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## About the Tutorial

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BMX stands for bicycle motocross. It is a cycle sport where the players race with each other using BMX bikes. BMX includes BMX racing and freestyle BMX. The race takes place mostly in motocross tracks which are made of various jumps and rollers.

This sport has got hard-core eye-catching stunts and sheer extremeness to competitive thrill and so it is thoroughly engaging from beginning to the end, which is the main reason behind the soaring popularity of this sport.

## Audience

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BMX commands a huge fan-base, as it involves racing and stunts which attracts a lot of audience. This tutorial provides helpful information about BMX racing to those enthusiasts who are looking to participate in sports involving adventure as well extremeness.

## Prerequisites

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Before starting to perform, certain attributes like perfect balance over the BMX bike, physical strength and quickness is very much required. Good level of core and lower body strength is also required for players in order to ride the bike while performing the jumps.

As it is typically a bike sprint, players need to be perfect on their jumps as well landings as the game requires incredible level of power, athleticism and endurance. Sprinting activities can be helpful for gaining speed and agility.

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# 1. BMX – Overview

BMX is an off-road sports similar to that of mountain biking where bikers use specially designed BMX bikes. Since 2008, BMX has been included in Summer Olympics while freestyle BMX has been one of the staple events at the Summer X Games Extreme Sports Competitions.

In this game, the rider performs moderate-to-high level of riding on off-road locations and compete with other riders while maintaining balance on the bike. Depending on the game type, the bike riders have to reach the finishing line as fast as possible. The first three riders to finish the race are declared winners. They have to complete all the laps before reaching the finishing point.



In case of **Freestyle BMX**, the players have to perform various tricks on the bike itself while balancing it. There is no racing involved. However based on the player's efficiency to perform tricks, winners are decided by a panel of judges.

## History of BMX

BMX began in South California in early 1970s when children started racing on their bicycles on dirt tracks while imitating their motocross stars. Initially Schwinn Sting-Ray bikes were used as the BMX bike because of better handling and performance. Gradually the sport started gaining soaring popularity and the number of race tracks started growing everywhere.

In 1977, American Bicycle Association (ABA) was founded as the national sanctioning body whereas in April 1981, International BMX Federation was founded and the first BMX world championship was held in 1982. In 1983, it has been integrated into Union Cyclist International (UCI). It has been included in Summer Olympics as a full medal sports since 2003.





Freestyle was developed as a way to introduce more styles and it gained popularity rapidly because of its relative ease and availability of places to ride. After a while it was added in the Summer X Games Extreme Sports competition.

The American Freestyle Association (AFA) was the first governing committee of BMX freestyle and in 1984, first Freestylin' Magazine was published. Slowly the game gained much popularity to attract different manufacturers and investors.

### **Participating Countries**

For years, it has been a rage among the youths and a real fun game for the audiences because of its adventurous stunts and sheer entertainment. Presently, in more than 80 countries around the world, BMX is considered as a top-level competitive sport.

BMX is immensely popular in Canada, Australia, USA, Japan, France, New Zealand, Netherlands, Czech Republic, Argentina, Switzerland, Italy, and South Africa. In these countries, a large number of players participate in BMX.

## 2. BMX – Equipment

BMX racing is an adventure sport in which the rider has to show some stunts while racing. In freestyle BMX, there is no racing and the rider wins the game according to the trick he shows in the event. In this chapter, we will discuss the equipment used in this sport.

### BMX Bikes

BMX bikes are off-road sports bicycles that are mostly used for racing and stunt riding purpose. Except motocross tracks, these bikes are used in skate parks, dirt tracks, vert ramps, streets, and flat lands.

These bikes are strongly built and are made of various types of steels whereas in most of the race bikes, frames are made of Aluminum. High-performance bikes are mostly made of generation 3 Chromalloy (high tensile steel).



The wheel size of a standard BMX bike is between 16 inches to 24 inches. The bikes with 24 inch wheel size are also known as **cruiser bikes**. The players can use these bikes to jump easily as compared to 20 inch wheel size bikes.

