

5 Main



Fundamentals

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Welcome

Thank you once again for taking the time to check out the second course "5 Main Fundamentals" in the written series.

Once you have core principles down to your muscle memory you're ready for the next step. If you ever feel stuck or unsatisfied with your performance it's a great idea to get back to the baseline– revisit the core principles and see if you're deviating from them in your gameplay.

With core principles in place you're set to learn and master five key fundamentals skills. These five skills are: champion mastery, csing (farming), trading, wave management and tempo. Mastering these five fundamentals will 1) expand your working memory (so you can focus on specific information more easily), 2) build a stable baseline(together with core principles) that you can use to learn and apply any other specific concept / knowledge in League.

As always– remember that League is learnt through repetition and deliberate practice. These courses are not know-it-all. Use them to fill in or expand any gaps you might have in your understanding of League fundamentals or mindset in general.

I acquired all the fundamental and specific knowledge from playing League for 14+ years (a few early years as a midlaner and rest as a toplaner). This means that there are certainly biases and unique perspectives that might differ from the absolute truth.

You will notice some of these fundamentals will have subcategories listed underneath them. This is mainly because each fundamental skill expands into specific knowledge like a giant tree and its roots. Subcategories will be presented as building blocks for the specific knowledge. Specifics and mindset will be addressed in the final course.

Keep in mind that there are a lot more fundamental skills in League than just the five this course will cover. I truly believe these fundamental skills are the most crucial to understand and master. By being aware of these five, you will naturally pick up on the remaining fundamental knowledge.

Sounds promising? Let's jump right in.

Champion Mastery

Starting off with the most important fundamental skill in League– we have champion mastery. One might feel overwhelmed right off the bat since League has 170+ unique champions.

Truth be told, in order to reach apex tiers in League, you only really need to truly master a few champions. Learn how to control your character movement(through clicks and the camera) combined with understanding your champion deeply– how their kit works, how they interact with the map terrain and other champions in any given game.

Champion mastery can be defined as how hard it is to know what you should be doing or how to do something with any given champion.

While each champion is unique– some skills are transferable between them, yet it is hard to quantify due to individual player differences. If you main Toplane you will learn transferable skills that can be applied to each unique champion you play on Toplane. Likewise, champions who have similar play patterns will be easier for you to pick up (learn and/or master) than the champions who don't share such similarities.

Champion mastery will drastically increase your overall win rate. In order to get the most out of champion mastery, the majority of players should take the specificity approach– focus on one main role, pick a few champions and focus all their efforts there until they're ready to scale further. How fast someone masters a champion depends heavily on the player mindset, effort and skill level. Each champion has their own **mastery equilibrium** (the amount of games it will take an average player to get "comfortable" on the chosen champion). That is the baseline – from then onwards you can continue to build specific knowledge or pick up a new champion and start over. It is highly recommended that you don't move on to the new champion until you understand the game better.

Once you get comfortable with the basics like controlling your character(clicks, camera, movement..) and understanding your champion kit you're ready to expand beyond the "you" perspective(core principles). Once the "you" perspective is covered to the point of not having to think about it actively (you automated and optimized the movement, last hitting, ability usage and so on) you're ready to focus on the enemy and team perspectives → learn matchups, champion interactions, how to lane and how to play your champion after laning phase.

Champion mastery builds into all other League knowledge. As it is the most complex and time consuming skill in League it is highly recommended to utilise 3rd party tools available on your journey - League Wiki, statistics websites like lolalytics to guide your

intent (decision making and optimal gameplay) combined with youtube guides, streams, VoDs + replays, practice tool and your own repetition through solo queue.

Some champions have more complex mastery curves than others (mastery equilibrium). Simply put, some champions can be picked up relatively easily (especially if you have some transferable skills already) while for others you might need hundreds of games to appear competent(champion skill floor vs ceiling).

Last thing we have to address before we introduce the framework is **agency**. Agency means how much control you (your champion picks) have over the result of any given game. We can "calculate" agency through a few parameters like: 1) how well does our champion use gained advantages aka leads, 2) how easily does our champion outplay enemies and 3) how easy is our champion to outplay despite the generated lead.

Players will often express their feelings of agency through how hard or easy it is to play their champion in relation to enemy draft. Agency is a potent tool that can help us optimize gameplay (intent) but we have to be aware of our own biases and mindset.

According to Riot Phreak there are three main agencies - 1) power curves: champion scaling and carry potential, 2) kit versatility: champion capabilities (this one is big for pro play since it scales with player skill) and 3) counter-play: skill shots, targeted outputs, mobility, range and so on). More on this topic in the specifics course.

The champion mastery framework: 0) prerequisite - getting comfortable with clicks and camera movement in League, 1) champion kit (unique set of abilities) - here we explore champion strengths, weaknesses, optimal runes and item choices. 2) matchups and champion interactions - specific knowledge you obtain through repetition(solo queue), 3rd party tools and intent, 3) laning phase, 4) sidelaning - post laning phase, 5) fights - skirmishes, teamfights.

Example 1 - Garen

Garen is one of the simplest and easiest champions to pick up and master in League. Let's break down the facts first.

Garen is a juggernaut class champion. Juggernauts are the only class in the game that can deal and take a lot of damage(high damage and high durability) but suffer low range and low mobility in return. Garen is a melee physical damage(+ R true damage) champion. Champions like garen struggle to disengage fights once they're committed (this is for example why phase rush is a common rune choice - it covers his weakness well)

Passive allows us to sustain a lot of short trades. We can use W shield to prevent the passive from dropping.

