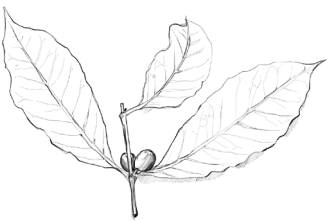
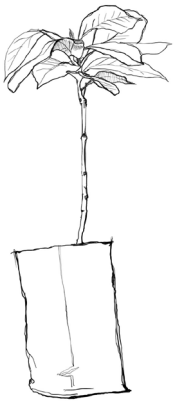


brewing coffee

an illustrated booklet on how to brew coffee at home

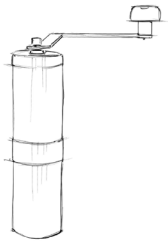
Almost everyone likes drinking coffee.
So much so that it has become one of our daily rituals. We drink it at home or outside, in the morning, or after lunches and dinners. We drink coffee almost every hour of the day. Sometimes when something has become so commonplace, we stop paying attention. The beautiful thing about coffee is that it is far more complex than it would seem at first glance: an ever-changing natural product - acting and reacting to how it is handled and treated. This fascinating fruit is not only very climate-sensitive, but it also goes through many different steps before it arrives as a ready-to-drink beverage in the cup. Each of these factors has a significant impact on the final taste. I have been working to better understand this complex and fascinating beverage for over 20 years. I am still learning – and enjoying this eternal process...

Nora



The purpose of this collection
of coffee extraction methods
is to provide useful tips on how to facilitate
and improve your taste experience
for yourself and your guests.


0:25
TIMER
STOP

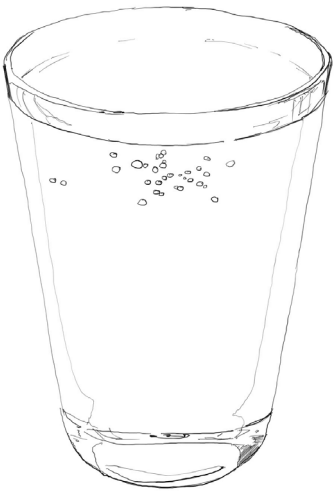



0000 00

**good tools are important,
but it's even more important to use
your tools in the right way.
it is up to you to decide
how deep you want to dive
into the art of coffee preparation
and how much you want to invest
in accessories
for your brewing equipment.**

For best results it's a good idea to use a scale to confirm that you're measuring out the coffee grounds and water precisely - at least until you've developed an eye and are used to replicating your steps exactly. The same is true for time management: a timer will help you to gauge the time needed to completely extract the solubles which are relevant to the taste experience.

...totally transparent and so totally common, water is the biggest part of any coffee beverage and has a major impact on the flavour.



changing from tap water to filtered water is one of the easiest ways to improve both the sensorial quality of your coffee as well as maintain the condition of your equipment.

The ideal water for coffee should be clean, soft and free of chlorine. Hard water has a higher concentration of minerals, which can negatively affect the taste of your coffee.
To find out the quality of your home tap water, you can purchase a water testing kit or request an evaluation from your local water provider. If using bottled water, check the label and try and use water with a minerality content with TDS in the range of 100-200 mg/l. Alternatively you can invest in a simple home water filter carafe or install a water filtration kit on your water line. You might also want to use a reverse osmosis machine.

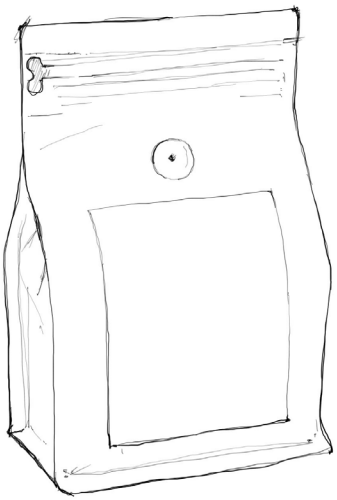
Recommended values:

Chlorine	0 mg
Total alkalinity	ca. 40 mg
PH	7 = neutral
Sodium	5-10 mg
Calcium	30-80 mg
TDS	100-200 mg

a coffee beverage consists
of just two ingredients: water and coffee.
so simple yet at the same time a complex
and exciting framework with unlimited
possibilities.

You need water to be able to extract all the aroma, taste and flavour components from ground coffee. The kind of beans determines the taste of your coffee. This means that it is essential to use the right beans to achieve the flavour which you desire in your coffee. The best craft coffees start with specialty grade coffee beans.

your end product will only be as good as the quality of your initial two ingredients.



