



When thinking about cannabis, most people envision someone smoking. For the majority of human history, however, this was most likely not the case. The use of cannabis for medical purposes goes back millennia and is traditionally used topically and orally. This fact alone speaks volumes to the tradition of ingesting rather than inhaling cannabis for medicinal purposes. An edible is a modern-day extension of ingesting cannabis by mouth, and in this guide, we will explore what edibles are, why they are different from smoking, and the basic tips on how to use them to get maximum relief!

The term "edible" is used to describe ingestible products that have been infused with cannabis. These can come in many different forms but the most popular products today that you might encounter in a dispensary are baked goods (cookies, brownies, and cakes), candy (chocolate, lozenges, and gummies), and liquids (tinctures, sodas, and teas). Cannabinoids such as THC and CBD are found in raw cannabis as THCA and CBDA which means if you were to eat fresh flowers, you would feel next to no effect because the cannabinoids were not "activated". The cannabinoids were not "activated". The "A" in THCA stands for acid because there is a "carboxylic acid"

The "A" in THCA stands for acid because there is a "carboxylic acid" group attached to the THC molecule. What does that mean? To "activate" the THC it must be "decarboxylated" which is a scientific term which means "to remove the acid and leave THC". This is done by heat, which is why smoking works, and it is a critical step in making edibles. Cannabis flowers must be exposed to 200° - 230° for 45min+, before they are infused into anything, or the results will be disappointing at best.



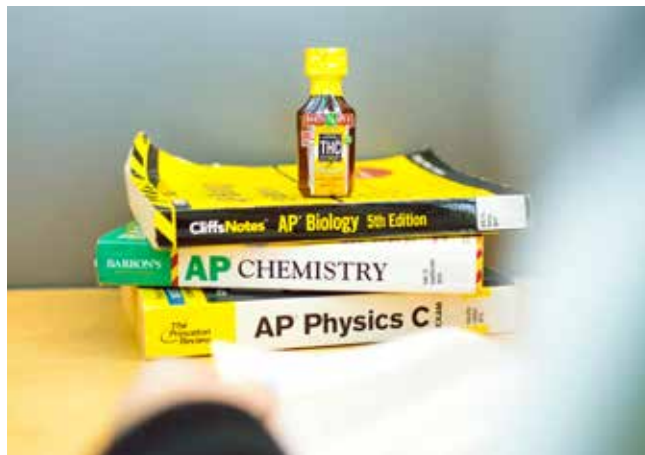
Cannabinoids and terpenes are lipophilic, which is another scientific term that means they "dissolve into fats instead of water." This is why baked goods and tinctures have dominated the edible market in years past. Traditionally, cannabis flowers were left to stew in melted butter until all the lipophilic compounds had been dissolved into the fat. From there they strained out all the plant material and were left with cannabis-infused butter, more commonly known as "cannabutter" which was used in, you guessed it! Baked Goods! For Tinctures, cannabis could be dissolved in other oils such as hemp seed, grape, and olive oil. They could also use alcohol because of its ability to dissolve lipophilic compounds. These techniques of extraction have been around for much of cannabis history, but things have recently changed.

Today, companies use a variety of extraction techniques to produce a substance called distillate. These extractors usually go with one of two materials which are gases (butane and CO2 typically) or alcohol (Pure Ethanol) to extract the activated cannabinoids which are then separated from the substance and leave pure cannabis distillate which is then infused into the products you see today. With the history of edibles and a brief summary of how they are made, we can dive into why ingesting cannabis differs from inhaling in terms of their effects on our minds and bodies.

When cannabis is inhaled, the THC and other cannabinoids are rapidly absorbed by our lungs and then into our blood-stream. From there, they are transported to our brains where they interact with our endocannabinoid system and produce the desired therapeutic effects within minutes. Typically these effects will peak within 30 minutes and last anywhere from 1 - 3+ hours depending on the tolerance of the consumer.



Edibles work in an entirely different way. When you consume THC and other cannabinoids orally, they are absorbed by the stomach instead of the lungs. Like many other medications that are taken orally, the cannabinoids are then processed by the liver where THC is broken down into a new compound called 11-hydroxy-THC which is then circulated into our blood-stream and eventually to the brain. 11-hydroxy-THC crosses the blood-brain barrier (this is our brains "gate-keeper", designed to keep toxins from reaching the brain) more effectively and binds to CB1 receptors more efficiently which results in psychoactive and therapeutic effects that are 3 - 5X stronger than THC. Because of all the steps required for this process to take place, edibles can take anywhere from 45 minutes to 2 hours to take effect depending on the consumer. These effects will typically peak 2 - 4 hours after consumption and can last as long as 8 hours. Factors such as weight, metabolism, and eating habits also contribute to how soon and for how long someone will feel intoxicated following oral ingestion.



These two "routes of administration" or ways to consume cannabis represent the extremes in terms of consuming cannabis. Inhalation offers immediate relief but comes with a short duration of effects and can be difficult for new patients to dose accurately. Ingesting, on the opposite end of the spectrum, provides long-lasting effects but they take much longer to kick in. Ingesting is also an easy way for new patients to get an accurate and reliable dose. In between these two extremes comes sublingual administration, which means "under the tongue", and consumers usually use tinctures and syrups to dose themselves. In this route of administration, THC is absorbed rapidly and appears in the blood within 15 minutes of a single sublingual dose. Peak effects are reached anywhere from 45 min to 2 hrs after a dose is consumed and can last anywhere from 4 - 6 hours. This provides a delicate balance between immediate effects and long lasting relief.