Q can be used to cleanse slow effects. Q is an auto attack reset and can be input buffered through crowd control as it can not be interrupted. Q is a silence effect.

W reduces damage taken for X seconds but more importantly, gives us a big % of tenacity and a shield on command which will be crucial to time well in order to reduce important CC or damage. W grants free resistances once stacked - this makes garen weaker to true damage by default.

E - 1st tick of damage is instant | E grants ghosting - can move through units aka ignore unit collision such as minion blocking | E applies armor shred with enough hits as well as do more damage to the nearest target | E can be cancelled to auto instead in early game as AA(auto attack) will outdamage damage one tick of E or to apply Q silence

R - we just need to know it's an execute (deals more damage the lower hp enemy is)

Garen Strengths - damage and durability

Specifics: great lane sustain due to passive, strong waveclear with some levels due to E - ability to proxy, very tanky baseline once W resists are stacked up. High threat to carries with R execute at all points in the game. Decent at tempo due to Q movement speed buffs and fast waveclear due to E.

Garen Weaknesses - weak utility / mobility / control

Specifics: very linear champ - extremely flash dependant to secure kills unless enemy misplays, quite weak early game in general unless you play conqueror but then you sacrifice mid-late game as mobility will be way worse. Garen is extremely easy to space and kite unless his conditions are met - can proc phase rush, has stridebreaker bought etc.

You would continue into as much depth as possible about core items, rune choices, matchups, laning phase, sidelane and fights to complete the framework.

The point of doing this exercise is to set a standard for gameplay -expectations and responsibilities. Understanding your champion well will not only increase your win rate greatly but also make the game much more enjoyable through consistency. Intent becomes much clearer in any given moment once we understand what our champion is capable or incapable of doing.

Example 2 - K'sante

K'sante is one of the most versatile toplane champions ever created. Even after a few mini reworks he is still a jack of all trades.

K'sante is an extremely difficult champion to master and only the (high master+ ranked players) get to utilise him to the highest potential. Garen might take you 25-50ish games to master, while K'sante might take you over 300 games to barely even scratch the surface if you lack transferable skills. Let's break down the facts first.

K'sante is a dual class champion(Warden + Skirmisher). During ultimate K'sante becomes a skirmisher and acts as a peeling tank (warden) by default. Skirmisher strengths include: high damage and survivability tools. Weaknesses are: range, weak to crowd control, struggling while focused by enemy team and target selection - sometimes reaching priority target is hard without good flanking manoeuvres. Wardens are durable and great at peeling allies and disengaging enemy champions. Wardens generally have weaker mobility and damage output.

K'sante is a physical damage (+ true damage RW) champion. This means that generally stacking armor and hp against it will be a good strategy. Likewise, due to suboptimal mobility when not in R form it is generally good to prioritise mobility against him - tier 2 boots, champions with innate mobility etc.

Passive - abilities mark enemies. Consuming the mark deals bonus damage. This means that we ideally want to weave in abilities to maximize damage depending on the situation. It is also a great tool for squeezing extra damage in short bursts (for example Q+AA+grasp proc). During R - K'sante auto attacks, abilities and passive are empowered to do even more damage.

Q - main ability - Q is very spamable but we need to be aware of the mana spending. Q cast time and cooldown get reduced through bonus resistances (armor and mr). K'sante Q has 2 parts - simple Q which is very linear, does X damage and applies a short heavy slow which is very important for comboing other abilities. Once we have 2 stacks of Q the next one is empowered (kind of like yone/yasuo) - it gains almost twice the range and applies a pullback as well as a stun. This is also crucial for setting up other abilities. Q resets Ksante's basic attack timer. During R - Q cooldown is reduced, Q stacks reset upon pressing R and Q cooldown resets if you had two stacks of Q upon pressing R. You can surprise people by Q+ flashing to apply a quick burst or slow to follow up abilities.

W - has no cast time but it has a minimum charge time and a short range. We have to be able to predict enemy movement in order to hit W. During W - Ksante is displacement immune and has additional damage reduction. W range, stun duration and damage are increased with charge time. W charge can not be interrupted by CC but the dash afterwards can. Upon full charge or recast Ksante will drag the target along the path and stun them depending on the charge time of the spell. During R - empowered W will no longer drag and stun enemy champions but it will do bonus true damage instead of physical as well as grant increased damage reduction. Dash speed is also increased. Most importantly, W cooldown is reset upon pressing ultimate so it is optimal in most cases to use non empowered W followed by R eventually to set up

empowered W next. You can't use Flash during W. Lastly, both Q and R can be cast during the W dash (when the spell is recast and K'sante begins the dash animation)

E - is a short dash ability (that can't go through terrain) that grants K'sante a shield. If the ability is cast on an ally - the range and dash speed are increased, you can dash through terrain and allies get a shield as well. During R - E cooldown is reduced by 50% and the dash speed alone/ on allies is increased. K'sante can use any ability during the dash. Most notably we will combo E+Q low to set up W or EW to set up stuns on champions outside of W range.

