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A New Barista's Guide to Making the Perfect Hot 16 oz Double Latte

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Purpose:

This guide will teach you how to make a hot 16 oz double latte at La Prima's CMU locations. Making a latte will teach you how to use an espresso machine for the first time. In four steps, you will learn how to make a latte that satisfies La Prima's commitment to traditional Italian coffee-making. Reviewing this guide regularly will improve your process.

Scope:

This guide is meant for new baristas working at the Gates and Wean locations on CMU's campus. Other La Prima locations do things a little differently, so be sure to ask your supervisor if you work at Oakland, the AC, or the Strip.

Procedure:

1. Preparing the cup:

Whoever is working the register will take customers' orders and write them down on a cup in the form of a short-hand cup code. They will place this cup on the drink counter.

Each drink on our menu has a unique cup code. The cup code will also include modifications to the customer's drink, such as syrups, decaf espresso, and milk substitutes. You can find a guide to cup codes on top of the pastry cart.

1. We use a first-in, first-out method when processing orders. That means we fulfill the orders in the order that we get them. Typically, this means you need to grab the cup nearest to you on the drink counter first.
2. Read the cup code to figure out what drink to make as well as any modifications it might have. If it is a paper cup, make a hot drink. If it is a plastic cup, make an iced drink. Some examples:
 - a. A hot 16 oz double latte with whole milk would be written as 2L on a 16 oz paper cup.
 - b. An iced 20 oz double latte with oat milk and vanilla syrup would be written as 2Loatv on a 20 oz plastic cup.
3. Read the cup code to determine if the customer wants any syrups in their drink. The number of pumps you add depends on the type of syrup and the size of the drink. If the customer requests a specific amount of syrup, the person on register will specify the number of pumps on the cup.
 - a. Be consistent when pumping the syrup bottle. Push the pump all the way down each time you pump. Replace the bottle when it is nearing empty or it will pump inconsistently.

Default number of pumps of syrup per drink size:

8 oz drink	12 oz drink	16 oz drink	20 oz iced drink
1 pump	2 pumps	3 pumps	4 pumps

Default number of pumps of chai per drink size:

8 oz drink	12 oz drink	16 oz drink	20 oz iced drink
3.5 pump	4 pumps	5 pumps	6 pumps

2. Preparing the espresso:

On your first day, your supervisor will show you each part of the espresso machine: the buttons, portafilters, group heads, and steam wands. When you press the single or double espresso button, hot water pours out of the espresso machine, through the puck of ground beans in your portafilter, and comes out as espresso.

Expensive espresso machines use high water pressure to extract flavor and caffeine. This high pressure tops your shot of espresso with cream (or “crema” in Italian). “Crema” is a mixture of sugar, coffee oils, and carbon dioxide.

To make an Italian-style double latte, first pour two shots of espresso into a 16 oz cup, then fill the rest with steamed milk. We call pouring a shot of espresso “pulling a shot.” Here’s how:

1. Remove a double shot portafilter from the espresso machine. A double shot portafilter has two spouts and a deeper basket than a single shot portafilter. If the portafilter is dirty, clean it with the rag on top of the espresso grinder.
2. For a double latte, put your portafilter under the grinder and press the double espresso button. There are two grinders: one is caffeinated, the other is decaf.
 - a. If the latte is decaf, be sure to use the decaf grinder. Serving caffeine to a customer who requests decaf could put their health at risk.
3. Put the portafilter full of ground beans on the rubber tamping mat. Tamp the coffee in your portafilter down into a hockey shaped puck. Avoid over tamping or under tamping your puck. You only need to press down firmly enough to flatten the surface of the puck.

Espresso puck is tamped down perfectly.	Espresso puck is not tamped down enough.	Espresso puck is overly tamped down.
Surface is even.	Surface is often loose and uneven.	Surface is tight and compact.
Hot water extracts coffee from puck evenly, leading to good	Hot water will find path of least resistance through puck, leading to	Hot water will take too long to move through the puck, leading to