There are no reports of individuals dying from cannabis alone. However, some people who use cannabis can feel some very uncomfortable side effects, especially when using cannabis products with high levels of THC. People have reported symptoms such as anxiety, paranoia, and in rare cases, an extreme psychotic reaction which can include delusions and hallucinations. While a psychotic reaction can occur following any method of use, emergency room responders have seen an increasing number of cases involving cannabis edibles. Some people who know very little about edibles don't realize that it takes longer for the body to feel cannabis's effects when eaten rather than smoked. So they consume more of the edible, trying to get relief faster or thinking they haven't taken enough.

To avoid overconsumption, it is essential to "know your dose" (link podcast). The best advice here can be summarized by the following phrase, "Go low and slow". This will allow you to gradually build confidence in using cannabis and help to mitigate any unwanted side effects. The challenge of dosing is complicated by the high degree of variability observed in individual responses to ingested THC. Clinical studies show that for ingested THC, 2.5 mg is enough to produce recognizable effects in some users, while for others, higher doses are necessary—in some cases exceeding 100mg. Because of this variability, finding an exact equivalent between a given dose of THC contained in smoked



cannabis and a dose of THC contained in an edible is extremely difficult. Below is a guide on differing dosages and their perceived effects that aims to provide a general rule of thumb for consumption

Please note we are not doctors, this information is for educational purposes only.

1 - 5mg: This is the dosing range for new consumers of cannabis and for those looking to microdose. New consumers should start with 2.5mg and evaluate what effects this brings. If it is too much, then go down by 0.5mg until you reach your desired outcome. If 2.5mg does not produce desired results, then go up by 2.5mg until those effects are obtained. Those looking to microdose should start with 1/10th of their regular dose. If a consumer typically uses 25mg for pain or sleep, then they would begin with 2.5mg for microdosing during the day. The goal is to provide some relief with minimal or no psychoactivity.

5 - 15mg: This is the dosing range that most cannabis consumers fall into with most using 10mg. This is a good range for people who are familiar with cannabis which do not use it regularly. The effects are typically active meaning the consumer can be social and participate in regular activities with noticeable psychoactive effects. In this dosing range, consumers can start to experience physical effects such as muscle relaxation, tingling, and numbness.

15 - 25mg: This is the dosing range for experienced cannabis consumers who consume cannabis regularly. The psychoactive effects can be very apparent to the consumer and can start to become overwhelming for those who are unprepared. The physical effects can become more intense and result in the consumer finding movement difficult.



25+mg: This is the dosing range for the most experienced cannabis consumers who use cannabis daily. The psychoactive effects can be powerful and lead to extreme euphoria or sedation. This is also where strong adverse side effects such as anxiety and paranoia, can take place for the inexperienced consumer. Strong physical effects take place where consumers can feel "couch-locked" into place.

**These dosage ranges loosely apply to sublingual administration as well. Consumers will want to dial their initial dose back the first time to adjust for increased absorption.*

There are a few things to consider that may alter your cannabis experience. The first is to think about is the dose you took. Many studies have been done with THC demonstrating its biphasic properties, which means at one dose it might have one effect (relieves stress) but one larger can cause the opposite (increased feelings of stress). The most common side effect of taking too large of a dose is anxiety. The second aspect to consider is whether or not you took the dose with food. This can happen a few different ways such as taking it on an empty stomach (can cause your dose to be absorbed faster with a more intense onset) or with a meal rich in fat (THC binds to fat so this can cause you to absorb more THC than usual). The last thing but



probably the most important, is set and setting. If you take your regular dose outside of your normal routine, it can cause a completely different experience. An example would be taking a daily dose at night to unwind and relax for the evening. Often times, consumers will take that same dose in a different setting or with a different mindset and find that they become uncomfortable. This is because the

consumer is in a new environment with a different perspective and becomes more aware of the psychoactive effects than they are at night in the comfort of their own home.

At one point or another, every cannabis consumer will have a negative experience on cannabis where the adverse side effects we discussed earlier can take hold of you. Don't worry, no one in recorded history has died solely from the consumption of cannabis. If this does happen to you, there are a few things that may help. The first thing to try is going to sleep. Laying down, closing your eyes, and take long deep breaths will activate your parasympathetic nervous system which calms your body and mind, allowing you to rest. Another variation of this is watching a funny movie, one that makes you feel good, or one that has a secure and positive emotional connection for you. There are anecdotal reports of people using black pepper ([link pinene article](#)) and lemon zest ([link limonene article](#)) to decrease anxiety from cannabis. Also, a large amount of CBD can counteract some of the effects of THC. Doses of 100mg+ of CBD are ideal and less may actually increase the psychoactivity. If you feel you are having trouble breathing or heart-related problems, you should seek medical attention.



The cannabis experience is incredibly unique to every individual. For this reason, Baked Bros™ goes above and beyond to ensure our products are accurately tested, labeled, and packaged so our consumers can get consistent relief. Additionally, we do everything we can to provide accurate and actionable education to our patients to help them through the trial and error process, which is my goal for this guide. Remember to go low and slow, its part of knowing your dose.