The wheels of this bike mainly consist of 36 spokes, however some aggressive riders use bikes with 48 spokes.

**Cassette hubs** are used in small gearing of BMX bikes because of its lightweight and more clearance during **grinding**.

**Axle pegs** are often used in free riding bikes to help riders while performing stunts.



Cassette Hub



Axle Pegs

In case of dirt jumping and freestyles, BMX bike wheel sizes are around 20 inches for experienced bikers and 16 inches for young bikers. They usually don't have front brakes whereas freestyle bikes have both front and rear brakes with more sturdy constructions in order to handle the aggressive riding.

Based on their game type, design and tracks used, different types of BMX bikes are used. Some of them are:

- **Park bikes** – Lightweight bikes mainly used in **skate parks** and **vert ramps**. Excess weights are avoided during construction for smooth transition of the bike.
- **Dirt bikes** – Dirt bikes are same as park bikes but the tyres have comparatively thicker tread to make grip on loose surfaces.
- **Race bikes** – Race bikes are mostly used in motocross tracks and feature both rear and front brakes for better control. They are lighter than freestyle bikes and also contain a large front sprocket which enables the rider to pedal at high speed. These bikes are built for speed and are mostly made of Aluminium.
- **Street Bikes** – These are often used in streets and rails and have metal pegs for grinding on rails. These bikes are stronger and heavier as compared to other BMX bikes with almost no brake and brake cables which enables the rider to spin the bar easily.
- **Flatland bikes** – These bikes are used mostly in flat surfaces and don't include any jumps or ramps. Using this kind of bike, the player performs many tricks on various parts of the bike. A rear brake cable de-tangler is added in order to prevent the tangling of brake cables while rotating the bars.

In order to allow riders to perform stunts while taking those bolts as support, front and rear bolt-on pegs are also added.

Because of the extremeness of the sport, accidents and injuries are pretty common in the game. While racing or trying to pull off a stunt, spills or crashes are very much likely to happen. In order to keep these injuries to minimum BMX riders take many safety measures.

## Safety Equipment

The equipment that are used in BMX for the sake of player's safety and protection are:

- **Helmets** – In order to avoid serious head injuries, helmets are used in BMX. In case of BMX racing, full-face helmets are used for avoiding injuries during collision with other racers.
- **Body armours** – These armours can be kneepads for the player's knee injuries and pain. Similarly shin pads and wrist and elbow pads for arms are also used.
- **Gloves** – As during the race, player's hands get too sweaty, gloves are used for better grip and protection.



- **Shoes** – Specially designed shoes for BMX racing are made for racers which cover their entire feet. The shoes have grooves on their soles to fit properly on the pedals.
- **Pants** – Lightweight Motocross racing pants that are made of nylon or sail clothes are used in BMX. These pants cannot be torn easily.



### 3. BMX – Playing Environment

Different tracks are used for various BMX sports, as different kinds of stunts are to be performed by the participants. In case of **BMX racing**, the competition is performed in motocross tracks filled with jumps and rolling, whereas in case of **freestyle BMX**, it is performed in skate parks, vert ramps, rails, flat surfaces, etc.



#### BMX Racing

In case of BMX racing, the tracks are around 400 meters long with a large starting ramp. In order to make the race more entertaining as well as adventurous, special features are added in the track, which are also a part of the BMX track. Here is a list of those features:

- **Starting Hill** – It is present at the starting of the track and mostly has a gate. It is very much similar to an inclined slope i.e. used to provide the initial speed boost for the riders.
- **Step up** – Step up is defined as an obstacle type in the BMX track which comprises of a short hill followed by a large hill.
- **Berms** – These are the level barriers placed at an angle at turns in order to help racers turn smoothly without applying brakes.
- **Doubles** – It is another type of obstacle where two similar sized hills are placed near to each other.

- **Step down** – It is opposite of the step up. It comprises of a larger hill followed by a shorter hill.
- **Roller** – It is comprised of a group of small hills.
- **Panettone** – It is a flat jump, mainly used for the learning purpose.