espresso.	watery espresso.	overly bitter espresso.
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4. Put your cup beneath the group head you plan to screw your portafilter into. Group heads are the holes on the top of the espresso machine from which the hot water comes out.
5. Use your hand to wipe off any coffee grounds on the top of your portafilter. Avoid using the tamp for this, as it will crack your puck.
6. Screw your portafilter into a group head with a clockwise turn. There are two double shot buttons above each portafilter. Press the button to the left of the portafilter, as that is the one that supervisors calibrate regularly. This is known as “dialing in” a group head. A dialed in group head guarantees a consistent outcome: 1oz of well-extracted espresso per shot.
7. Watch the espresso as it pours into the cup, ensuring that:
 - a. Your cup is catching the espresso dripping out of both spouts of your portafilter.
 - b. For best results, the hot water should run through the puck and into the cup for about 25 to 30 seconds. Notify your supervisor if your shot is pulling faster or slower than this. Your supervisor will then dial in your group head to re-calibrate it.
8. When making drinks, only use a shot of espresso that is fresher than 3 - 5 minutes. Espresso loses flavor when exposed to air, becoming more bitter. Dumping your espresso shot into water or milk slows down this process dramatically. A shot of espresso is still good to use if it still has “crema” on top. If you’re unsure whether a shot of espresso is still good, it’s better to pull a fresh one than to serve a customer an old one. Remember, one of the company’s core values is: *do the right thing*.

Note: When not in use, its best to keep your portafilter screwed into a group head on your espresso machine.

This will pre-heat the portafilter, leading to better espresso.

3. Steaming your milk

Properly steamed milk elevates the taste of a latte. It has a smooth, silky texture with little to no bubbles. A steam wand heats and aerates a pitcher of milk. A properly placed steam wand creates a whirlpool effect that steams your milk evenly.

Learning how to steam milk well takes time and practice. Keep at it, and don't be afraid to ask your supervisor for tips on how to improve your technique.

1. Select the appropriate pitcher for the milk you are about to steam. If the pitcher is dirty, rinse it in the pitcher rinser.
 - a. There are different pitchers for regular milk versus milk substitutes. The pitchers meant for oat, soy, and almond milk are labeled. Be careful not to mix them up—the wrong type of milk could give the customer an allergic reaction.
2. For a 16 oz double latte, pour milk into the pitcher until it is slightly above the base of its spout.
 - a. Note: steaming your milk will increase its volume by 20 to 50 percent.
3. Pull the lever to vent the steam wand before each use. This will get out any old milk, which could block the steam or get into your pitcher.
4. Place the steam wand halfway between the center of the milk pitcher and one of its sides. Place the head of the wand beneath the surface of your milk. Hold the pitcher flat. This position will ensure the steam creates a whirlpool in the milk.
5. Pull the lever on the steam wand to begin steaming the milk. When you start steaming, you will know the steam wand and milk pitcher are properly positioned if the milk whirlpools and you hear a sound like shredding paper. If instead of shredding paper, your steam wand sounds like a jet engine, your milk will end up poorly steamed. You will either need to adjust the angle of your pitcher, the angle of your steam wand, the position of your steam wand, or the depth of the steam wand in the milk.

Whole milk	Skim milk	Oat, soy, or almond milk.
Steams in about 25 – 35 seconds.	Steams quickly, in about 20 – 30 seconds.	Steams quickly, in about 20 – 30 seconds.

6. To ensure that you don't steam the milk too long, turn off the steam wand when you hear the sound of ripping paper deepen. This typically happens a couple of seconds after the milk pitcher becomes uncomfortably hot to the touch. Wait five seconds for the milk in your pitcher to settle, giving time for any bubbles in the milk to rise to the surface.
- a. Steaming your milk too long will burn it. Burnt milk gives off a rubbery smell. A pitcher of burnt milk will also be incredibly hot to the touch.

	Perfectly steamed milk	Under steamed milk	Over steamed milk
Bubbles	Few to no bubbles.	Few to no bubbles.	Many bubbles break up the surface.
How surface looks	Silky, glossy, and shiny. Looks like wet paint.	Looks like regular milk from the fridge.	Foamy.
What sound it typically makes while steaming	Ripping paper	Ripping paper or jet engine	Jet engine
Surface tension	Yes	No	Yes
Makes for good latte art	Yes	No	No

7. Well steamed milk can still have some bubbles on its surface. There are a few techniques to remove these bubbles. However, these tricks cannot fix poorly steamed milk, only improve the final result.
- Break up bubbles by:

- a. Tapping your milk pitcher on the counter.
 - b. Swirling milk around in the pitcher.
8. Pour your steamed milk into the cup in a circular motion. This motion mixes the espresso into the steamed milk.
 9. Clean the milk off your steam wand soon after you finish steaming. If you wait too long, the heat of the steam wand will cause milk to crust, making it harder to clean. Grab the rag on top of the espresso machine. To clean the steam wand, vent out a little air while wiping it up and down with the rag. Whenever venting the steam wand, avoid sticking your hand beneath it or you will get burned.

