

# THE WARBLER

AN EDUCATIONAL WEEKLY

ISSUE

130

OCTOBER 5, 2022

## Dear Student, Artist, Thinker, Friend,

This week we will be bringing all things bicycle. The first design of a bicycle emerged in the 15th century and has increased in popularity as people are looking for different ways to travel and commute around the city. You can choose from a basic two wheeler, unicycle, tricycle, with various models and types in between. They have electric ones that will do the pedaling for you and bikes that are created to climb mountains and hills with ease.

Whether you enjoy riding a stationary bike in the gym or bicycling on a busy city street, bike riding is a sport or past time that many individuals in the world have experienced at one time in their life. They have given communities the ability to travel throughout their cities or towns without the inconvenience and cost that owning a car can bring. No matter your interest in cycling and bicycles, we hope you enjoy this issue of *The Warbler*.

*Tammy and the APAEP Team*

### WORDS INSIDE

FOUND IN "HOW MUCH ELECTRICITY ..."

**stationary** | not moving or not intended to be moved

**scope** | the extent of the area or subject matter that something deals with, the extent

FOUND IN "HISTORY OF BMX ..."

**sanctioning** | permission or approval that makes a course of action valid

FOUND INSIDE "HISTORY OF BICYCLES ..."

**ubiquitous** | present, appearing, or found anywhere

...



“Crashing is part of cycling as crying is part of love.”

JOHAN MUSEEUW // Belgian former professional cyclist

## RACING

# History of BMX

## *How Did Bicycle Motocross Start?*

BY CYLANCE PRO CYCLING | February 11, 2021

Bicycle motocross or BMX is a cycling sport that is recognized at the Olympic level. BMX Racing was first introduced in the 2008 Olympics while BMX Freestyle was recently added in the postponed 2020 Tokyo Olympics. It is one of the most exciting bicycle disciplines because of the different tricks pulled by the cyclist. Not to mention, it is also amongst the most dangerous because of the stunts.

In this short article about BMX history, we will examine how this thrilling sport started and how it evolved into what it is today. More than learning history, you will also know some important BMX facts. Read on and learn from the insights we'll be sharing.

### Who Invented BMX?

BMX as a discipline started because of playful kids. They have been watching motocross events and have grown loyal fans. They have imitated their idols but while using regular bikes instead. Within a short time, many kids were already using their bikes on dirt tracks and practicing stunts. They have converted their bikes and made it into BMX. It was first called pedal cross, and was eventually renamed BMX or bicycle motocross.

However, if you are looking for a specific person who can be dubbed as the inventor of BMX, then it would be Scot Breithaupt. He is considered a BMX pioneer and also the one credited for the introduction of the first BMX race. He was also the founder of the Bicycle United Motocross Society, which was recognized as the first BMX governing organization. He was initially the leader of the Yamaha motocross team

### The Progression of BMX

If there is one thing that put BMX into the spotlight, then it would be *On Any Sunday*. This documentary has introduced BMX biking to a larger audience. Directed by Bruce Brown, the film was 99% about motocross. The remaining 1% was about BMX and was surprisingly more than enough to popularize the latter. The documentary opens with a group of kids on their Schwinn Stingrays. It was even nominated for The Academy Awards as the Best Documentary.

In 1977, the ABA was established, and this was recognized as another influential event in the popularity of the BMX bike. It was a national sanctioning body established so that there is an organized approach for promoting the sport from coast to coast. In the next three decades, ABA has been the major ingredient in the popularity of the BMX.

One of the things that ABA did was to organize competitions that are fair to all participants. They made sure that the qualifications will make more people eligible to join. They made sure that the sport will remain competitive while providing equal opportunities to those who would like to participate.

Founded in April 1981, this organization is another catalyst in the history of BMX. Shortly after its establishment, the first BMX World Championships was established. This made it more popular and gained worldwide attention from its humble roots in California. In 1993, BMX became a part of the Union Cycliste Internationale, cementing its recognition in the world of cycling.

### History of BMX Racing

BMX racing history is largely influenced by motocross. This is evident on the track that is used for the race, which has a purpose-built single-lap off-road track. Even the gear worn by the racers are similar to those that you will find being used in motocross.

