

Barber Museum Field Trip Guide



With the largest motorcycle collection in the world and stunning views of the Barber Motorsports Road Course, this high energy environment makes for a one-of-a-kind field trip!

View this guide for information on tours, activities and pricing.

Pick a Guided Field Trip Tour:

- **Rolling Through Time** (Social Studies) People, places and events. This tour covers the Industrial Revolution through WWII and beyond, discussing how motorcycles were developed and utilized as well as how they impacted Alabama, the U.S. and the world. Grades 2-11.
- **Wheels of Technology** (Science, Technology, Engineering & Math) Students will learn how these disciplines are heavily used in the exciting world of racing. Grades 3-12.
- **Wheels in Motion** Students will see how math, science, social studies, English language arts, technology & character education are used in motorsports. Grades 2-12.
- **Tool Time at Barber** - Students explore the museum from a mechanic's perspective and learn how tools are used in motorsports. Grades K-2.



Each tour lasts 60-90 minutes.

Pick an Activity:

Please note: Student groups are welcome to visit for a tour only with no activity. We are also happy to customize your tour to fit your group's specific needs. Please contact us to discuss further.

Activities Hour Option 1 (Pairs well with Wheels of Technology):

- **Build-a-Bike Challenge** Students work together with the museum's restoration crew to build a motorcycle that is ready to roll.
- **Design-a-Bike Challenge** Students create their own bike using clay and other techniques that design engineers use today.
- **Let's Go Racing!** Students participate in a simulated race using a video game that was filmed on our road course.

Activities Hour Option 2 (Pairs well with Rolling Through Time):

- **Build-a-Vintage Bike Challenge** Students work together to build vintage motorcycles providing an introduction into the exciting world of motorcycle restoration and research.

Activities Hour Option 3

- **CNC Machine Challenge** Students see their CAD drawings manufactured with our CNC machines in the Barber Museum machine shop.

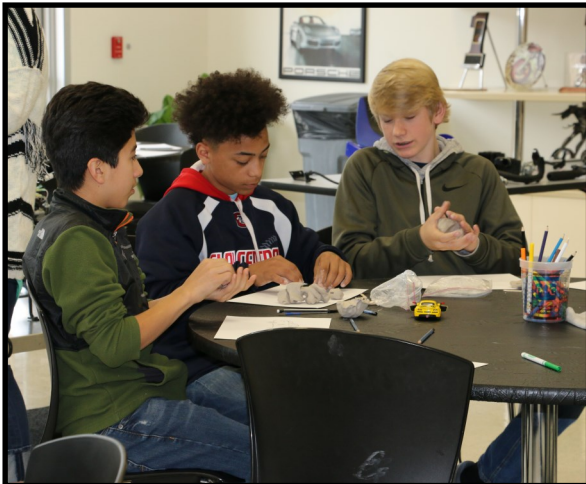
Activities Hour Option 4

- **Diagnose-a-Bike** Students work together to review a manual, consider their motorcycle's "symptoms," determine its diagnosis, and solve the mystery of who owned the bike.

Pick an Activity:

Activities Hour Option 1: (Pairs well with Wheels of Technology)

- **Build-a-Bike Challenge** Students work together with the museum's restoration crew to build a motorcycle that's ready to roll!
- **Design-a-Bike** Students create their own bike using clay and other techniques that design engineers use today!
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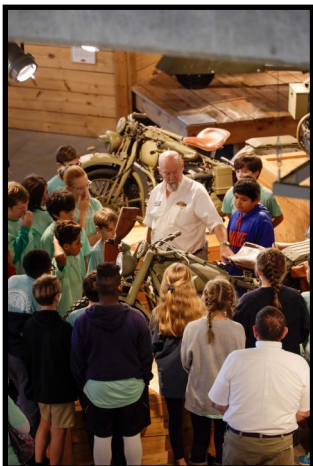


Classroom worksheets available upon request

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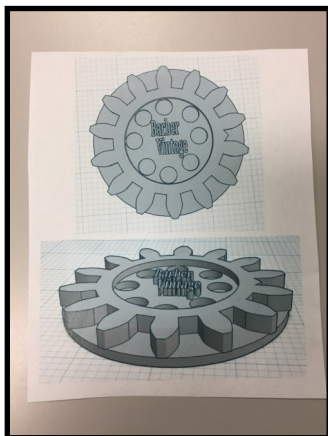


Barber Museum Technicians are more than mechanics. They are experts on the machines they restore. With each new project a research process begins that is carried through for months, even years, until the restoration is complete. Each vehicle represents a historical puzzle. During the Build-a-Vintage-Bike Challenge students get a hands-on experience of putting that puzzle together.

