 minute!



Design Challenge

1. Build a ramp out of materials found at home, such as cardboard, wood, or books.
2. Race toy cars or ones you made yourself from legos, blocks, bottle caps or paper.
3. Use a stopwatch to track the time it takes for each car to race to the end of the ramp.
4. Use a ruler to measure the distance each car travels off the ramp.



CAR	CAR MATERIALS	TIME	DISTANCE
1			
2			
3			

Which car took the least amount of time? _____

Which car traveled the farthest distance? _____

What happens to the time and distance if you raise the ramp higher? Lower? _____

References:

- <https://www.digitaltrends.com/cars/fastest-cars-in-the-world/>
- Image credit for Bugatti: <https://www.metro.news/wheels-what-is-the-fastest-car-in-the-world/1876696/>

Create your own Bumper Sticker

Bumper stickers are designed for car owners to stick onto the rear bumper for other drivers to notice on the road. They are a form of personal expression that comes in many varieties. People generally use bumper stickers to:

- Represent personal hobbies or interests
- Show support for a political candidate or position
- Identify their religious or philosophical beliefs
- Celebrate a sports team or other organization
- Show support for veterans or honors students in their lives
- Make people laugh with a funny drawing or saying.

FUN FACT: *Bill Heerman of Lincoln, Nebraska holds the Guinness World Record for largest collection of stickers for bumpers with 4,131 bumper stickers!*



Create: Design your own bumper sticker! Consider:

- What message do you want to communicate?
- What colors, symbols, words and images could you use to grab people's attention?

Reflect

- What would somebody learn about you based on your bumper sticker? _____

References:

- <https://www.guinnessworldrecords.com/world-records/largest-collection-of-stickers-for-bumpers/>
- <https://www.theatlantic.com/technology/archive/2016/03/origins-of-the-bumper-sticker/472395/>
- <https://www.rewire.org/bumper-stickers/>
- http://mncivicyouth.org/wp-content/uploads/2016/03/3-5-AC_Bumper1.pdf

Road Trip

"I take to the open road, healthy, free, the world before me." – Walt Whitman

Every summer, millions of people in America take a road trip. Road tripping has become an iconic part of American culture.

The first documented cross-country road trip in the United States was taken in 1903. A man named Horatio Jackson drove all the way from San Francisco, California to New York state. Road trips became more common around the 1920s, due to innovations making cars more reliable, widespread and affordable.

Today, people may take a road trip for different reasons, including:

- To be spontaneous and set out with no particular destination in mind
- To enjoy the sights out of the windows and see the changing landscapes across the country
- To visit extended family
- To visit National Parks
- To get away from urban areas and connect with natural areas



- What is your most memorable road trip moment? _____
- How do you keep yourself entertained/occupied for long car rides or road trips? _____
- This [Travel Bingo](#) from the GRPM Collections shows an example of how people may entertain themselves during long car rides. Try out one of these other classic car games or modify them to play indoors.

Alphabet Hunt:

- Round 1: Search for each letter of the alphabet in order, from A to Z.
- Round 2: Now search for an object that starts with the letter A, such as an automobile. Next, find an item that starts with B, then continue looking all the way to letter Z.

I Spy:

- Search for an item that matches one of the colors of the rainbow: **RED, ORANGE, YELLOW, GREEN, BLUE, PURPLE**. See if you can find a different object for each color.
- If you're playing with other people, have them try to guess the object you're thinking of by asking only "yes" or "no" questions.

References:

- <https://www.pbs.org/wgbh/americanexperience/features/american-road-trip/>
- <http://www.openculture.com/2019/09/a-brief-history-of-the-great-american-road-trip.html>
- <https://www.theroadtripexpert.com/road-trip-quotes/>

What Do You Think?

- What do you think is the coolest object in this collection? Why?

- What is the most interesting thing you learned in this discovery kit?

- Do you have a name for your current or previous vehicle? What's the story behind that name?

- If you could test drive any car in the world, what would it be?

- A souvenir is an object kept as a reminder of a place you've visited. **Have you collected any souvenirs from places you've road tripped to? If so, describe them here. If not, where would you like to visit?**

- Plan a virtual road trip! Choose a place you would like to visit and create a map showing the roads you would take to travel there. Research cities and sights along the way. Draw or print out pictures of things you would most like to see or do on your road trip, Share your ideas with family and friends. Maybe this will lead to your next adventure!

Learn more!

Automobile History:

- <https://www.history.com/topics/inventions/automobiles>
- <https://www.britannica.com/technology/automobile/History-of-the-automobile>
- <https://www.si.edu/spotlight/early-cars>
- https://bentley.umich.edu/wp-content/uploads/2014/09/Automotive_History_Subject_Guide.pdf

Big Three US Car Companies:

- General Motors - <https://www.gm.com/our-company/about-gm.html>
- Ford - <https://corporate.ford.com/history.html>
- Fiat Chrysler - <https://www.fcagroup.com/en-US/group/history/Pages/default.aspx>

Car Museums in Michigan:

- Automotive Hall of Fame - <https://www.automotivehalloffame.org/>
- Gilmore Car Museum - <https://www.gilmorecarmuseum.org/>
- The Henry Ford Museum - <https://www.thehenryford.org/>

Road Trips:

- Listen to music, read a book, or watch a movie based on road trip adventures. Search for [songs](#), [novels](#), and [films](#) here!
- Scenic Drives for Michigan Summer Road Trips
<https://www.michigan.org/article/trip-idea/scenic-drives-michigan-summer-road-trips>