Compared to other BMX bikes, those that are used in racing have larger sprockets. It produces a higher gear ratio. In turn, the rider can pedal harder to gain more speed. In the 80s, however, BMX racing declined as BMX Freestyle started gaining popularity. Nonetheless, it resurfaced in the 1990s as a result of the efforts of passionate riders.

### Types of BMX Bikes

As a part of the sport's natural evolution, different BMX types have been introduced for different needs, including the following:

**Park:** These are light bikes without structural enhancements, which are also perfect for novices and casual riders.

**Dirt:** They have larger grips and wider tires compared to other BMX bikes. These features will make it more capable of handling dirt.

**Flatland:** This is a well-balanced BMX bike, which is often used for showing off some tricks.

**Street:** It is a heavy BMX bike that has a metal peg that makes it easy for riders to perform their tricks.

**Race:** Built for demanding environments, these BMX bikes have larger front sprocket and enhanced brakes to deliver optimal performance. ●



## SPORTS

# How Long is the Tour de France?

BY MOLLY HURFORD | *bicycling.com* | June 22, 2022

The Tour de France is cycling's most well-known stage race, taking place over the course of three weeks every July.

The elite pack of cyclists will cover hundreds of miles and climb thousands of meters of elevation as they roll through different parts of France. But how long will they ride, exactly?

The answer depends on the year, and what metric you're using to measure length. Honestly, if you're trying to explain the Tour de France to a new fan, it can feel a little confusing. Here, we're looking at all the different ways to consider the length of the Tour de France.

## How long is the Tour de France last on average?

The Tour de France is usually 23 days long and split into 21 stages — days of riding — with a couple of rest days spread out during the event. Depending on how the dates are organized, though, some years it's been run with only 20 stages, while other years have as many as 25 stages, and the first two Tours ever run in the early 1900s only had six stages.

## Seriously, how long is the Tour de France on average?

In general, the total mileage of the 21 stages combined tends to hover around 2,200 miles over the 21 days of racing, which averages to around 100 miles of racing most days.

## Is every stage the same length?

Not at all! Stages in the Tour de France vary wildly in length so that some days involve 180-plus mile long races and others are 30-mile fast and furious short stages. The styles of racing also change: Some stages are individual time trials, others are team time trials, and most are standard road races that take place with a mass start.

## What's the shortest Tour de France stage?

In 1988, it was the shortest race of the modern era, with the shortest time trial and flat stage, and the second-shortest total distance in history at only 2,042 miles. The one-kilometer individual time trial from the prologue of the 1988 Tour de France is the shortest race ever run during the Tour, and it was won in 1 minute and 14 seconds by Guido Bontempi. The 1988 race also contained the shortest flat stage, which was only 23.6 miles.

## What was the shortest Tour de France?

Depends on what you mean by the shortest! The



Jeff Pachoud/  
Getty Images

second Tour de France ever run — back in 1904 — was only six stages long — but it covered 1,483 miles, so some stages lasted for nearly a full day. In the last two decades, the shortest Tour was in 2002 and covered 2,035 miles across 20 stages.

## What was the longest Tour de France?

That would be the 1926 Tour de France, which covered 3,569 miles in an attempt to ride around the border of France... but close behind that is the 1919 Tour de France, which also has the dubious honor of being the slowest Tour de France in miles-per-hour.

Despite the fact that it was almost 200 miles shorter than the 1926 route, it was only a few hours faster in overall ride time for the winner. It also had the longest one-day stage — 265 miles — and it reportedly took the winner almost 19 hours to complete it. That year's Tour also only had 10 finishers out of 69 starters, the lowest number of Tour finishers ever.

## What about elevation gain?

Remember, a lot of the stages of the Tour de France go up and down mountains, so not only are riders contending with 100-plus mile days in the saddle, they're climbing thousands of feet in the process. In 2020, one stage included 14,435 feet of climbing over the course of 118 miles.

