GEAR UP:

THE SCIENCE OF BIKES

MARKETING KIT

Sciencenter

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EXHIBITION SUMMARY

Take a ride through the science of bicycling!

The bicycle is an elegant example of basic science principles and material science. Through a diverse collection of historic and peculiar bikes, visitors will learn the history and evolution of the bicycle, how bikes have impacted our culture, and how they work!

Learning Goals

- Momentum helps you stay balanced on your bike
- The kinetic energy in bike chains, pedals, and wheels, keep bikes in motion
- Bikes have changed through time but their popularity has remained the same

BRANDING GUIDELINES

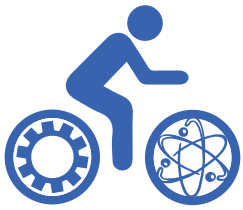
LOGO

Option 1 - Primary Logo - Horizonal

Option 2 - Black & White Logo

Vertical Logo Variations

Logo Icon



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Hex # 00afb9

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Hex # f7941d

C 0, M 10, Y 90, K 0
Hex # fffE2f

C50, M 0, Y 100, K 0
Hex # 8dc63f

TYPE

HEADER: ALL CAPS

Highway Gothic Regular

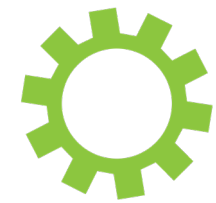
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklnopqrstuvwxyz
1234567890

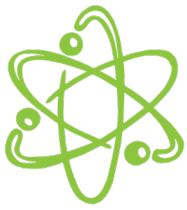
BODY COPY

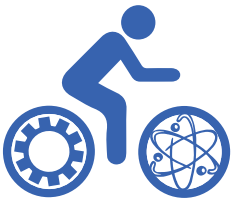
Throw My Hands in the Air Regular

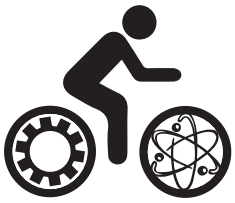
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklnopqrstuvwxyz
1234567890

DESIGN ELEMENTS









PRESS MATERIALS

EXHIBITION OVERVIEW

100 WORDS (101)

Take a ride through the science of bicycling!

Since its inception in the late 19th century, the bicycle has affected how people live, work, and play. From schoolyards and mountain trails to bustling city streets, we encounter bicycles nearly every day. The bicycle is an elegant example of basic science principles and material science. At *GEAR UP*, visitors learn how bikes work, the history/evolution of the bike: the science and technology behind the machine, and how bikes have impacted our culture. Like the bicycle itself, the exhibition has been designed to appeal to people of all ages with diverse interests.

75 WORDS (77)

The invention of the bicycle over a hundred years ago made an immediate impact on society and personal mobility and helped to shape our culture. Like any great invention, it has been upgraded and adapted over the years. Because the bicycle is so commonplace, it is easy to take for granted how it actually works. At *GEAR UP*, discover how the bicycle is an elegant example of basic science principles – forces and motion, energy, and material science.

50 WORDS (54)

GEAR UP: The Science of Bikes is a combination of interactive stations and displays encouraging exploration and discovery centered around the history, design, and engineering of the bicycle. Each station presents either an actual bicycle from different eras over the last century, or an interactive exhibit exploring forces and motion, material science, or engineering.

25 WORDS (28)

GEAR UP: The Science of Bikes is a combination of interactive stations and displays encouraging exploration and discovery centered around the history, design, and engineering of the bicycle.

EXHIBIT DESCRIPTIONS

BIKE DISPLAYS ON BASES

- Victorian Penny Farthing
- 1950's Columbia Streamline
- Clown mini-bike
- 1960's Big Wheels
- 1970's Huffy Banana Seat
- Roundtail
- Atala 10-speed
- ADA Adaptive Bike
- Tall Bike
- Fat Tire Bike
- 'Bling' Lowrider Bike
- Unicycle & Folding Bike

ENTRY

Truss structure with entry graphics can be set up as two vertical towers, or with optional large horizontal truss across the top between the two towers.

GYROSCOPE SEAT

Sit on a rotating stool, spin a hand-held bicycle tire, and see how the rotational forces move you as you turn the tire from a vertical to a horizontal position.

GEAR TABLE

Experiment with magnetic gears and learn about the power and function of simple machines.

DRAG RACE

Watch three shapes race through fluid to see which shape's design is the most aerodynamic.

DON'T TREAD ON ME

Make your own crayon rubbings and explore variations in tire treads designed for different sports and terrains.

RED ALL OVER

Try to identify 'stop sign red' from a set of nine samples and learn how the brain recalls color.

EXHIBIT DESCRIPTIONS

COLOR MIXING BIKE

See how the eye perceives colors in the visible spectrum. Change the ratio of colored lights to then change the apparent color of some miniature bikes.

HIT THE BRAKES!

Slam on the brakes on a spinning wheel, using three different pads to see how materials affect friction.

BIKE BODY XYLOPHONE

Play a series of tubes made with different materials to discover why bikes can be made from so many alloys.

SQUARE WHEELS

Can a bike ride on square wheels? Sure, if the road is the right shape!

POWER CYCLE

'Pedal' a crank to generate power and see how much electricity you can create to make fluorescent, incandescent, and LED bulbs glow.