Note: Some customers want their drink to be cooler or extra hot. Others prefer their milk less foamy (flat white), or extra foamy (dry). These preferences will be specified through the cup code.

Tip: Well-aerated milk is ideal for latte art. Practicing latte art is a good way to improve your ability to steam milk. Practice by pouring hearts or ferns on top of your lattes.

4. Serving Drinks

1. Place your finished drink on the pickup counter within easy reach of customers.
2. Shout out the name and order written on the cup. It is important to shout because Gates and Wean Hall are loud, and customers often walk away instead of waiting for their drinks.
3. If no one picks up the cup after 3 minutes, shout the order again. Do this again after 5 minutes.
4. Throw the cup away if it is not picked up after 10 minutes. A drink that sits too long will taste bad, and eventually become too unsanitary to serve. If the original customer returns, let them know you had to throw it away and offer to remake their drink.

Note: Sometimes customers take a drink meant for another customer. If this happens, remake that drink before starting any new drinks. This aligns with one of La Prima's core values: finishing the job.

What happens when you type “youtube.com” into the web browser?

Every day we look something up on the internet. But what actually happens when we type in a web address like “www.youtube.com” into our browser and hit enter? How does our browser work behind the scenes to magically locate the website, connect to the website, then load that website in our browser? The whole thing happens so quickly these days, we rarely have time to think about it. And when we try to learn how our browser works, we see sentences like, “the url’s domain name is used to query the dns resolver associated with its specified domain ending,” and our brain immediately hits the eject button. The explanations are dense, unapproachable, and give no entry point to the average person.

The good news is that searching the web is a lot more straightforward than software engineers make it out to be. The power of modern computers lies in simplifying complexity. This means that users only need to know how to use the computer, not what the computer is actually doing in the background to make that happen. When you drive a car, you only need to focus on driving. You put your foot on the accelerator and turn the steering wheel. This makes technology easier to adopt (think of how quickly people took up the iPhone). But ironically, this seamless use also makes the inner workings of the internet harder to understand. The actual technical stuff is tucked behind the curtain like the Wizard of Oz.

But not knowing becomes scary when everything is online, when social media is the town square, and corporations and governments can dictate how we shop, work, and socialize online. If we don’t know what’s going on behind the scenes when we use the internet, then we as users are powerless to decide what the internet should look like.

Now is a good time to pop off the “hood” and get your arms a little dirty. No one likes being at the mercy of a shady mechanic. In four steps, we will outline how your web browser has been working this whole time:

In brief, your browser first looks up the website's address. Second, it connects to the website's server. Third, it requests the web page from the website's server. Finally, it displays the web page on your screen.

Here's how that happens, in detail:

Step 1: Looking up the web address.

Before your browser can connect to a website such as "youtube.com," it needs to be able to find it. The browser finds a website's location by asking a DNS server. DNS stands for a Domain Name Server. A DNS server receives a web address (such as "youtube.com"), and returns the website's actual digital address, called an IP address. IP address stands for Internet Protocol. It is a numerical address that is assigned to every device connected to a computer network.

To illustrate this, think of looking up a website's location like looking up someone's name in a phone book. The DNS server is the phone book. The web address is the name of the person you are looking up in the phone book. The IP address is like the phone number you find under their name that lets you get in contact with them.

A DNS server turns a human-friendly web address into a machine-friendly IP address. The address of a website, such as "youtube.com," is known as its URL (Uniform Resource Locator). URLs are user-friendly – they are easy to remember, easy to read, and easy to type. In the background, however, the browser must convert the URL address ("youtube.com") into a numbered address called an IP address (172.217.19.164). An IP address tells your browser exactly where a website is located on the internet. To convert a URL into an IP address, your browser sends the URL to a DNS server. The DNS server then sends back the URL's corresponding IP address.

With that overview in mind, let's go through each step in more detail. When you type the website's URL into the browser and hit enter, your search request travels from your computer, over Wi-Fi or Ethernet, and into your router. The router then passes your search request from your house to your Internet Service Provider (ISP).

To speed up this process, your Internet service provider stores the IP addresses of commonly searched websites. If the website you are looking up has been recently searched, your ISP can quickly look up the web address and send back its corresponding IP address. Now, your browser has the website's IP address, and therefore, knows how to get in touch with it.