## How fast do riders go?

In recent years, the average speed has hovered around 24.8 miles per hour (40 kilometers per hour), though it changes a bit from year to year depending on the riders, the elevation gain, the temperature, and the length of the stages. But it stays fairly close to that 25 MPH speed. ●

Edited  
for space

MATHEMATICS

# Sudoku

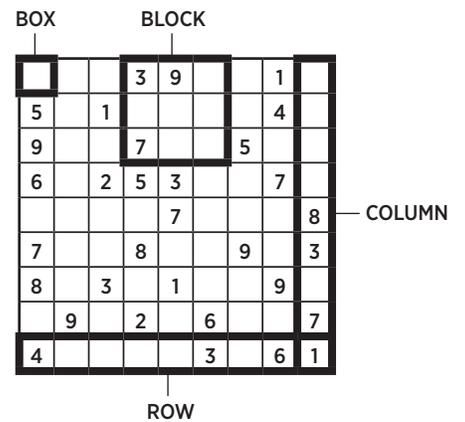
						5		
		7	9		5			
3				6				1
6				4				8
7		2	5					4
4						8	2	
	8	6						
	3	5	1	8		9		

	5	3	1					
	1			8	9			2
8			2	6				
		1					4	
9		5			3	7		
			8	9				3
	9			7				5
							6	9

©Sudoku.cool

## SUDOKU HOW-TO GUIDE

1. Each block, row, and column must contain the numbers 1-9.
2. Sudoku is a game of logic and reasoning, so you should not need to guess.
3. Don't repeat numbers within each block, row, or column.
4. Use the process of elimination to figure out the correct placement of numbers in each box.
5. The answers appear on the last page of this newsletter.



What the example will look like solved

2	4	8	3	9	5	7	1	6
5	7	1	6	2	8	3	4	9
9	3	6	7	4	1	5	8	2
6	8	2	5	3	9	1	7	4
3	5	9	1	7	4	6	2	8
7	1	4	8	6	2	9	5	3
8	6	3	4	1	7	2	9	5
1	9	5	2	8	6	4	3	7
4	2	7	9	5	3	8	6	1



“I learned to ride a ten-speed when I was 4 or 5. My uncle gave me the bike, hand-me-down, and everyone used to stare at me riding up and down this block. I was too short to reach the pedals, so I put my legs through the V of the frame. I was famous. The little kid who could ride the ten-speed.”

JAY-Z // American Rapper

Icons from the Noun Project



### DID YOU KNOW?

The world's longest bike was **135 feet** and 10.7 inches long.

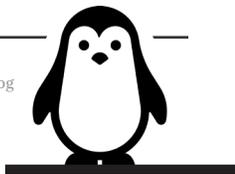
The **largest rideable bicycle** has a wheel diameter of 3.3 m (10 ft 9.92 in) and was built by Didi Senft from Germany.

Cycling is **three times faster** than walking

Fred A. Birchmore, 25, circled the globe by bicycle in 1935. The entire trip, through Europe, Asia, and the United States covered **40,000 miles**.

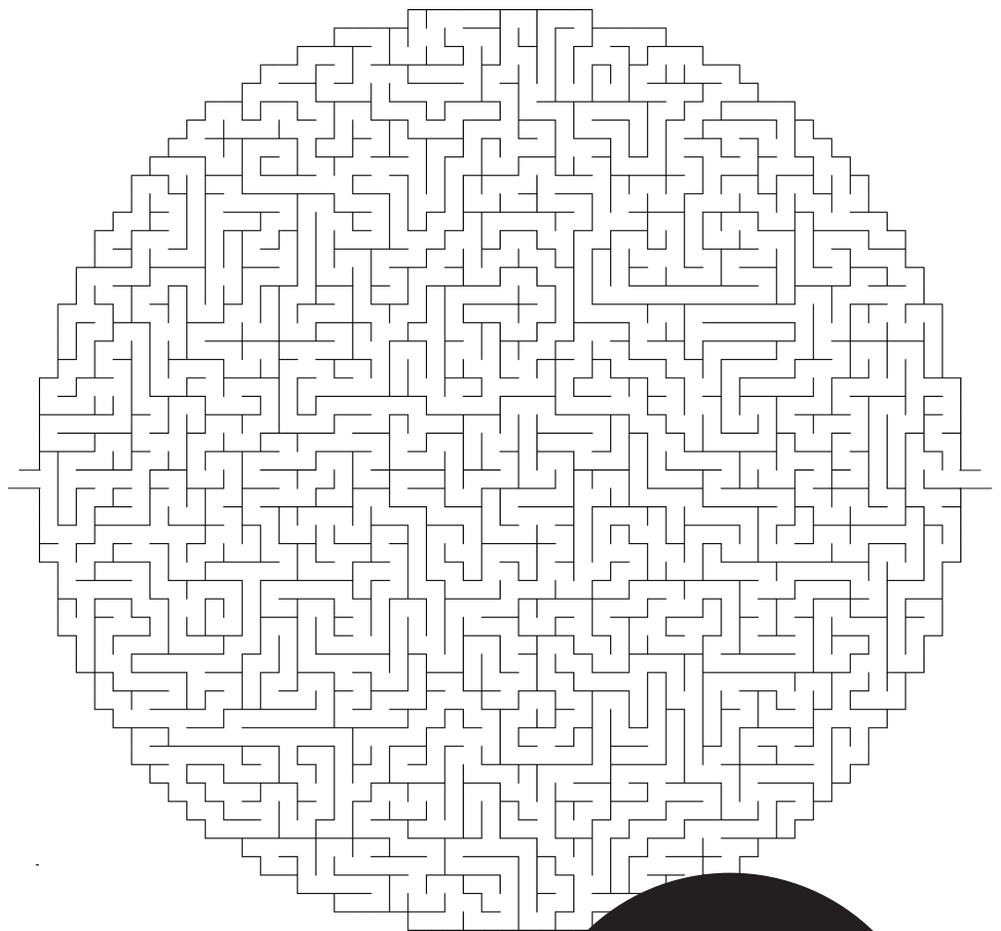
About **100 million bicycles** are manufactured worldwide each year.