R - the ability that turns Ksante into a skirmisher - Ksante roots an enemy champion on cast and gains displacement immunity during the cast time (about 0.4 sec). The target is pulled about 300 units in cast direction and ksante blinks behind the target. The target is stunned for a short duration after the displacement ends. If there is a valid terrain the target is instead pulled through the terrain. In this case the airborne effect and stun effect are increased. After ksante blinks he will enter the R form for about 15 seconds - Ksante receives a health handicap to about 65% max hp (down from 100%) - Ksante will lose 35% hp instantly if he used the ability on full hp. Additionally his base armor/mr are reduced by bonus armor and magic resist. In return Ksante gains increased bonus attack speed, bonus armor penetration, omnivamp and allows Ksante to cast his abilities for free (no mana costs). Lastly, if the target is immune to the pullback due to whatever reason, Ksante will still blink without the target.

Ksante's entire kit scales with bonus resistances and bonus hp so it is natural to build items that support this. If you want to deal more damage you would buy the most efficient resistance items like chain vest to maximize damage. Here we have to consider the opportunity cost of delaying completed items (item spikes) in favor of dealing more damage in early stages of the game.

As mentioned earlier Ksante will struggle against champions with a lot of mobility (kiting potential), max hp damage or true damage in their champion kit. In laning phase Ksante is a true meat shield - He excels at trading shortly before unlocking ultimate due to high base health regen and short Q cooldown. Ksante is not very strong before first recall but it is very hard to push him out of lane unless you manage to find an all in timer to solo kill. This allows him to be a very strong blind pick champion - he is able to neutralize even the toughest matchups especially if the player piloting it is very experienced.

Moving onto sidelaning and fights. Ksante, while mostly a tank, once in R form turns into a skirmisher which allows him to contest sidelane waves into most matchups if the game state is favorable or even. Likewise, his versatility allows him to be great in teamfights as well. You can approach teamfights from the classic front to back playstyle where it is quite hard for enemies to dive onto your carries through Ksante W, R and shields. On the other hand, you can also look to isolate a single champion in fights and duel them quite efficiently.

Ultimately, the biggest skill difference between Ksante players is displayed through their use of tank and skirmisher forms depending on the specific situations happening in any given game. As a champion with plenty of possibilities and choices it is quite easy to have wrong intent without developed champion mastery.

Ksante is a much more complicated champion compared to Garen even on paper. This is increased further once you start playing the champion and figuring out how to actually combo abilities and how to time their usage based on various conditions.

The point of this exercise was to show you how many things are taken into consideration when calculating intent in gameplay just through champion mastery alone. Most players automate the basic mastery through repetition and muscle memory but the greatest players actively display their skill through the miniscule differences in knowledge.

Champion Mastery Summary

While champion mastery is learnt through gameplay (repetition) you can set a good baseline through 3rd party tools or frameworks like the one above.

- ☐ Champion mastery is a skill that defines how hard it is to know what you should be doing or how to do something with any given champion.
- ☐ Transferable skills are a thing in League - which means that role and champion specializing is the way to go. If you're good at toplane you will be able to apply that knowledge to a new champion you're trying to pick up. Likewise, champions with similar play patterns will be easier to pick up than the ones who are completely different due transferable skills.
- ☐ Champion mastery is the most complex skill in League and this is where all players (inexperienced, average or pro) will spend the most time and effort on. It is highly recommended to utilise all available resources to aid yourself on the champion mastery journey - use 3rd party websites and practice tool, watch VoDs and most importantly play a lot with intent.
- ☐ When looking to pick up a new champion - utilise transferable skills you already know and apply the framework. Conditions change all the time in League. You shouldn't think too black or white when it comes to League decision making but it is a great idea to define the baseline. Consider agency when you apply intent in your gameplay. Agency means how much control you (your champion pick) has over the result of any single game of League.

Farming

Farming aka CS-ing can be defined as a skill or ability to last hit minions while laning (be it during laning phase or sidelane later on). If you've read the league theory course you will remember me mentioning that farming is the most consistent way to generate resources (gold and experience). Getting good at farming, especially under pressure, will single handedly improve the consistency of your gameplay.

The fundamentals are quite simple – to receive the gold you need to be the last unit to deal excess damage to the unit's health bar. These units are called minions(or monsters if you're jungling). This action is defined as the **last hit**. You receive experience regardless as long as you are within 1500 units(range) of the dying unit (minion).

Farming is quite easy if you play versus a target dummy or a bot but the difficulty increases dramatically when the pressure gets involved.

Pressure can be created due to matchup, resource imbalances, tempo advantages, player skill differences and so on. I talk about pressure at greater length in the specifics course. To keep it simple for now, let's focus on towers for a second. To last hit properly under tower all you need to remember is that towers will set up a last hit for you on melee minions with two tower shots and one tower shot for the ranged minions(a tower will do 45% damage to the melee minion per tower shot and 70% to the caster minion out of the 100% health pool threshold). If the minion health thresholds are not in these ranges you will need to set them up in advance through auto attacks or abilities in order to last hit properly.

Other, more advanced tools we can use to set up last hits properly are covered in the wave management part of the course. A few more facts: range minions grant less gold than melee ones and cannon minions (siege minions) give the most gold by far so it's very important to last hit them consistently. Average minion wave is worth 125 gold in the early game up to 195 gold when Baron spawns (25 mins). A cannon minion can tank about seven tower shots before dying in the early game. Cannon minion importance will be explained further down the road when we get to trading and wave management strategies.