However, sometimes the website you are looking up has not been recently searched by anyone. If this is the case, your ISP needs to request this information from a DNS server. Remember, a DNS server turns a human-friendly web address into a machine-friendly IP address. The catch? There are many different DNS servers, with each handling a different list of websites. This is where the root DNS server comes in.

The root DNS server acts like a dispatcher for other DNS servers. To go back to our phone book metaphor, you send the root DNS server the name of the person you want to get in contact with, then the root DNS server tells you which phone book to look them up in.

How does this work in practice? Your ISP messages the root DNS server. The root DNS server reads the URL, then tells your ISP which DNS server contains that website's IP address. The ISP then gets in touch with that specific DNS server. Once your ISP receives the website's IP address, it sends it back to your browser.

Using DNS servers to lookup web URLs provides a couple advantages. For one, DNS servers allow a website to have multiple IP addresses. This speeds up a user's connection to a website. This is because the DNS server can send the user the IP address of the server closest to them. In addition, DNS servers allow websites to more easily perform maintenance on their servers. Servers can be added or removed without the user ever noticing.

Did you know?

There are actually multiple root DNS servers. Thirteen global non-profits collaborate to run these root DNS servers. The biggest and most important of these is [ICANN](#), which is responsible for managing, maintaining, and setting the global standard for DNS servers. Each non-profit operates its own root DNS server. These non-profits then allow private companies such as GoDaddy to sell people the

exclusive right to a specific web addresses. This model helps ensure that the internet remains decentralized while still being able to inter-operate.

The internet as we know it today depends on the hard work of non-profits such as ICANN, IEEE, and IETF. They work tirelessly to maintain code, standards, and infrastructure. Without them, the internet wouldn't work!

Step 2: Establishing a connection to the server.

Using the IP address acquired in step 1, your browser can now locate YouTube's web server. Next, your browser needs to establish a stable connection with this server.

To establish a connection, your browser needs to first initiate contact with the server. Your browser does this by messaging YouTube's web server. Your browser addresses the message to the server's IP address. This message does two things. First, it tells the server that your browser would like to initiate contact. Second, it allows the browser and server to agree ahead of time what to do if a message is lost in transit. Messages get lost all the time, either because a router is broken, the network is congested, or the data gets corrupted in transit. For this reason, the browser and server need to agree ahead of time what to do if a message does get lost. Otherwise, communication between the browser and the server can fall apart.

Whenever two computers communicate over the internet, they use different protocols to send and receive data. To establish a connection with the server, your browser uses a protocol called TCP (Transmission Control Protocol).

Think of TCP like the post system. TCP handles the act of communicating. It sends messages, reads messages, and maintains a stable connection. By establishing a TCP connection, your browser can use other communication protocols to focus solely on transmitting data. If TCP is the post system, these other communication protocols are the messages being sent in the mail.

Did you know?

Having one protocol handle communication, while another protocol handles content, is called “separation of concerns.” Separation of concerns allows each protocol to split up the complicated work of communicating over the internet. That way, each protocol can focus on doing one thing well. Without separation of concerns, there would be no internet!

Step 3: Retrieving the web page.

Now that a stable connection has been established, your browser can finally retrieve YouTube’s web page. If the previous step was about setting up the postal service, this step is about using that service to deliver a message to YouTube’s servers. In this case, your browser sends a message requesting the web page from YouTube’s server.

A web page is stored as a series of documents (we will go into further detail in step 4). These documents tell the browser what the website’s content is (e.g. text, buttons, search bars), as well as how to format this content. In order to retrieve the web page, your browser must make a new type of request to the server called an HTTP request.

HTTP is *the* communication protocol for communicating with websites and other web services. HTTP communications are sent over the TCP connection established in step 2. This separation of concerns means that HTTP can focus on providing web content, while the underlying TCP connection can focus on maintaining a strong connection.

Once received, YouTube’s server will attempt to respond to your HTTP request by gathering all the documents necessary to display YouTube’s home page. YouTube’s server will then attempt to send back the requested web page as a series of files, as well as a status code indicating whether it was successful.

Sometimes the server succeeds in responding to your request, other times it fails. The server can fail for a variety of reasons, such as faulty code or missing files. If this happens, the server will instead send back an error status code with no web page. You might be familiar with the most common error message: “404 – not found.” When your web browser displays a 404 message, that means your browser was able to communicate with the server, but the server was unable to find the web page you requested.

Step 4: Displaying the web page.

Using the files received in step 3, your browser can finally display YouTube's homepage. The browser does this by translating these files into a graphic display. Typically, a web page is made up of three main types of files: HTML, CSS, and JavaScript. All of these documents play a different role in building the web page.