Source: [actionaid.org.uk/blog](http://actionaid.org.uk/blog)



“For a man so incredibly hairy and square, watching my dad get on a bike was like watching a penguin spread its wings and take flight. He’d take off at inhuman speed, a smile on his face, and never look back.”

ZELDA WILLIAMS // American Actress and daughter of Robin Williams



### ▲ Maze ▲

This maze is a collection of paths, where there is both a start and ending point. The player starts at one entrance and follows a path of their choice, which leads to the other.

ART + CULTURE

# Ode To Bicycles

BY PABLO NERUDA

I was walking down a sizzling road:  
the sun popped like  
a field of blazing maize, the earth was hot,  
an infinite circle with an empty  
blue sky overhead.

A few bicycles passed me by,  
the only insects in that dry moment of summer,  
silent, swift, translucent; they barely stirred the air.

Workers and girls were riding to their factories,  
giving their eyes to summer,  
their heads to the sky,  
sitting on the hard beetle backs  
of the whirling bicycles that whirred  
as they rode by bridges, rosebushes, brambles  
and midday.

I thought about evening when  
the boys wash up, sing, eat,  
raise a cup of wine  
in honor of love and life,  
and waiting at the door,  
the bicycle, stilled,  
because only moving  
does it have a soul,  
and fallen there  
it isn't a translucent insect  
humming through summer  
but a cold skeleton  
that will return to life  
only when it's needed,  
when it's light, that is,  
with the resurrection of each day.

Ricardo Eliécer Neftalí Reyes Basoalto, better known by his pen name and later, legal name Pablo Neruda, was a Chilean poet-diplomat and politician who won the 1971 Nobel Prize in Literature.



## WRITING PROMPT

The author of this poem seems to describe an object that is only useful when it is being used. But I think it also seems to describe something that is taking in the rest of the world happening around it and knows the purpose that it serves. Using this as a prompt, create or illustrate a poem, short essay, blog, or illustration that describes something that seems unnecessary at first glance but holds genuine value.

## Word Search

H	Y	O	W	V	G	N	I	L	Z	Z	I	S	W
S	W	S	H	O	L	L	A	L	M	N	T	E	R
S	I	E	I	I	T	N	D	T	A	E	E	S	I
C	C	L	R	C	W	T	E	R	E	C	R	I	U
G	E	B	L	D	I	N	T	A	D	E	E	B	N
S	U	M	I	R	L	E	C	N	A	S	T	I	M
T	E	A	N	S	I	M	E	S	N	S	I	C	R
T	G	R	G	N	G	E	R	L	C	A	N	Y	S
R	E	B	H	T	H	V	R	U	I	R	I	C	H
O	E	G	R	I	T	O	U	C	N	Y	F	L	E
E	A	L	S	L	I	M	S	E	G	C	N	E	R
D	M	M	C	Z	I	L	E	N	D	H	I	G	A
Z	C	H	I	Y	K	E	R	T	N	C	I	T	S
S	K	E	L	E	T	O	N	E	O	C	T	G	S