## Freestyle BMX

In case of Freestyle BMX, the sport is stunt oriented and based on different disciplines of free style racing. For each race different racing venues are followed. Different types of freestyle BMX tracks are explained below:

**Street** – In Street BMX, the riders usually use public spaces for performing different stunts and tricks. Mostly tricks are performed on handrails, curbs, stairs, ledges, banks etc. The tricks of the riders vary from each other based on their urban surrounding in case of street BMX.



**Park** – These parks often denote skate parks, which are mostly used by different extreme sport players like skateboarders, skaters and BMX riders. These parks are mainly made of wood, concrete, or metal and the style of riding depends on the skate park design style.

Concrete parks are mainly made because of their long durability whereas some prefer wood parks because of low cost materials as well as ease of construction. In case of BMX parks, round steel tubes called coping are used to prevent damages.

**Vert** – Vert rams are very much popular in most of the extreme sports. Here the tricks are performed on a half-pipe which consists of two quarter pipes of height 10 to 15 feet. The quarter pipes face each other in order to do stunts. Steel copings are added on the

vert lips which enable riders to grind on it. A typical run involves moving one side to other side while performing various tricks in the middle.



**Trails** – Trails are made from dirt in which riders have to perform jumps. The rider has to perform steep take off called lip and steep landing which are separated by a gap which can be of 2 feet to 20 feet. The gape of 12 feet is considered as the moderate gap.



## 4. BMX – How to Play?

BMX racing is organized on a ground having jumps and the rider who performs all the jumps successfully and reaches the destination is declared as winner. So no tricks are needed to be performed.

However in case of freestyle BMX, the players perform a lot of tricks while riding the bike. The tricks performed in freestyle BMX are as follows:

### Air Tricks

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Some of the air tricks that are performed by the riders in freestyle BMX while being in air are explained below.

**Tabletop** – In case of this trick, the rider tries to bring the bike to one of his side by turning the handle as well as his body while being in the air. As a result of which the bike looks flat like a table top surface.



**Superman** – Similar to dirt jumping here in this trick, the rider removes his feet from the pedals and extends them to the outward direction while still holding the handles of the bike, which looks like superman flying in air.

**Superman seat grab** – It is very much similar to that of superman where the rider takes his one hand off and grab the seat before grabbing back the bars again while landing.





**Tail whip** – It is a very difficult trick in which a rider throws the bike while still holding the handle bars as a result of which the bike makes a full 360 degree rotation around the steering tube. After the rotation, the biker again stands on the pedals before landing.

**Decade** – In this type of trick, the rider throws himself around the bike while being in the air. After taking a full rotation from the front part of the bike, the rider again lands himself on the pedals before landing.

**Backflip** - Here the bikers try to rotate themselves in back direction while being on the bike. As a result of which, the biker as well as his bike take a 360 degree flip in the air before landing.

**Front flip** – Here the bikers try to flip themselves and make a rotation of 360 degree in the front direction while being in the air before landing again.

**Turndown** – In this trick, the biker whips the bike to one side and then turns the handle bar towards his legs till the point it reaches its legs and cannot be turned further. Then he again brings the handle back to normal position and lands.

**Barspin** – In this trick, the biker spins his handle bars to a full rotation while being in air before re-catching them and landing.

**Truck driver** – It is a combination of flip and barspin where the biker takes a 360 degree turn in the air while spinning the bars one full rotation and catching them again.



**Crank flip** – In this trick, while being in air, the player kicks his pedals in backward direction so that the crank arms spin one full rotation after which the player again places his feet on the pedals before landing.

**Tuck no hander** – Here while being in air, the rider tucks in the handlebar while taking both hands off the handlebar and spreading in air before holding the handles again and landing.

**ET** – In this trick, while in air, the rider pedals one full crank which makes it look like as though he is pedalling normally.

## Flat Land Tricks

Here the riders use flat lands to perform different tricks. These flat lands are nothing but flat, smooth surfaces on which, players perform different tricks by spinning as well as balancing their bikes. Even the bike construction differs in case of flat land BMX as players use different parts of the bike in order to perform tricks.