Aroma and taste are the relevant factors determining coffee preference.
The manner of roasting impacts the aroma and flavour profile.
Lighter roasts preserve the herb and fruit notes.
The more darkly a coffee is roasted the more acidity is reduced and partially smoky and burnt aromas increased.

As soon as green coffee is roasted the life span of the coffee beans is limited. To ensure your taste experience and joy in brewing, try to buy smaller amounts of freshly roasted coffee more frequently.
Depending on the roast style, coffee has different peaks of the full expression of taste, flavour and tactile intensity and quality. When buying coffee check the indications on the coffee packaging to discover lots of useful facts about the product inside.

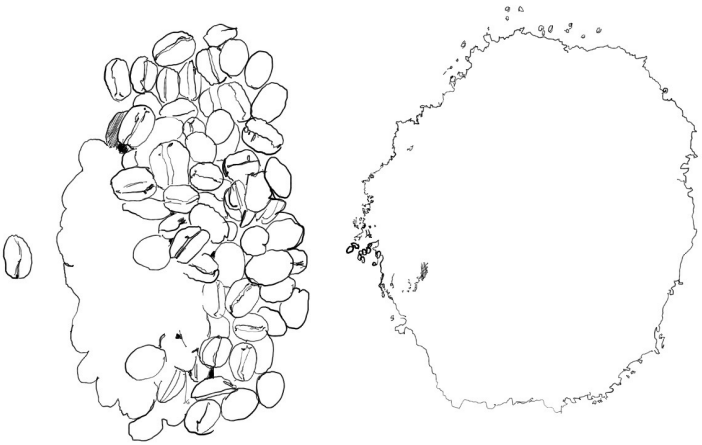
Origin related information:
country I farm I variety I altitude I processing I harvest
Flavour profile based on origin

Roaster related information:
Roast date
Roast style
Flavour profile based on roasters interpretation
evtl. brew recommendation

the greatest enemies of roasted coffee are air, moisture, heat and light.

To keep your coffee beans fresh for as long as possible, store them in an air-tight and opaque containers at room temperature. This is even more important if you are buying pre-ground coffee as taste and flavours will drastically break down with exposure to oxygen. If you have a grinder at home, try grinding your beans immediately before brewing.

Another way to preserve the flavours of roasted coffee is to freeze single-use portions in airtight or vacuum-packed containers which should be equivalent to the dose of coffee which you want to use. The portions can be ground from frozen. In this way you can lock in the taste and flavours of your coffee for about a year without changing your brewing process.



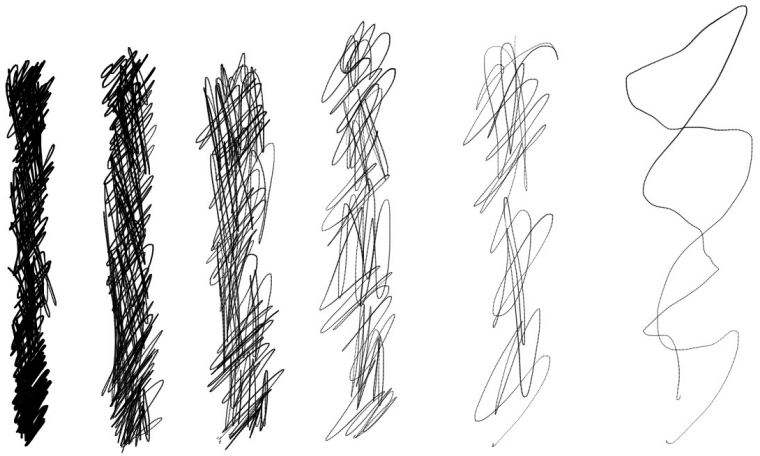
Grinding the coffee beans increases the number of cells water can access so that it can free all solubles throughout the entire bean structure.
Grinding coffee beans, or one might say breaking the bean structure, is a unique procedure used to permit water to get to all of the inner cells of the bean.
The finer you grind your beans, the exponentially higher the total number of cells that water can come into contact with. Therefore, the grind size should always correspond with the chosen brewing method.