- |             |             |          |
|-------------|-------------|----------|
| SIZZLING    | TWILIGHT    | MOVEMENT |
| WHIRLING    | TRANSLUCENT | SKELETON |
| RESURRECTED | BRAMBLES    | BICYCLE  |
| NECESSARY   | INFINITE    | DANCING  |

## SUSTAINABILITY

# How Much Electricity Can a Bike Generate?

BY PAYLESS POWER | May 31, 2019

Cycling has become a universally popular solution to many of our everyday needs. From getting to work, spending time in nature, or sweating it out in a group fitness class, people of all ages are choosing to get on a bike at many different touch points of their lives. Be it a stationary bike, like you would find in a home or gym, or a single or multi-speed road or mountain bike, the health benefits of cycling are undeniable. However, the strength we gain from biking is not the only energy that the physical activity provides. In fact, the human power that is poured into a bike can generate energy that can transform into watts, as much as 100 watts in just one hour. But how sustainable is a bicycle generator? Can it make an impact on the electricity we use in our everyday lives? Could it even power an entire home?

## What is a Bicycle Generator?

A bicycle generator, also referred to as an electricity generating bike, powers an electric generator which charges a battery, measured through kilowatts. To determine these watt-hours, or kWh, simply multiply volts by amps (though many stationary bikes have a digital display that will showcase the watts generated). This charged battery can, in theory, provide energy to light bulbs, mobile devices, televisions, appliances, and even homes. The sustainability, practicality, and scope of this theory is what we will explore here.

## One Lone Cyclist

If one person were to hop on a bicycle generator for one hour, they would produce roughly 0.11 kWh. One hour of pedaling is no small feat (just ask any SoulCycle enthusiast). To start, you would be able to power one 100 watt light bulb for an hour. Fair enough. But powering your entire house for 24 hours is a whole different story. The average American household uses around 30 kWh per day. Since cycling on a bicycle generator for one hour produces about 0.11 kWh, we can determine how much electricity you can contribute to your home's daily energy usage.

At 0.37%, the one hour of hard work that you put into cycling only amounts to a measly five minutes of electricity powered by a bicycle generator. From a practical standpoint, this should not be considered a sustainable method of providing energy to your home.

## One Spin Class

Let's see what we can accomplish when we work

together. In the average group cycling fitness class, there are usually 50 bikes in a studio. If all of the cyclists were plugged into generators for the entirety of the club-thumping 60 minute class, we can calculate how much energy the group can put towards your home's electricity usage.

At 18.3%, a group fitness class of 50 cyclists still only contribute four and a half hours of electricity for your home. In order to power your house for an entire 24 hours, you would have to rally about 6 classes per day at your local spin studio.

## The Tour De France

In 2018, Geraint Thomas of Great Britain completed all 21 stages and 2,080 miles of the Tour de France in just eight hours and 17 minutes. With just his pedal power, he could have generated 549.67 kWh, or 18 days' worth of energy for the average American household. But what of the entirety of the Tour de France? Between 145 cyclists, the average tour was completed in 85.5 hours.

In an unsurprisingly impressive feat, all of the cyclists that participated in the Tour de France in 2018 could have generate around 4,546% of the average household kWh use per day. Thus, the tour could power 45 homes for one day.

## Bicycle Generated Energy Isn't Worth It

While the conversation surrounding bicycle generators as a sustainable form of energy has sung a hopeful tune, they are without a question a very impractical way of providing alternative energy to your home. The fatigue of one person cycling for one hour only to generate five minutes' worth of electricity is simply not worth it. Even an entire spin class only pushes that time up to four and a half hours. However, there could be some interesting applications to channeling all the energy that is generated from large-scale bike races around the world. But when it comes to adding alternative energy for the home to the list of the many reasons that people get on a bike every day, we suggest leaving this one off. ●



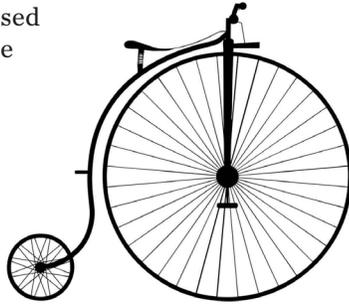
Edited for space

## HISTORY

# The History of Bicycles

BY HISTORY COOPERATIVE | July 1, 2019

In the modern world, with so many motorized options for getting around, it's easy to take the human-powered bicycle for granted. However, for as quickly as the bicycle has been replaced by faster, fuel-powered vehicles, it's easy to think it's an ancient invention that has finally been phased out. But this two-wheeled vehicle has only been around a short time, yet during its brief history, people have come up with many different designs and uses for the bicycle. Because of this, the history of the bicycle is rich and is quite significant to the rest of human history.