**Wheelie** – It is one of the basic flatland tricks where the participant rides the bike supporting only on the back wheels whilst pedalling and the front wheels are raised up in the air.

**Endo** – Endo is another basic flatland trick where the rider raises the back wheel up in the air and the whole bike is balanced on the front tyre.

**Pogo** – In case of pogo, the bike's front wheel is raised in upward direction which looks like a pogo stick while the biker stands on the rear wheel and hops on it to maintain balance.



**Manual** – In this trick the rider rides the bike while raising the front wheel up in the air but no pedalling is involved here. In order to get the momentum for performing the trick, riders first ride the bike with great speed and then perform the trick.

**Nose Manual** – It is very much similar to the manual trick. The only difference is that instead of the front wheel, the back wheel is raised in the air whereas the whole support is on the front wheel.

**Bunny hop** – Here the rider jumps his bike into the air from flat ground while both wheels are in the air. This trick can be achieved by first popping up and while in air, the rider need to pull the bike using his handlebars and then in air he need to again rebalance it using his feet on the pedals.

**Dork Manual** – Here the biker needs to stand on one peg of the rear wheel using one foot while other foot in air and perform a manual on the bike while still keeping one foot on the peg and controlling balance.

**Fork Manual** – In case of fork manual, biker puts one of his legs on the front wheel peg while spinning the handlebars around. The bike is balanced on the front wheels.

**Hang-5** – Here the biker performs a nose manual while keeping one of his legs on the front peg other leg dangles around mostly for controlling balance.

**Steamroller** – This is one of the most stylish and difficult trick to perform. In this trick, first the rider stands on the front peg while moving the bike to front using his other foot and hands and then balances on one wheel while holding the body of the bike in one hand and moving at front.



**Footjam** – In this technique, rider jams his foot on the front tyre and stops the bike. After this he balances the bike which is supported on the front tyre while the back tyre remains in air.

**Footjam Tailwhip** – In this trick, the rider jams the leg and kick the bike from the tail to roll 360 degree using one of his legs. After the completion of 360 degrees the rider again has to put his feet on the pedals.



## 5. BMX – Rules

Based on different BMX types, different strategies and tricks are followed. In case of BMX racing, it is a straight forward racing sport where the players have to compete with each other on the motocross track. In case of Freestyle BMX, people have to perform various tricks on different types of surfaces.

**BMX racing** – It's a flat-out racing, where the players have to ride their BMX bikes as fast as possible while maintaining their balance on the race track. Initially the riders start from a high drop inclined slope for the initial speed boost then they need to move through the track which comprises of funky jumps, corners as well as rolling and other obstacles.



Initially eight riders compete with each other in a track which is around 350-400 meters long. The bikers have to move really fast in order to complete the race. The first three players to complete the race are declared winners.

**Freestyle BMX** – In case of freestyle BMX, there is no race involved in this sport. So no race courses or tracks are there in freestyle BMX. Here ramps and different surfaces like trails; rail bars are constructed for the rider to perform tricks and stunts on it.

Each rider gets a certain amount of time to perform different tricks and stunts which is then rated by the judges. Those tricks are mostly pre-planned by the rider. Based on his performance the rider earns points. The rider earning maximum points wins the game.

## 6. BMX – Champions

In case of BMX, many sanctioning bodies are there who act as an intermediary between the governing body and participants. Union Cycliste International (UCI) acts as a governing body in BMX which oversees international cycling events worldwide, whereas USA cycling acts as a national governing body.



UCI organizes two different BMX competitions UCI BMX Supercross World Cup and the UCI BMX World Championships. While BMX Supercross World Cup is a season long competition and is held at numerous locations throughout the year, UCI BMX World Championships are held for three days and are considered as the world championship for BMX.

BMX championships are held all around the world along with Olympics and the participants win the medals and become champions.

We have given below a brief synopsis of some of the champions of BMX and their careers.

## Sam Willoughby

Sam Willoughby is a BMX Cyclist from Australia and is also known as BMX Bandit. In 2012 Summer Olympics, he won a silver medal. He started his career in 2008 where he won Junior BMX Title.