Just like most skills in League– farming comes down to getting comfortable with navigating your champion through pressure with good click and camera control first. Afterwards, you need to utilise champion mastery: manage champion innate resources (ability cooldowns, ranges and ability resources) to set up last hits consistently well. While getting as much farm as possible is optimal for the most part, it is much more important to focus on not missing the free last hits and balance the nuances. Eventually, you learn to optimize the opportunity costs found in the laning phase

(when to trade last hits for trades, future plays or tempo, when to trade innate resources for last hits and so on).

To farm consistently well you need to have a great understanding of other fundamental skills mentioned in this course - champion mastery, trading and its subcategories like tethering, and finally wave management. Farming can be practiced or warmed up in practice tool, but the largest improvement comes from solo queue when you're under pressure and not allowed to focus on just farming.

Trading

Trading can be defined as the ability to exchange damage with an enemy champion through innate resources like auto attacks, abilities as well as allied units like minions and sometimes towers.

Intent of trading is to spend the least amount of innate resources possible to generate or deny the largest amounts of resources and pressure. **Trades can be positive, negative or even.** In order to trade well it is of utmost importance to understand your champion strengths, weaknesses and unique champion interactions. Players use the trading skill to generate or deny resources and to create, maintain or reduce pressure.

Tethering (spacing) is a subcategory of trading. **We can define it as the ability to space well between your own champion and the enemy champion.** You want to be able to space auto attacks, abilities and minions (minion aggro). Tethering grants us outplay potential – dodge skills, bait spells and to disengage/engage or extend trades.

Trading and tethering scale immensely with player skill level. It's a fundamental skill that can always be improved further.

We can place trading into three distinct time frames or patterns - a) **short trading**, b) **long / extended trading** and c) **all-in trading**. A trade can be considered extended as soon as damage exchange happens beyond the first auto attack or ability. A trade is considered an all in when either champion is a) unable to disengage and thus results in the death of an X or Y champion or b) forced to disengage through the usage of long cooldowns like the summoner spell flash. Trading is an extremely complex topic due to the nature of human error. Every player has good and bad habits, knowledge gaps, autopilot moments and other non game related conditions that impact performance on a game to game basis.

To do well in the laning phase and to have the best chance of winning the game we aim to generate as many winning trades as possible. Winning trades generate leads (innate resource advantages, resource advantages: gold, exp, tempo and pressure) which can be used to create a snowball effect to carry the game.

When opting to exchange damage with an enemy champion (trading) we have to consider the following ideas: 1) champion base stats (which champion is "stronger" or simply does more damage if we would trade an auto attack or an ability?)

2) levels - levels grant base stats which increase the champion power level and the ability to deal damage. We also have to consider experience breakpoints aka the level up timers. Level up timers are especially important in the early game when the level up grants an extra ability and a quick innate resource burst (hp and/or mana due to champions gaining base stats each level). The most common uses are levels 2(1st minion of the 2nd wave) ,3(2nd minion of the 3rd wave) and level 6(around 5:05 game timer if you didn't miss experience) but it can be applied to any level. These numbers are solo lane specific.

3) innate resources - consider innate resources like unique abilities cooldowns compared to ours, range differences between auto attacks and spells as well as health and ability resources (like mana) to gauge strength differences between two champions in different time frames. Remember that we have three trading options - short, extended and all in. One champion might benefit greatly from the short trading pattern when the condition is good or suffer when the trade becomes extended or but might as well die if the trade turns into an all in.

4) Other complicated things we have to consider are wave states, priority, positioning of both champions compared to each other, tethering skills, closeness to towers, bushes and other terrain like walls.

5) We also have to account for item differences, rune choices and keystone uptimes(stuff like electrocute or phase rush being up or perhaps conqueror being fully stacked etc) and summoner spell advantages/disadvantages

6) wave states. How different wave states impact certain matchups.

7) Finally this is all summed up through player skill expressions - through champion mastery, players mechanics and intent.

With all this in mind we have to define our intent – how we want to play out each trading pattern when it presents itself. Once defined, we can opt to play out a matchup in a few common ways:

1) We can embrace volatility and prioritise trading to generate further leads if the matchup and map conditions are currently good. Constantly assess the conditions and adapt accordingly. (Commonly done when you have a "good matchup", wave control,jungler is on your side of the map and so on)

2) We can take the safer less volatile approach of minimizing trades and focus on trading innate resources to set up last hits as the main priority until the matchup or

map conditions improve (commonly done in losing matchups where the intent is to "lose gracefully", when you don't have wave control or playing weakside)

Generally, ranged champions want to prioritise trades that result in them taking low or no damage (favorable short trades) in ranged vs melee matchups. Likewise melee champions prefer extended or all-in trades into ranged champions as they're more durable overall due to base stats or items like doran's shield. In evenly ranged matchups like ranged vs ranged or melee vs melee, winning trades will often come down to short trading but some melee champions specifically benefit more from extended or all in trades due to their kit.

Always consider the game state conditions to guide your intent. Keep in mind that runes, keystone and starting item choices greatly impact the choice of preferred trading style. For example a champion with grasp and doran shield will play towards the short trades while a champion that opted into conqueror might heavily lean into extended or all in trades.

Wave management

Minions (allied and enemy units) are fundamental to the game pace itself. They function in waves and spawn at 1:05 in game time and continue to spawn every 30 seconds until the game ends (important game timers being X:35 and X:05 to determine minion spawns). As mentioned before we have melee, caster, siege (cannon) and super minions.