## Geared Vehicles are Born

The first version of the two-wheeled vehicle that would eventually become known as the bicycle date from the 15th century. The most similar was a four-wheeled human-powered vehicle with a rope to connect gears to the wheels that was developed by Italy's Giovanni Fontana. Leonardo da Vinci, too, is credited with some drawings of a two-wheel vehicle that closely resembles modern bicycles around the same period, although the authenticity of these drawings remains in question.

## The First Bicycle

The first bicycle did not appear until nearly 400 years later, when a two-wheeled device known as the velocipede first appeared in Europe. The velocipede was invented by the German Baron von Drais in 1817 to enable people to replace draft horses for plowing fields – a necessary invention after a crop failure the previous year had led to the widespread slaughter of horses. This contraption was constructed entirely from wood and lacked pedals, instead requiring users to push off the ground with their feet to move forward.

Progress towards a modern bicycle proceeded piecemeal over the following decades. The first pedals appeared on a velocipede in 1839 in Scotland, although the pedals were connected directly to the rear wheel rather than to a chain-driven drivetrain. Pneumatic tires were added to the wheels in 1845 in England, although inflated tires took another several decades to become mainstream.

These incremental advances culminated in 1864 in the “Boneshaker” bicycle – so named for the horrendous

vibrations that riding the stiff frame on the bumpy roads of the time produced. This French bicycle resembled the frame of the velocipede but added the first mass-produced front wheels and pedals in a fixed-gear, one-speed configuration – similar to today's fixies.

## England at the Helm

Thanks to increasing social mobility and wealth from its global empire, Britain took the lead of bicycle development in the late 19th century. The famous Penny Farthing, with its five-foot diameter front wheel and minuscule rear wheel, appeared in England in 1870. The Penny Farthing drastically improved on the vibrations that character-

ized the Boneshaker bicycle, but it required a feat of acrobatics to climb onto and balance on while riding. In addition, although the Penny Farthing was the first machine to be called a “bicycle,” it was far from the ubiquitous ride we know today – purchasing one cost six months' salary for the average worker.

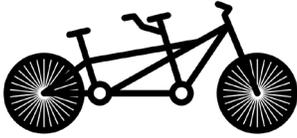
It was after the introduction of the Penny Farthing that many modern bike features first appeared. Adopting some of the technological advances of the Industrial Revolution, radial spokes were added to wheels in 1870, ball-bearings were introduced in 1872, caliper brakes made a first appearance in 1876, and designs for differential gearing mechanisms and shifters were patented in 1877. All of these components relied on the ability of steel mills to produce increasingly complex designs for a mass market. The first folding bicycle – a foldable Penny Farthing – was even mass-marketed in England during this period.

With all of these mechanical advances, bicycles became easier to ride and control – and thus increasingly popular both in England and across continental Europe. Adult tricycles became widespread as a more comfortable and rideable alternative to the Penny Farthing. At the same time, societies of bicyclists and tricyclists began to lobby governments to install smooth, paved roads as opposed to the standard dirt roads that crossed the continent for centuries. This was an important shift that ultimately paved the way for the domination of the car, but at the same time led to further adoption of the bicycle, as it could increasingly be used on roads all over Europe.

In the 1890s, bicycles even began to play a role

“I want to ride my bicycle, I want to ride my bike, I want to ride my bicycle, I want to ride it where I like.”

QUEEN // British Rock Band



in social norms as women increasingly switched from tricycles to bicycles — and from corsets to more comfortable and flexible bloomers. Susan B. Anthony commented in 1896 that bicycling had done more for the emancipation of women than any specific event in recent history as a result of the freedom and self-reliance it provided. It is no coincidence that many of the women’s emancipation movements and efforts to give women voting power began to gain momentum during this period.

**The Push Towards Modern Bicycles**

From the 1880s onward, manufacturing technology improved even further and allowed factories to mass-produce bicycles at lower costs. At the same time, wages across Europe and the US were increasing rapidly. The result was that bicycles enjoyed increasing popularity, especially among lower-middle-class people.