In 2009, he joined the senior brigade and won world championship in 2012. This win made him number one BMX cyclist. He also got Junior Athlete of the Year award in 2012. Currently he educates children about cycling through Happiness Cycle.



## Liam Phillips

Liam Phillips is a BMX Cyclist who represents Great Britain. In 1999, he won European Championship and also took part in 2008 and 2012 Summer Olympics. In 2008 Olympics, he earned seventh position.

He was injured during 2010 UCI BMX World championship and again started training in 2011. He took part in 2012 Olympics but could not win medal due to injury in his collar bone. Before this he won 2012 UCI BMX World Championship.



## Maris Stromberg

Maris Stromberg is a BMX Cyclist from Latvia who was the first champion of the sport in 2008 Summer Olympics in which he completed the race in 36 seconds. Before that, he won UCI BMX World Championship in the same year.

In 2012 Summer Olympics, he again won a gold medal and completed the race in 37 seconds. He started his career in 2001 as a junior participant and won European Youth Challenge in 2001 and European Junior Championship in 2005.





## Donny Robinson

Donny Robinson is a BMX Cyclist from America. He started his career in 2001 and got the first place in local race at Canadian Cycling Association. This was his first professional win.

In the same year, he also won UCI Junior Men and Junior Cruiser championships. In NBL, he won one medal in 2005 and two medals in 2006 whereas in ABA he won one medal each in 2003, 2004, and 2006. He also won many competitions in UCI championships.



## Kyle Bennett

Kyle Bennett was a BMX Cyclist from America. Kyle Bennet started his career in 1997 through NBL and won NBL Christmas Classic. He also took part in 2008 Olympics but could not win any medal.

He was injured several times during various competitions but still he won many. Some of his achievements include NBL 2004 Elite Men's National Championship. His ranking also improved in ABA and he won Grand National Championship. He died in a road accident in 2012.



## Mariana Pajon

Mariana Pajon is a BMX Cyclist from Columbia who has won gold medal in Olympics and BMX World Championship. At the age of five, she won the national title and at the age of nine world title.

In 2012 Summer Olympics, she won a gold medal. She is the second Colombian to win an Olympic medal. She also has won many world championships in junior and senior sections.



## Caroline Buchanan

Caroline Buchanan is a BMX Cyclist from Australia. Besides BMX she also represents Australia in Mountain Biking. She started her career in 2007 where she got coaching from Wade Bootes. She has won 4-X championship in 2009 and 2010 and in 2011 she won silver medal in World Championship.





She could not take part in 2008 Olympics due to her age but took part in 2012 Olympics. Before this she won a round of Supercross. She won UCI World Four Cross Championship in 2013 and now she is waiting for 2016 Olympics.

### **Gabriela Diaz**

Gabriela Diaz is a BMX Cyclist from Argentina. She has won many national championships. Besides this, she has won six Pan American games and five medals in UCI Championships which include three golds, one silver, and one bronze.

Gabriela has also represented Argentina in 2008 Summer Olympics but could not win any medal. In 2012 Olympics, she could not win any medal. In 2007 she took part in Pan American Games and got the first gold for Argentina.



### **Shanaze Reade**

Shanaze Reade is a BMX Cyclist from United Kingdom who started her career in 2002. She is three times winner of UCI Championships. She took part in 2005 UCI Championship but could not succeed due to knee injury.

Shanaze won her first race in the Girls Pro at ABA in 2006. In the same year, she won World Championships held in Brazil. In 2007, she won UCI BMX Championship. She also took part in UCI Track Cycling Championship and won silver medal.



### **Sarah Walker**

Sarah Walker is a BMX Cyclist from New Zealand who is a winner of silver medal in 2012 Summer Olympics. In 2008, she won seven races and came second in one race. She was ranked one by UCI in the same year.

Sarah also took part in 2008 Olympics but could not win any medal. In 2009, she won World Championship in Elite Women and Elite Women Cruiser events. In 2011, she won the World Championship.