Wave management theory greatly depends on the spawn timers and playing around one minion in particular: the siege better known as the cannon minion. This minion spawns on the 4th wave and continues to spawn every 3rd wave for the first 15 minutes of the game. Every 2nd wave from 15 to 25 minutes in the game and finally every wave once the Baron spawns (25+ minutes). Cannon minions are crucial to understand in order to play the game optimally. They define League as a turn based game strategically even though the game progresses in real time.

Cannon minions are quite tanky (especially in the early game) for players and towers to kill which allow us to manipulate different waves states through priority in order to generate tempo (base timers aka recalls), set up roams or dives. Wave management is mostly utilised in the laning phase but the knowledge should be applied to sidelaning as well to maximize resource generation.

Priority is the ability to control the minion wave in order to push, slow push, stack or crash a wave first compared to your lane opponent so you can participate on the map first without sacrificing resources. We generate tempo through priority but more on this later in the tempo section.

There is a gap between minions spawning and reaching the middle of the lane so you're free to do something in that downtime if you have priority. This downtime is extended if you are able to stack, slow push and crash waves to create larger downtimes. These downtimes are oftentimes called timers or turns. You're also able to "cheat" priority at the cost of resources. This is obviously not recommended unless you're truly optimizing for the opportunity cost in your gameplay. "Cheating" game mechanics such as priority and tempo is an advanced tactic covered in the specifics course.

Regardless if we have the priority or not, we have to account for **the opportunity cost** - what we are missing out on by opting into the XYZ decision. If you decide to use your timer created through priority to recall, you missed out on using that timer to ward enemy jungle or gank mid lane for example. We can use priority to pressure enemy champion and tower/plates, we can generate tempo - base timers and map repositioning (post lane) or "deplete" tempo to create roam timers to help out teammates or ward entry points, objectives etc until we can recover the tempo and priority again.

Base timers are also closely related to tempo and will be expanded on in the tempo section. All we need to know about base timers when talking through the lens of wave management is that we want to time our recalls (base timers) around crashing waves so we lose out on the least amount of resource possible. These can also be cheated through summoner spell teleport if we're unable to generate priority with the current condition. The worst option would be to simply recall without priority or ability to cheat it as you will sacrifice a lot of resources in return but it's still sometimes better than outright dying.

To manage waves properly we have to be intentional in our play. This means that we have to be aware of the champion mastery framework (our champion capabilities, matchup and unique champion interactions), current conditions (good or bad) and how to actually manage waves depending on each situation. Let's define the theory first and after I will present a wave management framework.

There are a few techniques used commonly in League: pushing (fast), freezing, proxying, slow pushing, wave stacking, wave trimming, wave holding or dragging, wave bouncing and finally wave crashing.

Pushing or fast push - ability to actively advance allied minions across the lane. When you are actively hitting minions with the goal of crashing it into the tower quickly. Either through constant auto attacking and/or spell usage.



Through fast pushing we can potentially deny enemy resources or generate resources ourselves at the cost of priority and wave control. Fast pushing is mostly done for short term gains due to tempo imbalances between two champions - we can also use them to set up recalls before cannon wave spawns, proxy waves or set up other wave management tricks like wave holding and freezing or bouncing to force an enemy into a worse lane state position.

Likewise, fast pushing can also be utilized if we're able to keep priority and maintain pressure on the enemy champion and tower with more safety than we would be able to otherwise with another wave state (commonly done with ranged champions).

Slow push - ability to advance allied minions slowly across the lane. Slow pushing is achieved through last hitting minions and maintaining at least an auto attack worth of damage over your enemy. You don't actively hit minions with abilities or auto attack except for last hitting purposes or maintaining a higher number of minions to keep up the slow push. Slow pushing has the advantage of stacking a big minion wave, oftentimes safely in the proximity of an allied tower, to provide us extra damage in case the enemy wants to deny us the wave crash or trade aggressively with us.



Wave crash - ability to crash an allied minion wave (single or stacked) into the tower. Main goal of crashing a wave is to apply pressure on an enemy champion - they need to focus on farming while you can focus on trading. We also use wave crashing to generate different timers - base, ward, roam, dive etc



Wave proxy - ability to quickly push a wave between two enemy towers. This often requires a champion with good wave clearing abilities, great mobility or tools to avoid excessive minion damage especially in the early game.

Proxying is mostly done to either a) generate tempo to allow yourself to roam or reset to spend the gold or b) to avoid a bad matchup or currently bad condition due to XYZ imbalance (levels, champion spikes, items). This can only be done if you managed to crash the wave before or you decide to skip out on the previous wave.

Proxying is extremely risky if you're unaware of enemy jungle, mid or support tempo or if an enemy champion is capable of killing you before you clear the wave. This is especially important to consider if you're crashing a cannon wave into an enemy tower as this will increase the enemy timer to trade with you without losing anything in return.

You should always plan your recall timers on proxied, crashed stacking waves or when the next wave from base would be a cannon minion.



Wave stack - a very similar concept to slow pushing. While both can be utilised to create dive opportunities and generate or deplete tempo they differ slightly. Think of slow pushing as the means to an end - "why we do it" while wave stacking is the mechanical execution of the slow push - the idea of just last hitting minions and maintaining the minion number advantage to allow waves to stack properly.

Wave bounce - occurs after a minion wave has successfully crashed into an allied or an enemy tower. Minions naturally meet in the middle of the lane at the start of the game. From allied team POV: Once a wave is crashed into the enemy tower it will sit there until a tower, minions or an enemy champion clear the wave. Meanwhile, a newly spawned enemy wave will now arrive faster to the meeting point of the waves than the allied team minions- this will naturally create a bouncing wave (think of it like ping pong).