During this period, manufacturers also began to experiment with new frame materials. For example, Cycles Aluminum became one of the first commercial-scale manufacturers of bicycle frames in France. Around the same time, seamless steel tubing was invented in Germany. This material would soon become indispensable in manufacturing bike frames as it enabled frames with curved designs as opposed to the largely angular designs that had dominated bicycles to this point. The first bamboo bicycle was manufactured in 1894 and the first butted steel bicycle tube in 1897, although neither design attained the popularity and scale of mass production of seamless steel tubing. ●

**RANDOM-NEST**

**History of the Unicycle**

**FROM BICYCLE HISTORY**

It is not entirely known when where or when unicycle originated, but many historians agree that this very interesting type of transportation vehicle was created sometimes after creation of first penny-farthing bicycles that were introduced to the public by Eugène Meyer of Paris in 1870s and 1880s. Penny-farthing consisted from massive front wheel with pedals at the middle of it, handlebars that moved directly up towards the seat and supporting frame that reached back and hosted much smaller stabilization wheel. The drivers of such bicycle had added benefit of easier traversal through more uneven terrains, faster speeds and less shakes than the famous “boneshaker” wooden bicycle that was popularized by Michaux Company in 1860s (even though both bicycles were created first completely from wood and later from metal), but the biggest disadvantage of penny-farthing was its tendency to be unstable and hurt driver after a fall. Some drivers quickly noticed that they could drive penny-farthing without the help of the smaller back wheel. They could sit on the seat that was supported by handles coming out from the main wheel axle, control the main wheel using the pedals, and maintain their balance perfectly using only the main wheel.

Quickly after appearance of first one-wheeled bicycles, pictures and descriptions of first unicycles started to appear across England and Western Europe, depicting designs that very much looked like penny-farthing bicycles without the back wheel. In following years, many other models started being made with changes that impacted new build materials, better type of tires, and many more components of the unicycle. Components that are part of every unicycle are the wheel (which can be made in many sizes), cranks, pedals, fork-style frame, seatpost and saddle.

Over the last 100 years many types of unicycles were made. Here are some common ones:

**Freestyle unicycles** — Unicycle whose design is optimized for drivers who like to perform tricks and freestyle routines. Their wheel is small and seat is placed high.

**Trial unicycles** — Designed for trial competition, and are able to withstand large stresses of jumping and dropping.

**Multi-wheeled unicycle** — Unicycle which holds array of wheels, and driver control the rotation of only the closest wheel.

**Self-balancing unicycle** — Unicycles that have computers and small motors that can keep user in balance no matter what he is doing.