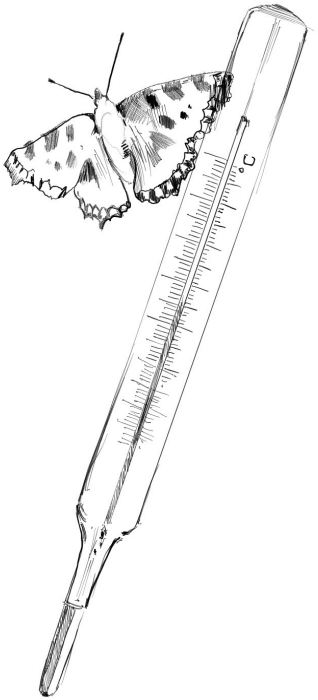
In the early stage of a brew, the acidic-tasting compounds are extracted. This is immediately followed by the desired sweet compounds. The bitter compounds come at the last stage of the extraction. A balanced cup should be a harmony between sweetness, bitterness and acidity.

grind size

ibrik coffee
espresso
filter
french press

almost powdery
fine
medium coarse
coarse





You should adjust your temperature based on the coffee which you are using: you can brew lighter roasts at a higher temperature to speed up the extraction process - on the other hand you can do the opposite for darker roasts to minimize bitter flavors and prevent over-extraction.

you can use temperature to influence the taste experience of coffee. the higher the temperature, the more is extracted.

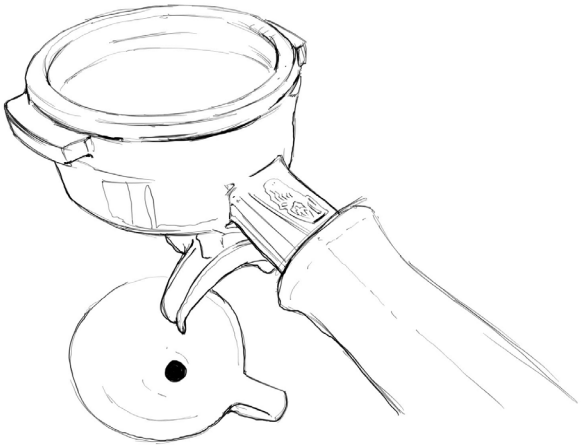
coffee should be extracted in a temperature range of between 88 - 96 degrees celsius. the amazing thing is that this range works across almost all brewing methods.

Coffee contains over 850 aroma and flavour compounds. To extract all of these we need at least two components: energy (heat) and time.
Temperature, time and the brewing method are the parameters you can play with to manipulate the final taste in the cup. Water temperature affects the rate of extraction of the substances which are dissolved from the cell structure of the coffee bean into the cup. The higher the temperature you apply, the quicker you extract components like oils, acids and caffeine. If your water temperature is to too low, it can result in a lack of body and a sour taste as all components of the cell structure weren't extracted.

The more energy (heat) you use, the less time it takes to extract the soluble flavour components of a coffee.

espresso is a brewing method as well as the name of the beverage. you can use any style of roast to brew espresso - it depends on your personal preferences.
as the beverage is so tiny and complex, it takes some practice.

thick like honey in the beginning, pouring steadily with just a little blonding at the end. the extraction of espresso should look like a golden ribbon of syrup.



1. Wipe the basket of your portafilter dry and clean with a cloth
2. Grind your coffee into the portafilter - choose the dose based on the size of the filter basket used - the dose should be +/-1g respective to the size of the filter basket size
3. Evenly distribute your coffee by gently tapping it on a surface or use your finger to level it
4. Take a tamper which corresponds to the diameter of your basket and level the coffee smooth
5. Once you have evened out the coffee, compress / tamp it with a firm push to create an even and solid coffee puck
6. Flush the group head of your espresso machine and dry the cup tray with a dry cloth to avoid water residue on the bottom of the cups
7. Insert and immediately start brewing the coffee
8. Place preheated cup(s) on the cup tray
9. The coffee should start to come out from the spouts after 5-8 seconds
10. Aim for a 1:2 ratio of coffee to water in approx 25-30 seconds
11. Stir or swirl the espresso to blend the coffee within the cup and enjoy.

*Make sure to clean the portafilter after the extraction, rinse the spouts under the hot water from the group head while flushing it.