You might already be familiar with HTML (Hypertext Markup Language). HTML describes a website's content, as well as how that content is structured. Think of it like the blueprint of a house. HTML contains elements such as the text, headings, tables, and search bar.

CSS is the style guide that tells the browser how to style the website's content. Think of it like the decorations in a house. CSS contains the colors, margins, and font size for the website.

Finally, JavaScript is a programming language that makes the website more interactive. Think of it like the plumbing and electricity in a house – without it, the sink or appliances wouldn't work! JavaScript handles automation, animations, and user interaction.

JavaScript runs locally on your device. Without JavaScript, your browser would first need to message the server before updating your web page. You wouldn't be able to seamlessly hover over a drop-down menu or select different t-shirt colors in an online store without having to reload the entire web page.

In conclusion:

Hopefully, this helps you appreciate how incredible and complicated the internet is. By forgoing unnecessary technical details, this explanation helps you understand what exactly happens when you look up a website.

To recap, whenever you type "youtube.com" into your browser and hit enter, your browser 1. looks up the website's address using a DNS server, 2. connects to the website using TCP, 3. retrieves the web page from the server in the form of files, and 4. displays the web page on your screen.

It is amazing that all of this happens in a matter of seconds, especially when considering that this process can span across countries. The internet is a culmination of centuries of research in math, engineering, and material science. What's more, the amount of collaboration required to make it work is staggering.

Understanding how the internet works is empowering. You are engaging with a deeply complex system, but a system that is capable of being understood. Ironically, knowing how it works imbues the whole thing with a true sense of wonder.

Why growing mushrooms at home can improve your kitchen skills and save you money

For two billion years, an organism has been growing under my feet—and I just noticed it. For most of my life, I didn't think much of mushrooms. It wasn't until, on a Friday night not too long ago, I was stuck at home after a long week of being broke and busy, that I began scheming of a project which could improve my time around the house. I needed something that was 1. cheap (broke) and 2. easy to fit into my schedule (busy). I already had an herb garden, but planting an actual garden seemed like too much work. That was when I stumbled across mushroom growing. In three simple steps, I watched as mushroom growers turned a few mushroom cells into an entire mushroom farm.

With just 3 or 4 hours of work across 6 weeks, I was harvesting my first blue oyster mushrooms. I've since gone on to expand my collection, growing lion's mane (which tastes like crab) and pink oyster mushrooms (which taste like bacon). Harvesting a couple pounds of mushrooms each week cuts down the cost of my meals. With the price of meat so high, it's nice to have a substitute on hand which is cheap, healthy, and delicious. And they don't taste like grocery store mushrooms. You will get to experiment with the many, *many* delicious recipes you can make with them. My first harvest was a great opportunity to invite friends over for a gourmet dinner party, with a menu of [fried oyster mushrooms](#) and [mushroom birria tacos](#).

This short guide will teach you how to grow your own blue oyster mushrooms at home. I've chosen blue oyster mushrooms because they are beginner friendly. Blue oysters grow in under a month, produce high yields, and are particularly resistant to other bacteria and fungus. Growing blue oyster mushrooms is easy, once you've familiarized yourself with the following steps and acquired the necessary equipment.

The three steps to growing your own mushrooms at home

First, growers inject a syringe filled with mycelium into a bag of grain. This is called “inoculating grain spawn.” After 2 to 4 weeks, the mycelium will expand and fully envelop all of the grain in the bag. In the second step, called “spawn to bulk,” this grain is layered in a bucket with straw. In the third step, the mixture is misted for 2 to 4 weeks, during which little “pins” will start to sprout out of the mycelium. These pins will grow into a fully-formed mushroom over the course of a week, doubling in size every day until they are ready to harvest with a quick pull.

Equipment

- 10cc liquid culture syringe of blue oyster mushrooms. You can buy one from a [small farm](#) or a [mushroom growing supplier](#).
- 1lb bag of grain with an injection port and a 0.2 Micron Filter. You can buy one from a small farm or a mushroom growing supplier.
- 2 lbs of straw to be used as the “soil” to grow the mushrooms. (Insider tip: this straw is what mushroom growers would call our “substrate”). You can buy one ?.
- 16oz bottle of 70% isopropyl alcohol. Don’t substitute with liquor.
- A soup pot that is larger than 5 qts.
- a spray bottle, the finer the misting nozzle the better.
- A [still air box](#).
- A [grow bucket](#).

And now to the actual mushrooms!