This is a natural minion process that occurs without champion interaction. If you clear the wave at the tower too quickly then the wave will reset back towards the middle and the rule of stronger minions will apply (whichever team has higher average champion level will have stronger pushing minions after about 3:30 in game timer)



Wave trim - A wave that would inevitably crash without player interaction needs to be shortened or "trimmed" in order to deny the enemy champion from finding a reset, dive, ward or roam timer. Trimming can also be used to: set up a freeze in front of your tower or to settle the wave in a favorable position for trading pattern preferences(short,extended, all-in), terrain and so on (some champions prefer waves in front of tower, some prefer waves in the middle etc). Wave trimming is used to control minion wave size and pace of the wave (how fast it will crash). We can also use wave trimming to turn bouncing waves into our own slow pushes if we're the ones with wave control.



Wave hold - is the ability to hold the enemy wave temporarily in the same place in order to prevent it from crashing, to threaten or create a freezing wave. When safe to do so, we can drag the wave or hold it before resetting minion aggro with bushes before our next wave arrives. Wave holding can also be done offensively by walking into tower aggro (when safe to do so due to tempo reasons) by holding the enemy wave to allow allied wave to crash into the tower instead of allowing it settle in front of the tower and freeze in favor of your opponent. This is done when you'd be unable to push the incoming wave fast enough. Likewise, this can be done on your side of the lane by sacrificing a few already crashed minions into your tower and instead focus on the incoming wave by walking up and holding it so it freezes outside of tower range.



Wave freeze - is a common technique used to keep a wave in a specific position, oftentimes close to an allied tower or on your own side of the lane. Freezing allows us to threaten extended or all-in trades with a longer lane state and to deny resources. Freezing allows us to avoid ganks, set up our own ganks and control the pace as long as we're able to maintain the freeze. To pull the freeze off you generally need an enemy wave that has 4-5 minions more than your own and to utilise wave holding and trimming to stop it from crashing into your tower.

Freezing is one of the only wave management techniques that actively depletes tempo (creates negative tempo): you trade tempo for the resource denial in your lane. They could still roam and apply pressure elsewhere on the map. Freezing is best used as a **short term strategy** when the game conditions make push unappealing. This can be due to various reasons such as being weaker, key abilities or summoner spells being down temporarily, unable to generate push, priority and pressure or to simply deny a few resources before transitioning into another wave management technique.



Since season 15, wave management of the first four waves (most important waves to decide the pace of the laning phase) got very simplified. A common strategy involves the following → if you can achieve wave priority and maintain it you should crash waves 1+2 together and you should start pushing wave 3 slowly in order to crash it together with a cannon minion (4th wave) unless your goal is to bounce the wave due to jungle pathing or inability to crash 3rd+4th wave safely due to matchup even with priority. This is a general guideline that you can modify according to your specific knowledge needs combined with fundamental wave management techniques.

Outside of these wave management tools you need to be aware of the cannon wave spawn timers in order to manage your waves properly. Now that we're familiar with all the terminology, let's introduce the wave management framework.

Wave Technique	How to	Intent
Freezing	Enemy wave has 4-5 more minions. Hold and trim the wave to appropriate size.	Deny resources, set up all-in or ganks or play safe at the cost of tempo
Holding	Tank or drag the enemy wave temporarily (need minion aggro). Use bushes to reset minion aggro.	Allow allied waves to crash or deny enemy waves from crashing temporarily or set up a freeze.
Trimming	Reduce the enemy wave for the intended outcome but not completely.	Deny enemy resets, roams or dives. Set up freeze, slow pushes, wave resets or better trade conditions.
Crashing	Push an allied wave into the enemy tower or allow the enemy to push in theirs.	Set up a reset or a roam timer. Set up a dive. Set up a preferred wave state for trading.
Bouncing	Once a wave crashes, it will naturally bounce back without player interaction.	Set up safer positioning due to jungle pathing or matchup. Set up an extended or all-in trade.
Proxying	When safe to do so, crash an allied wave (ideally, or sacrifice one wave) and fast push the next enemy wave between enemy towers.	unable to extend lane leads or unable to lane due to resource imbalance. Avoid matchup and generate tempo. Use tempo to find resets or roam.
Slow Pushing	Only last hit and maintain at least 2-3 auto attacks advantage on the wave. Allow waves to stack.	Set up or threaten dives. Trading is favorable during your own slow push. Set up longer timers to reset or roam. Can Proxy.
Fast Pushing	Use all available innate resources(aa,spells..) to crash a wave quickly before the next wave arrives.	Set up or threaten fast play dives (more risky). Generate tempo or deny enemy resources if there is tempo imbalance. Can Proxy.

Wave management is a dynamic process and you will have to consider the push and pull nature of the laning phase all the time. You have to constantly evaluate and reevaluate the variables that go into trading, farming, wave management and tempo

combined with your specific knowledge, champion mastery and skill level to generate and deliver on your intent.