You can use a scale to approach the brewing based on the brew ratio and a timer to measure the total extraction time. The extraction time always starts when you have enabled the pump of your espresso machine, even when the coffee starts to drip out of the spouts with a delay.

the high-pressure method
requires some work
but once you understand the correlation
between all the parameters,
the results are a lot of fun.

as every parameter has an impact on the extraction, it is recommended to change just one parameter at a time, so that you can understand how each change impacts your espresso. after each change, observe the flow during the extraction and taste the result in the cup.

under-extracted — weak / sour / watery / flat

- grind size might be too coarse
- dose could be too low
- temperature of the coffee boiler is too low
- beans are too lightly roasted or old

optimal extraction — balanced / harmonious / sweet

over-extracted — bitter / harsh / strong

- grind size might be too fine
- dose could be too high
- temperature of the coffee boiler is too high
- machine could be dirty
- beans are roasted too dark

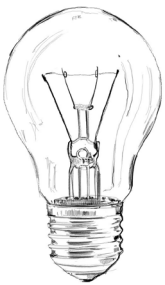
ratios of the classics

ristretto	1:1 - 1:1.5
espresso	1:2 - 1:1.25
lungo	1:1.25 - 1:4

experiment, fine-tune, taste and enjoy the process until you find your very own perfect routine.

The crema on the espresso is a result of the extraction under high pressure and is at the same time a meaningful indicator of the freshness of the coffee used. Carbon dioxide, a gas resulting from the process of roasting the beans, is dissolved during the extraction at high pressure. The darker a coffee is roasted the more carbon dioxide is in the coffee beans, which results in more crema. This is also true when you extract super freshly roasted coffee. Very lightly roasted coffees result in less crema with a lighter color. This doesn't necessarily mean that they are not good - it is simply a matter of personal taste.
The crema contains many bitter components, so it is recommended to stir the crema into the liquid part of the espresso before you drink it.

in the 1930s, aspects of futurism and italian rationalism created the perfect foundation for an invention that brought the two materials coffee and aluminum together in a way that would have an effect on almost every italian home! in 1933, alfonso bialetti designed the first stovetop espresso coffee maker - the moka express, inspired by the laundry methods used by his wife.



The stovetop espresso maker or Moka pot uses basic physics to achieve a brewed cup of coffee. It consists of three chambers: one for water, one for the ground coffee and one for the extracted coffee.
When the Moka pot is placed on the stove, the water heats up and generates steam.
This increases the pressure in the bottom chamber and pushes the water up through the ground coffee and into the top chamber from which it is ready to be poured.
The pressure that builds up reaches 1.5 bars.

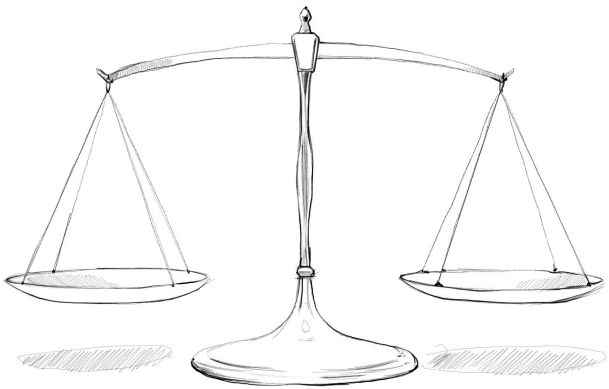
medium coarse coffee
+ hot water

moka pot

1. Start to heat your water
2. Measure your coffee beans - you can use the Moka filter funnel as a measuring tool
3. Grind your beans (slightly coarser than granulated sugar)
4. Once your water is hot fill the base chamber of your Moka to a level just below the valve
5. Put your ground coffee loosely into the filter funnel without pushing it, you can level the surface
6. Place the filter in the bottom pot and screw on the top part use a cloth as the bottom part is already very hot
7. Place your Moka pot on a heat source with moderate heat and leave the lid open to observe the extraction
8. Remove the Moka pot from the heat once the coffee starts to bubble and becomes pale in color
9. You can cool the bottom part of the Moka pot with a wet cloth or decant your coffee
10. Before serving stir your coffee with a stirring utensil

brewing filter coffee can be divided into 2 main categories:
immersion brewing
in which ground coffee is immersed in water for extraction and
pour over
which uses gravity to draw the water through the coffee bed and filter into a vessel

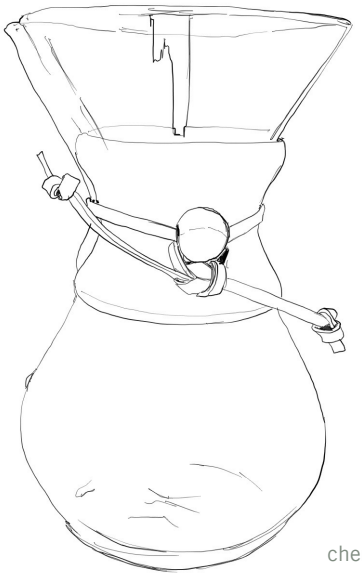
In general pour over is a more hands-on approach. It requires the management of more variables including the flow of water, the volume of pours, the number of pours, and so on...