1. Inoculating Your Grain With Blue Oyster Mycelium

Preparing your work area:

Before inoculating the grain spawn, gather your materials and clean off your work area. Put your grain bag and liquid culture syringe in your still air box. Soak a paper towel in alcohol and use it to wipe down the insides of the still air box.

Keep in mind that bacteria and mold on our own bodies can also contaminate our work. Take a shower and wear freshly laundered clothes. Gloves and a face-mask are optional but lower your risk of accidentally introducing unwanted bacteria into your grain bag. Try to minimize the air currents in the room as much as possible. Turn off any fans as well as your central air unit. This will help keep the air-flow in the still air box to a minimum.

Inoculating your grain spawn:

When working in a still air box, it is important to move at a deliberate pace—neither too fast or too slow. When you are ready, rub your hands thoroughly in alcohol. Soak a paper towel in some alcohol, then reach into the box and wipe the surface of the grain bag's "self-healing" injection port.

Uncap your syringe and inject it through the injection port. Spray your syringe evenly throughout the grain bag by gently wiggling it as you spray. Then, gently remove the needle from the grain bag and wipe down the injection site once more with your alcohol soaked paper towel.

Congratulations, you have successfully inoculated your first grain bag!

Storing your grain bag and waiting for it to fully colonize

Your grain bag will provide a sterile environment for the oyster mushrooms to grow in. Store your grain bag in a closet, a garage, or a basement. Just make sure the room maintains a stable temperature between 60 to 75 degrees.

Mycelium is made of thousands of white strands that look like stringy or fluffy growth. Slowly, these growths will envelope the grains in the bag. This can take three to five weeks. When the bag is

about 20% colonized, break the mycelium block apart and spread the colonized grain evenly throughout the bag. This will speed up growth.

Once a week, look into the bag to check for contaminants. There are many contaminants to look out for, which you can learn more about by reading [here](#).

You will know that your grain spawn is ready for the next step when the mycelium has completely taken over your grain bag. At this point, very little grain will be visible in the bag.

2. Spawn-to-bulk and preparing your grow bucket

Once your grain bag is fully colonized, you will be ready to mix it with your straw in your grow bucket and begin fruiting your oyster mushrooms. Mushroom growers call this step “*spawn-to-bulk*.” They layer colonized grains and straw to help the mycelium spawn oyster mushrooms. The grains allow the blue oysters to rapidly colonize the straw, while the straw retains water to nourish the mushrooms.

First, prepare the straw. In a large pot, boil enough water to submerge 2 pounds of straw. Boil the straw for an hour. This will ensure that your straw is hydrated and pasteurized. Dump out the water, leaving the straw. In order to test that your straw is sufficiently hydrated, grab a clump and give it a good squeeze. Your mixture is properly hydrated if rivulets of water run out for roughly 2 to 4 seconds(?).

Next, fill the bottom of your grow bucket with a layer of straw about one inch thick. Layer some grain spawn over top the straw. Repeat this process until you have filled up your bucket, then place your lid on top. Place your bucket anywhere with decent air flow, as long as it is out of direct sunlight—options include your garage or under a tree. If an upcoming heatwave or cold-snap is forecasted, bring your bucket inside until it passes.

3. Fruiting & Harvesting:

Here’s a quick overview of your timeline from now until harvest: it usually takes 10 to 21 days for the mycelium in the grain to expand out into the straw. It then takes another five days for “pins” to begin sprouting from the holes of the bucket. “Pins” are the precursor to mushrooms. Once formed, they will take another week to grow into blue oyster mushrooms.

Spray the holes in the grow bucket generously twice a day. Check on their progress by peering through the grow holes or taking off the lid.

Harvesting is easy. You will know your blue oyster mushrooms are ready to harvest once the edge of their caps begin to curl upwards. Simply grab a bushel of oyster mushrooms from the base of their stem, twist it, and pull it free of the grow bucket. Enjoy!

Now that you know the basics, here's what to learn next:

There are still many more things to discover about growing mushrooms, for example:

- Harvest another round of blue oyster mushrooms from your grow bucket by soaking it [in water](#).
- Cut down on costs significantly by making your own grain bags or liquid culture syringes.
- Research “grain-to-grain” transfers and learn how mushroom growers turn one fully colonized grain bag into ten.

For some far out there ideas, consider turning mycelium into [art](#), [clothing](#), and [furniture](#); using mushrooms to boost your [vegetable garden](#); and using mycoremediation to remove pollutants from [your local ecosystem](#).