Other interesting advanced techniques to consider:

a) mirror your enemy and adapt to what they're trying to achieve at any given moment. Evaluate your own game plan in comparison and act quickly. This can prevent volatility and blowouts which occur when both sides of the matchup think they are currently stronger than their counterpart.

b) you can bait spells through good tethering in order to improve or change the wave state conditions if the enemy is not fully aware of their gameplan (oftentimes to make a wave push faster or to break a freeze or set up your own).

c) we can utilise innate resources like ability cooldowns+range(autos or spells) on enemy champion to manipulate minion aggro. We can reposition minions from their natural line in order to last hit more safely for example. This is especially useful in the early game when playing a losing matchup and a wave in the middle is very dangerous. We concede the priority to the enemy and hope to drag the minions closer towards our tower to trim or last hit more efficiently.

d) you can trade innate resources such as health temporarily(as long as you won't die) to generate better wave states or to get more farm. Enemy will prioritise winning trades in the short term while you're focused on setting up a better lane condition in the future by prioritising resource generation over trading until your condition improves.

Tempo

Tempo is a time resource in League. **Tempo in its simplest form means how quickly you can reach the point of interest (be it a wave, a neutral objective, a fight and so on) compared to your counterpart.** Tempo is always calculated in relation to your lane opponent or "globally" when accounting for ally vs enemy team tempo. On higher levels of play you also need to account for mismatched tempo of different roles– as a top laner you need to be aware of enemy support, jungler or even mid tempo when applying wave management to important waves. Important waves are the minion waves(usually cannon or the wave that precedes cannon) that you're making a play on (like setting up roams, dives, resets and so on).

Tempo is extremely important to understand and read correctly at all stages of the game because it can be the **difference maker** in your intent being good or bad. On the highest level this means accounting for everything happening on the map to optimize our intent, while at a fundamental level this means just focusing on your lane counterpart in order to minimize or maximize resource generation. **Tempo guides how we should play the game at any given moment.**

Tempo can be negative, positive or even. Let's assume a point of interest for the sake of an example– both you and your opponent want to participate in the next teamfight. You have priority and thus manage to push in the important wave first which allows you to move first, and set up the desired formation like front to back or flank, towards the dragon where the teamfight will occur. This means you have positive tempo and your enemy has negative tempo. If the enemy is willing to drop the wave and match your movement then the tempo would be even at the cost of your opponent losing one wave worth of gold and experience. If your opponent decided to catch the wave regardless but has TP(teleport) advantage then they could cheat the tempo and have positive tempo over you meaning that you all of a sudden have negative tempo.

Tempo is quite dynamic and its interpretation depends heavily on the player's subjective perception of the game state. Information and variables such as champion mobility, ability to push or have priority, ability to cheat tempo with global ultimates or teleport, perceived champion strengths and pressure all affect the ability to generate tempo. Similarly to priority, tempo can be cheated through game mechanics such as global ultimates, summoner spell teleport or at the cost of resources.

When playing solo queue there is no way to communicate tempo advantage currently but being aware that you have the tempo advantage(positive tempo) will allow you to make better decisions. **Tempo on its own is useless if you are unable to create pressure from it.** Simply put, if you had tempo but failed to transform that timer into a gameplay turn you failed to utilise the time resource.

To create pressure the waves need to be pushed over the middle of the map. This act of "pushing over the middle" allows you to participate on the map without sacrificing resources. **Timers are short windows of opportunity** created by pushing minion waves over the middle or by being the first one to recall (tempo advantage), by sending an enemy champion to "shadow realm" (death timers) or by tempo trapping (extended tempo advantage). Timers can also be generated through "tempo cheating" but usually at the cost of long cooldowns or resources.

Death timers are the tempo (time) costs allied and enemy champions pay once they die. They render players "as not being" on the map. If you ever heard a pro player say that they're currently "killing" their tempo it's basically the same thing. They're not able to participate in any other play on the map at that moment – this is often done to "squeeze" an extra wave or tower plates in order to complete an item power spike. This means that they're overstaying on the map– the enemy will have tempo on the next minion wave. In order to maintain tempo you want to be recalled back in base before the enemy death timer reaches 8-10 seconds.

Neutral waves are the waves that are left in the middle of the lane usually to slow push either way, depending on the wave bounce and minion strength, because there is a more important point of interest on the map currently – usually a big neutral objective like dragon soul, baron or atakhan. These waves are often a handshake between two players– if both decide that grouping for an objective is a priority then the wave will be left to its own devices. If another player decides to prioritise the wave they will generate tempo for the next play (and potentially more resources) at the cost of potentially losing the objective (current point of interest). Other player will have to recover the tempo later before they can participate "on the map" again.

Base / Recall timers are the tempo (time) costs allied and enemy champions pay to recall (outside of dying). Recall timers are used to generate tempo, spend resources (buy items) and fix bad conditions (regenerate innate resources like health). Recalling is always a better tempo play than walking back to base unless the walking would take less than 8 seconds (recall cast time without empowered recall which is 4 seconds). Recall is a powerful tempo tool that can backfire quickly when misused. Each recall has to have intent in mind – completion of an important power spike, to fix a bad condition (avoid dying) or there are simply no other available timers.

Other tempo timers include: **ward timers** (timers to clear enemy wards or place your own), **roam timers** (timers to help teammates by ganking, taking over their lane so they can recall if you have better condition), **group timers** (timers to set up formation before objective spawns or teamfights), **lane assignment timers** (this one is pro/high elo related where you might want to mismatch lanes eg top into enemy mid or to weak side/strong side a specific champion) and finally **TP timers** (timers that generate just enough distance for you to tp into a play elsewhere on the map without being

interrupted by the enemy champion). Once a window of opportunity (timer) is used proactively it becomes a **turn**. Tempo is then depleted and given to the enemy. Enemy can then use their timer to create the next turn. This is why League is strategically considered to be a turn based game.