*Edited for space*

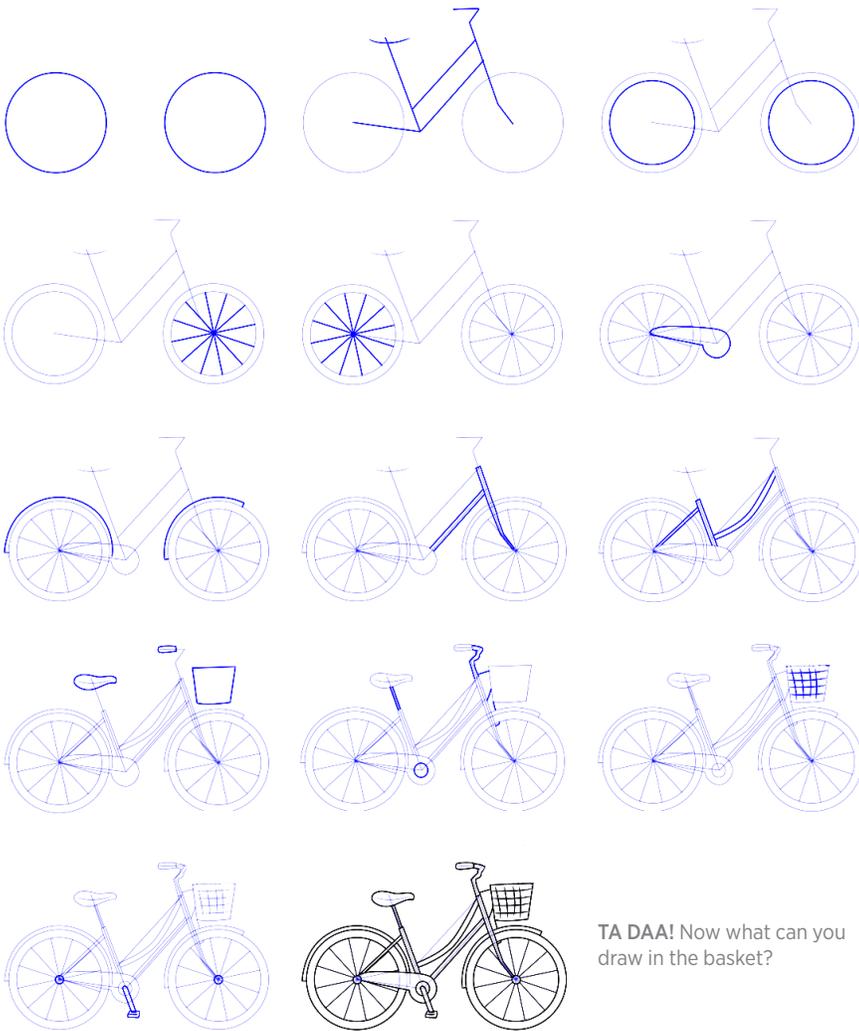


Picture of Continental Bicycle Tire Advertising Poster 1900

O F F	O F F	<i>Customer Customer</i>	LOTSputtingOF <hr/> TIME
-------------	-------------	------------------------------	-----------------------------

**WORD PLAY** A Rebus puzzle is a picture representation of a common word or phrase. How the letters/images appear within each box will give you clues to the answer! For example, if you saw the letters “LOOK ULEAP,” you could guess that the phrase is “Look before you leap.” *Answers are on the last page!*

## HOW TO DRAW A BICYCLE



drawingtutorials101.com

TA DAA! Now what can you draw in the basket?

## Words of Encouragement

Most people learn how to ride a bike early on in life. While some are taught by their parents or grandparents, others learn from trial and error. Personally, if someone hadn't forced me onto a bike, I would still not be able to ride. I didn't know this at the time, but I ended up being quite grateful for my bike riding abilities. Riding a bike is one of the most stress relieving activities in my opinion. In the summer, my sisters and I would ride around our neighborhood for hours. Going up the steep hills were hard on the legs, but the rush downhill made it all worth it.

As we get older, we lose track of those things that we gained knowledge of when we were younger. We hope this issue of *The Warbler* allowed you to visit a part of your youth that maybe you had lost track of.

*Abigail and the APAEP Team*

## Answers

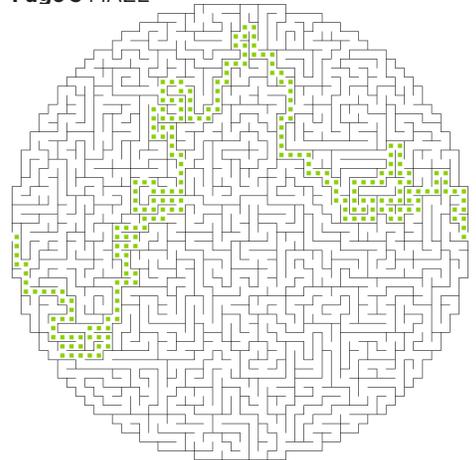
SUDOKU #259

8	2	4	7	1	3	5	6	9
1	6	7	9	2	5	4	3	8
3	5	9	8	6	4	2	7	1
6	9	3	2	4	1	7	8	5
5	4	8	6	9	7	3	1	2
7	1	2	5	3	8	6	9	4
4	7	1	3	5	9	8	2	6
9	8	6	4	7	2	1	5	3
2	3	5	1	8	6	9	4	7

SUDOKU #260

2	8	9	7	3	6	5	1	4
7	5	3	1	4	2	6	9	8
4	1	6	5	8	9	3	2	7
8	3	4	2	6	7	9	5	1
6	7	1	9	5	8	4	3	2
9	2	5	4	1	3	7	8	6
5	6	2	8	9	4	1	7	3
3	9	8	6	7	1	2	4	5
1	4	7	3	2	5	8	6	9

Page 5 MAZE



## Rebus Puzzle

Page 9

1. Offsides
2. Repeat customers
3. Putting in lots of overtime

UNTIL NEXT TIME ...