BICYCLE SCALES

Heft three 'similar' bike frames to discover the weight differences of the materials used.

CYCLOID RAMP

Roll balls down two sets of ramps – one straight, the other a specific curve. No matter where you place the two balls on the cycloid ramps, they reach the bottom at the exact same time, while time on the straight ramp depends on starting location.

ROLLER RAMPS

Roll balls down a series of ramps with the same height drop but different slopes to see Newton's Laws in effect.

CHALKBOARD PHYSICS

Some basic bike and energy physics on a faux 'chalkboard' (printed graphic).

PRESS RELEASE

<MUSEUM LOGO>

<Museum Name>
Media Contact:
Issued: <Date>
FOR IMMEDIATE RELEASE

GEAR UP: THE SCIENCE OF BIKES

A FEATURED EXHIBITION THAT EXPLORES THE HISTORY AND SCIENCE BEHIND BICYCLES

<CITY> From [opening date] through [closing date], [Museum or organization] will present *GEAR UP: The Science of Bikes*, developed by Carnegie Science Center (Pittsburgh, PA). From schoolyards and mountain trails to bustling city streets, we encounter bicycles nearly every day. Since its inception in the late 19th century, the bicycle has affected how people live, work, and play. Its popularity has only grown over time, and it is as relevant today as it was 100 years ago.

The invention of the bicycle made an immediate impact on society and personal mobility and helped to shape our culture. Like any great invention, it has been upgraded and adapted over the years. Because the bicycle is so commonplace, it is easy to take for granted how it actually works. At *GEAR UP*, visitors discover how the bicycle is an elegant example of basic science principles. They learn how bikes work; what the history/evolution of the bike is; the science and technology behind the machine; and how bikes have impacted our culture. Like the bicycle itself, the exhibition has been designed to appeal to people of all ages and with diverse interests, from STEM to design to history to art.

GEAR UP is a combination of interactive stations and displays encouraging exploration and discovery centered around the history, design and engineering of the bicycle. Each station presents either an actual bicycle from different eras over the last century, or an interactive exhibit exploring forces and motion, material science or engineering.

- more -

PRESS RELEASE

Among the many bicycles on display is one of the ancestors of the modern bicycle, the Penny Farthing. Visitors will also get to see classic bikes, like the Big Wheel, a number of sport bikes and various customized bicycles including a Tall Bike, a unicycle and a mini clown bike.

At *GEAR UP*, visitors can engage with many fun hands-on activities such as 'pedaling' a crank to generate power and see how much electricity they can create to make fluorescent, incandescent, and LED bulbs glow or rolling balls down a series of ramps with the same height drop but different slopes to see Newton's Laws in effect.

The exhibit is open [days of operation] from [opening time] to [closing time]. [Insert information about price: BIKES is included with admission to the museum OR Admission to BIKES is $___]

For more details, visit [website] or call [phone number].

<museum boilerplate>

# # #

PHOTOGRAPHY & CAPTIONS

GEAR UP: The Science of Bikes is a combination of interactive stations and displays encouraging exploration and discovery centered around the history, design and engineering of the bicycle.

At *GEAR UP*, 'pedal' a crank to generate power and see how much electricity you can create to make fluorescent, incandescent, and LED bulbs glow.

At *GEAR UP*, play a series of tubes made with different materials to discover why bikes can be made from so many alloys.

At *GEAR UP*, discover that a bike can ride on square wheels if the road is the right shape!

At *GEAR UP*, hit the brakes on a spinning wheel, using three different pads to see how materials affect friction.

At *GEAR UP*, take a ride on the *Gyroscope Seat* and learn about rotational forces using a handheld bicycle tire.

PHOTOGRAPHY & CAPTIONS

At *GEAR UP*, roll balls down a series of ramps with the same height drop but different slopes to see Newton's Laws in effect.

At *GEAR UP*, spin the wheel and watch three shapes race through fluid to discover which shape's design is the most aerodynamic.

ADVERTISING CREDITS

CREDIT LINES:

GEAR UP: The Science of Bikes was developed by Carnegie Science Center and produced in partnership with the Sciencenter.

GUIDELINES:

Carnegie Science Center must be acknowledged in publicity about the exhibition and credit should be given to the Sciencenter where appropriate.

GEAR UP: The Science of Bikes was developed by Carnegie Science Center.

This sentence is to be used in all printed and digital promotional materials: press releases and other announcements, advertising, website, media advisories, opening event invitations, membership newsletters and calendars, and brochures. It is also to be used in speeches, educational and public programming materials, as well as other materials promoting or referencing the exhibition in more than name.

Please note that Carnegie Science Center is not to be preceded by "the."

Correct: Carnegie Science Center
Incorrect: the Carnegie Science Center

When space permits, as in press releases and on the website, please add the location of the source museum:

GEAR UP: The Science of Bikes is organized by Carnegie Science Center (Pittsburgh, Pa.).

ADVERTISING CREDITS

SCIENCENTER LOGO

Primary logo

Sciencenter

Stacked logo

Sciencenter
Ithaca, New York

CARNEGIE SCIENCE CENTER LOGO

CARNEGIE SCIENCE CENTER
ONE OF THE FOUR CARNEGIE MUSEUMS OF PITTSBURGH