the golden cup standard defined by the specialty coffee association recommends a coffee to water ratio of 55g/L +/-10%

Before you start brewing, try to follow some initial parameters and ratios. Once you've tasted your results, you can start to think about potential ways of optimization.
As there is not just one type of coffee, there is no universal recipe. Neither is there just one perception of taste and flavors.
It takes time to find "your" personal coffee favorites, because there are simply so many different possibilities to choose from. It is like making friends, you may meet many people in your life but you only allow a few you into your inner circle. It takes time to learn how to navigate new encounters, the same can be said for making coffee. Opening a new bag of coffee is like meeting a new person. Treating your coffee right will allow you to experience the full breadth of its personality with its specific and unique character traits.

the bloom is the phase of "preinfusion", in which the coffee cells soak in the first drops of water and allow the coffee to de-gas



chemex

brewing & serving

The Chemex coffeemaker was invented in 1941 by the chemist Dr. Peter Schlumbohm. He decided to use simple folded chemistry paper as filter device. When designing the Chemex Brewer, Schlumbohm aimed to not only create the perfect brewing method for easily making coffee, but also to have the vessel itself be an aesthetic pleasing object from which to serve coffee.

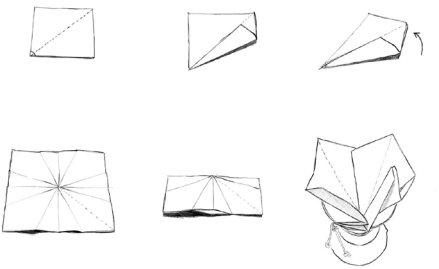
The Chemex has become a design icon, even appearing in the permanent exhibition of MOMA in New York among other places.

25g of medium coarse coffee
400g of water / 94 degrees celsius
03:30 min brewing time

1. If you're using the classic folding method, fold the filter paper and put it into your Chemex with the thicker side (three layers) toward the spout.
2. Rinse the paper filter with hot water and preheat your Chemex at thesame time - then discard all the water
3. Grind 25g of coffee and place it in the filter.
4. Gently shake the Chemex to level the grounds into a flat bed
5. Start your timer. Pouring in a circular motion, add as much water as needed to prewet all the coffee and let it "bloom" for 30s
6. Pour more water in a circular motion until you reach 200g on your scale
7. Slowly pour more water. While pouring, try to keep the water level consistent. Pour with a center pour until you have reached 400g on the scale.
8. Once all the coffee has dripped through at around 3.30 min remove the filter paper, swirl your coffee in the carafe and enjoy

classic
folding technique

"origami"
folding technique



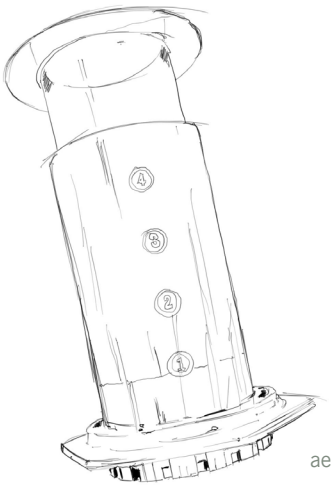
V60 dripper

The V60 Dripper gets its name from the 60-degree angle created by the shape of the cone.
The Hario company, founded in Japan in 1921, invented the V60 in the 1950s. In 2004 the design was revised; the signature ribs that lift the paper filter off the sides were added and the hole was enlarged. Both features provide a faster flow and more clarity in the cup. V60 is a pour-over method, which means water passes through the ground coffee bed through gravity. Coffees brewed in a V60 dripper result in a very clear, bright and elegant cup profile.

15g of medium coarse coffee
250g of water / 93 degrees celsius
02:30 min total brew time

1. Place the paperfilter in your dripper and prewet it with hot water / at same time preheat your brewing device. After pour away the rinsing water
2. Grind your pre-weighed coffee and add the coffee grounds into your V60 dripper, ensuring they are evenly spread out.
3. Start your timer and pour as much water as needed to prewet all coffee grounds and let it bloom for 30s
4. Slowly pour more water, using a circular motion, avoiding the edges where the grounds meet the paper. Stop pouring when the scale shows 250g - the whole process of pouring should finish around 1.40 minutes.
5. The extraction should end at approx. 2.30
6. Swirl the coffee in your carafe and enjoy

flexible choice: you can brew a filter-style cup or a strong concentrated coffee which can be diluted with hot water.



aeropress

The Aeropress manual brewer was invented by Alan Adler with the initial idea of creating a brewer which was easy to use, portable and also provided more control over the brewing process. At the same time he aimed to create a brewing method, which reduced acidity and bitterness. The Aeropress was first launched in 2005 and is made of 100% BPA-free plastic.