Pick an Activity:

Activities Hour Option 3:

- **CNC Machine Challenge** Students see their CAD drawings manufactured with our CNC machines in the Barber Museum machine shop.



Calling all engineering, robotics, mechanics, machining, science, design classes and beyond! If your students have access to a CAD program, they are eligible for this challenge.

Students are provided with an engineered drawing and asked to draw the object using their CAD program prior to the field trip. Then students look on as we bring their drawing to life using our CNC machines.

Pick an Activity:

Activities Hour Option 4:

- **Diagnose-a-Bike** Students will work together to review a manual, consider their motorcycle's "symptoms," determine its diagnosis, and solve the mystery of who owned the bike!

Barber Museum Diagnose-A-Bike Challenge

Student Name: _____ Team Name: _____

Welcome to the Barber Museum Diagnose-A-Bike challenge! To complete the challenge, please review the manual carefully, complete the diagnoses, and determine which rider owned your team's Yamaha PW50.

History

The Yamaha PW50 answered the call for young riders to find their freedom on two wheels. It is the ultimate "beginners bike," and its straightforward design has stood the test of time. Many professional riders began their motorcycling careers on PW50s because its design is appropriate for children as young as five years old. James Stewart, Chad Reed, and Ricky Carmichael are just a few examples of successful riders who started off on PW50s.

It all began in 1981 when Yamaha released their YZinger model. Its sleek look gained instant popularity as it was very similar to Yamaha's larger YZ 125cc model, which was a successful dirt bike marketed to adults. Creating a smaller version of an adult-sized bike is a marketing strategy that Yamaha implemented again years later.

Yamaha YZ 125cc



Yamaha YZinger 50cc



Note how similar the bikes look. For a young, beginning rider, the YZinger is just right.

Other manufacturers attempted to create similar mini bike designs; however, Yamaha was so far ahead of them in the race that it was hard for the competition to keep up! Over the years, the Yamaha's 50cc model has pretty much stayed the same, the only "changes" being its name or color. In fact, when Yamaha's professional motocross team began winning championships, they began painting the smaller 50cc model to match the pro team's colors.

Yamaha YZ 250cc

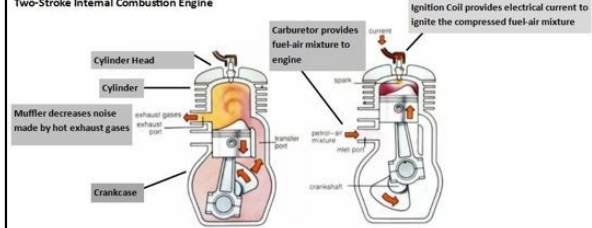


Yamaha PW50

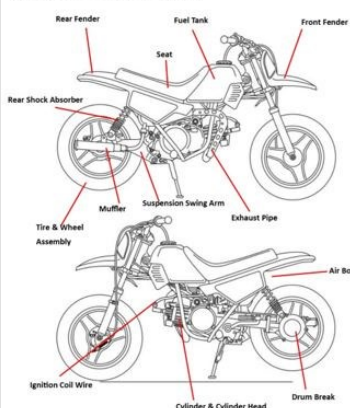


When you do a side-by-side comparison of these two bikes, even a beginner can look like a pro.

Two-Stroke Internal Combustion Engine



Yamaha PW50 Component Diagram



The Diagnose-a-Bike activity is for your enthusiastic and critical thinking students. During this activity students get an understanding of how motorcycles mechanically operate and also how to problem solve in real-life scenarios.



Booking Information:

Guided field trips are prearranged and take place on weekdays. All prices listed below are before taxes. If your organization is tax exempt, please submit your tax exemption form upon booking your tour.

Guided Field Trip Tours: \$10 per student

Activities Hour: \$5 per student

Chaperones: \$5

Teachers and Bus Drivers: Free

Teacher Preview Visit: Free (Schedule a visit with us to tour the museum and experience what we have to offer your group.)

**Book your Guided Field Trip today! Call 205-702-8713
or email jnelson@barbermuseum.org**



Proudly supported by:  **YAMAHA**