Tempo trap is an advanced tempo technique often used to surprise enemies by overstay on the map– this usually involves bushes or fog of war. Tempo traps occur when a team or a player with tempo decides to extend their tempo timer by faking a recall. You can predict tempo traps based on enemy condition - how likely are they to overstay on the map? If they barely used any cooldowns or lost any resources (hp,mana) it is highly likely they're still hanging around even though they might not be showing on your screen currently. Fog of war on its own is an intricate topic covered in depth in the specifics course.

Priority is the ability to control the minion over your lane opponent– push, slow push, stack or crash a wave first to generate tempo which enables timers that can be used as gameplay turns - participate on the map first without sacrificing resources.

Last type of timer is a **defensive timer**. Unlike all the other timers, which are proactive, defensive timers are used exclusively when you're unable to generate priority or the enemy is able to maintain it by pushing waves permanently over the middle towards you. Defensive timers are extremely short, especially when you're forced to catch waves on allied tier 2 towers– you barely get to hover a jungle quadrant or midlane before having to answer a crashing wave again. Focus is on securing last hits until conditions improve. Look for ways to cheat tempo when needed.

Tempo - how to play under specific tempo condition

Positive	Negative	Even	Able to cheat
Have priority→ able to generate proactive timers which create turns and pressure.	No priority→ unable to generate proactive timers which create turns and pressure unless cheated.	Priority is even → both players are able to generate timers. Pressure is created through positioning instead of wave states.	Cheated priority→ Global abilities, teleport and the opportunity cost of dropping resources.
Can deplete tempo through a turn or maintain it by keeping up priority. Can tempo trap. Can cross map.	Focus on regaining priority and tempo whenever possible. Only defensive timers.	Temporary conditions that players handshake around important objectives spawns.	Advanced technique covered in the specifics course. Can match enemy turns.

Summary

You've reached the summary! Thank you kindly for putting in the effort to read this course. When you feel ready, feel free to check out the last course in the written series: intro to specific knowledge.

- ☐ Trading can be defined as the ability or skill to exchange damage with an enemy champion through auto attacks, abilities and allied units like minions and towers.
- ☐ Tethering (spacing) is a subcategory of trading. We can define it as the ability to space well in between your own champion and the enemy champion favorably. You want to be able to space auto attacks, abilities and minions (minion aggro). Tethering grants us outplay potential – dodge skills, bait spells and disengage, engage or extend trades.
- ☐ Trading happens through three distinct time frames or patterns - short trades, long or extended trades and all-in trades. When trading, to generate as many winning trades as possible we have to consider: 1) champion base stats, 2) levels and level up timers, 3) differences in innate resources - health, range of auto attacks and spells, ability resources like mana, and ability cooldowns. 4) different wave states and how they impact the matchup, 5) champion positioning and spacing in lane in relation to enemy champion and terrain like towers, walls and bushes. 6) differences in items, rune choices, keystones and summoner spell advantages or disadvantages, 7) finally - player champion mastery (matchup and champion interaction understanding) and skill expressions (mechanics, click and intent).
- ☐ Minions are fundamental to the game pace itself. They function in waves and spawn at 1:05 in game time and continue to spawn every 30 seconds until the game ends (important game timers being X:35 and X:05 to determine minion spawns).
- ☐ Wave management theory greatly depends on the spawn timers and playing around the cannon minion. This minion spawns on the 4th wave and continues to spawn every 3rd wave for the first 15 minutes of the game. Every 2 waves from 15 to 25 minutes in the game and finally every wave once the Baron spawns (25+ minutes).

- ☐ Priority is the ability to control the minion wave over our lane opponent so we can push, slow push, stack or crash a wave first in order to participate on the map first without sacrificing resources. Tempo is generated through priority.
- ☐ to manage waves properly we have to be intentional in our play. This means that we have to be aware of the champion mastery framework (our champion capabilities, matchup and unique champion interactions), current conditions (good or bad) and how to actually manage waves depending on each situation.
- ☐ There are a few wave management techniques used commonly in League: pushing (fast), freezing, proxying, slow pushing (stacking), trimming, holding or dragging, bouncing and finally wave crashing. Check out the wave management framework that covers intent and how to do each technique.
- ☐ Advanced wave management techniques to consider are: a) mirroring and adapting to enemy to avoid volatility, b) baiting spells to impact wave states c) trade innate resources to prioritise farming instead of trading until the conditions improve, d) utilise auto attack or spells to manipulate minion aggro to reposition them in order to last hit more safely.
- ☐ Tempo in its simplest form means how quickly you are able to reach the point of interest (be it a wave, a neutral objective, a fight and so on) compared to your counterpart. Tempo is always calculated in relation to your lane opponent or "globally" when accounting for ally vs enemy team tempo in professional play. On higher levels of play you also need to consider mismatched tempo from different roles.
- ☐ Tempo can be negative, positive and even. Tempo is generated through priority which creates timers - a short window of opportunity that, once used proactively, becomes a turn. Timers allow us to participate on the map first without sacrificing resources. Tempo can also be cheated through game mechanics - global abilities or teleport or strategically by sacrificing resources or tempo trapping.
- ☐ We can track tempo through base/recall timers, innate resources (how good or bad someone's condition is and how likely it is they will recall soon), death timers, champion mobility, unique champion abilities (like globals) and summoner spells like teleport.