Mr. Adler is the founder of Aerobie, a company known for the invention of the Frisbee. The brewer works like a big syringe. It has a main tube, an open cylinder, into which you insert a plunger ending in a rubber seal, thereby closing the brew chamber from one side. You can brew with it in the classic way or up side down - in the inverted way.

18g of coffee medium coarse
215g of water / 93 degrees celsius
02:30 min brewing time

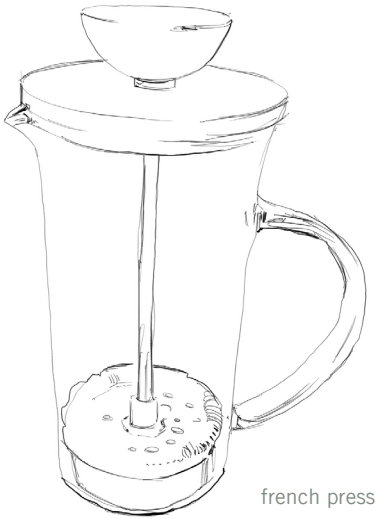
inverted Aeropress / plunger at the bottom

1. Heat your water to 94 degrees Celsius
2. Insert the filter into the holder and prewet it with hot water
3. Weigh out 18 grams coffee
4. Grind your coffee medium-fine (roughly the size of granulated table salt)
5. Add the ground coffee into the AeroPress and level the coffee bed.
6. Start your timer and pour 100g of water into the Aeropress
7. Stir 4 times
8. Add the remaining 115g of water and screw on the filter holder
9. Push down gently on your Aeropress
10. Wait until 2.00 min, flip the Aeropress onto a pitcher/server and press it down gently until you hear a hissing sound. Total brew time should be around 2:30 min

flexible choice: you can brew in the classic or inverted way

The first design for this style of brewer was patented in 1852 by the Frenchmen Mayer and Delforge. It did not create a seal inside the carafe so it was essentially different from the one we see today. The first patent of a French press that is similar to what we use today was patented by the Italians Attilio Calimani and Giulio Moneta in 1929. The most popular design was filed by the Swissman Faliero Bondanini in 1958. This brewer was well known in France, where it was manufactured, as a “Chambord”. The popularity of the Chambord in France is also what gave the cafetière its French identity.
A French press makes coffee in a very simple way by immersing ground coffee in hot water and then separating the grounds from the coffee by pressing down a metal mesh filter which is installed in the lid.

Because there is no paper filter used in a French press, more of the oils and fine particles pass through the metal mesh when pushing down the plunger. This gives the coffee a thicker body and presents the coffee in a “non-filtered” facet.
However this method is sensitive to over-extraction if the coffee is ground too fine or if the coffee is steeped for far too long.



french press

30g of coarse ground coffee
500g of water / 94 degrees celsius
04:30 min total brewing time

1. Preheat your French press with hot water and discard it after
2. Coarsely grind 30g of coffee
3. Start the timer and pour the water at a temperature of 94 degrees Celsius
4. Stir your coffee to make sure all particles are wet
5. After four minutes break the crust with a spoon and clean the floating coffee layer with two spoons
6. Insert the filter and press is down gently - if there is too much resistance, your coffee might be ground too fine
7. Let the coffee rest for a couple of minutes before serving

clever dripper

The Clever Dripper follows the full immersion brewing method, producing an extremely rich bodied coffee, in a very easy way.
The Clever Dripper only dispenses liquids when it is placed on top of a cup - if you lift it up, it stops dispensing. There is a locking mechanism in the bottom, which keeps liquids locked until it is pushed up.
Appering for first time in early 2000 and it is a fusion between an immersion and pour over method.
This method showcases the best of each of these two extractions: the clarity of a pour over coffee and the body and texture of a french press.

if you leave the bottom valve open the clever dripper becomes a pour over dripper

20g of medium coarse coffee
300g of water / 94 degrees celsius
05:00 min total brewing time

1. Place and position position the paper filter in your Clever Dripper
2. Place it over a brewer and rinse it with water (discard the water after)
3. Grind 20g of medium-coarse coffee
4. Start your timer and pour 300g of water at 94 degrees Celsius - no specific pouring technique is needed
5. Cover the dripper with the lid and let it steep for 2 min
6. At 2 min break the crust and give it a gentle stir
7. Cover it again and wait until your timer reaches 4 min
8. Place the clever dripper on your preheated server and let the coffee drain
9. The coffee should be finished at around +/- 5 min

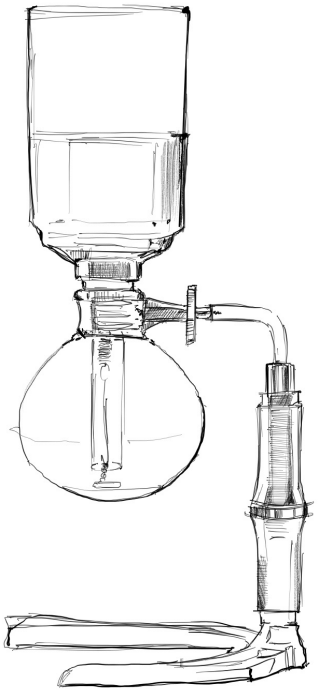
An ibrik or cezve is a small metal vessel used for brewing and serving Turkish-style coffee. It was invented in the late 16th century.
The ibrik generally consists of a long-handled copper or brass pot with a wide base and a tapered neck. The anatomy of an ibrik allows for a larger surface area for heating. Traditionally ibrik coffee is enjoyed in a small demitasse cup, but you can use also traditional espresso cups.

cezve / ibrik

Traditionally the ibrik is prepared on hot sand or on the stovetop or on a small burner. The coffee is heated in hot water until the aroma can fully develop.
This is in stark contrast to most brewing methods which use some type of filter. As the coffee is prepared and served unfiltered, the flavours are very intense.
Never stir a cezve once it is served as all the fine ground coffee is on the bottom of the cup. If you prefer your ibrik sweetened, you should add sugar while you extract the coffee. However the modern way of preparing ibrik is done by using specialty coffee without any additives to underline the character of the coffee.

1: 10 ratio of coffee to water
18g of powdery fine coffee
215g of water / 60 degrees celsius
02:00 - 02:30 min brewing time

1. Weigh out 7 grams of coffee
2. Grind your coffee very finely, like white flour
3. Add the ground coffee into your cezve/ibrik
4. Slowly pour 70gr of filtered water at 60°C into the pot.
5. Stir the coffee-water mixture well with a wooden paddle to avoid potential clumps.
6. Place the coffee pot over the heat source, adjust the heat source to obtain an optimal brew time.
7. Total brew time should be around 2-2½ min. Watch carefully: when the foam begins to rise towards the rim - and before the coffee boils - remove it from the heat
8. Hold the cup at an angle, pour the brew slowly into the cup, so the ibrik is totally empty - you should have a crema like layer on the top
9. Allow the coffee to settle and wait approx 2 minutes before drinking



siphon

the eye candy of brewing

Vac pot, siphon or syphon coffee maker was invented by Loeff of Berlin in the 1830s.
The principle of a vacuum coffee maker is to heat water in the lower vessel of the brewer until expansion forces the contents through a narrow tube into an upper vessel where you insert the coffee grounds. After the steeping time, the heat is removed and the resulting vacuum will draw the brewed coffee through a strainer back into the lower chamber from which it can be decanted after the upper part is removed.

20g of medium-coarse coffee
300 g of water / 95 degrees celsius
01.30 min steeping time
02:30 min total brewing time

1. Place your paper filter in the paperfilterholder and install it into the upper part of the siphon (you can also use a metal or cloth filter)
2. Rinse it with hot water
3. Pour your hot water into the bottom part of the siphon (in this way you speed up the percolation process)
4. Place the funnel into the bottom vessel with the chamber on a slant but without sealing it and start to heat on full power
5. Once the water starts to boil, attach the funnel to the bottom chamber and make sure they are put together “tightly”.
6. Grind your coffee
7. Wait until the brew upper chamber is filled with water (there is always a tiny bit left in the bowl)
8. Start your timer and add the coffee, reduce the heat so as to maintain the vacuum. Stir the coffee gently 3 times to ensure that all the coffee comes into contact with the water
9. Let it steep for 90 seconds
10. Switch off the heat source and stir the coffee 4 times to facilitate the extraction/vortex effect
11. You can cool the bottom part with a wet cloth
12. As soon as all the coffee is extracted decant it in a server/carafe

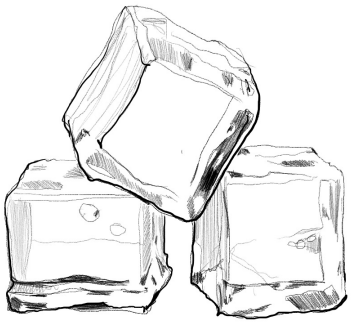
Coldbrew is often called Kyoto-style coffee due to its its popularity in Kyoto, Japan, which has the earliest record of cold-brew coffee.The Japanese were already extracting tea at room temperature and began brewing coffee this way in the 16th century. Even if the origin of coldbrew coffee is a bit foggy, in a larger sense, one could consider the origin of cold brew as an evolution of the general practice of creating a coffee concentrate, which could be stored over a longer time period.
Coldbrew is not only used for cold coffee beverages. It can be also enjoyed as a hot beverage diluted with hot water or milk.

coldbrew

the advantage of a lengthy extraction at room temperature is that you can preserve all the flavors and can maintain them over a long period of time

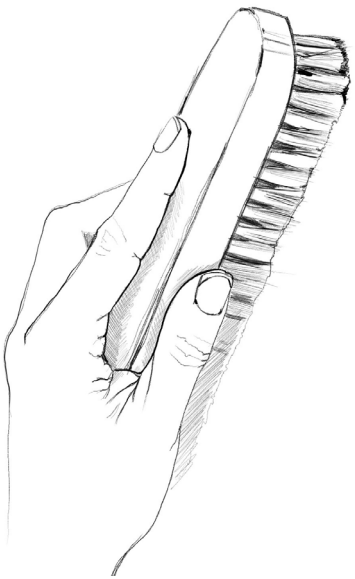
1:4 ratio of coffee to water
250g of medium-coarse coffee
1liter of water at room temperature
6 hours steeping time

1. Grind your coffee based on the given ratio
2. Put the ground coffee in a pitcher/container
3. Add 1 liter of filtered water at room temperature
4. Stir it, cover it and let it steep for six hours at room temperature
5. To strain it, place a coffee filter into a small fine-mesh sieve or drape a cloth over the sieve and pour the concentrate through it
6. If you want a clearer result, you can filter it several times
7. Store in the fridge
8. Serve it or pure or with milk on the rocks or diluted with water as a “filterlike” coldbrew



cleanliness is crucial for coffee

It doesn't matter how you brew your coffee, cleanliness is essential for taste. Coffee consists of oils, tiny particles and other solubles, which over time can build up and give a bitter, metallic and ashy taste to your coffee. Keep all your equipment tidy and clean it regularly. Not only will you enjoy your brew equipment for longer, but your coffee will also taste better. This is not just meant for the visible parts, but also for the invisible parts, the inner working. Don't forget to regularly check the status of your water filtration system to prevent the build-up of limescale and gypsum.



most people throw away the grounds left behind after brewing coffee. however, there are many great ways to reuse them.

Used coffee grounds can be repurposed as a natural fertilizer for plants, which need a slightly acidic or acidic soil. Plants also benefit from the nutritional influx provided by the coffee grounds. This also works for mushrooms.

At the same time coffee grounds are very effective at repelling insects; they are considered a natural pesticide and are often used in this way for organic cultivation.

Used coffee grounds can be used as a peeling and revitalizing ingredient for production of soaps and creams.

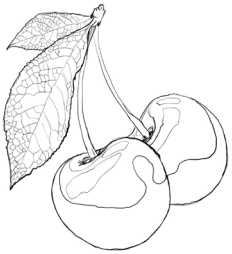
Used coffee grounds neutralize odors: You can even keep coffee grounds by the sink and use them to scrub your hands after chopping garlic or onions.

Used coffee grounds have a very coarse texture which makes them ideal for scrubbing hard-to-clean kitchen equipment.

Used coffee grounds can be used to reduce the appearance of cellulite - mixed with water or coconut oil and applied as a scrub, the caffeine breaks down the fat and increases the blood flow.

infinite possibilities

Practice makes perfect, so don't be discouraged if it takes you some time to craft a cup you're proud of. Don't be afraid to get creative and experiment with each new brew. Write down or record your methods and measurements, so you'll know exactly what to tweak to get different results with any given coffee.
Furthermore this will help you to be able to distinguish qualities in coffee.



coffee and coffee extraction is an
ever-changing matter, so enjoy it.

brew
taste
evaluate
adjust
experiment
memorize
reflect
improve
and
smile

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la marzocco

handmade in florence

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DEL CAFFÈ ESPRESSO