The Beginners Guide to Anki for Pre-Meds

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Outline:

Bio:

Hi everyone, my name is Josh and I am a pre-medical student from the Midwest. I began my "journey" to medicine relatively late in college compared to many of my classmates, so I started my college career with a less than stellar GPA and even worse study habits. I heard about Anki while reading online and started using it my Sophomore year. I began getting much better grades and started spreading the gospel of Anki to my classmates in hopes that they may benefit as much as I had. Several years later, my GPA was repaired, so I used the program to study for the MCAT and was fortunate enough to be accepted to a few different medical schools. This document is not exhaustive by any means, but the information here is really all you need to be successful in prerequisite coursework and on the MCAT. My hope is this will help pre-meds across the country as much as it helped me get my grades back on track. Good luck, future MDs/DOs! I can't wait for the day we can all call each other colleagues.

What is Anki?

"Anki" is the Japaneese word for memorization, and that is precisely what it aims to achieve. Anki is a memorization software developed by Damien Elmes in 2006. It was originally created to help learn foreign languages quickly and easily, but has since taken off as a tool for law students, nursing students, medical students, and pre-professionals around the world. I, personally, will be discussing how I have used it for the last 5 years during college and how it can be useful for the MCAT and beyond. I am by no means an expert and don't know how many of the settings work. This is guide is meant only to explain the minimum amount of information needed to start using the program and be successful.

What makes it special?

The program uses the SM2 algorithm, which utilizes spaced repetition to prioritize flashcards based on their urgency. Spaced repetition has been scientifically proven to improve retention and recall of facts. In layman's terms, the program's SM2 software can predict when the brain is starting to forget information based on the number of correct and incorrect answers to flashcards and will prioritize them accordingly so that information is tested just as it is being forgotten again.

For which subjects is Anki best utilized?

As stated above, Anki was originally designed to help people learn different languages. It has since evolved and can be used for most everything. It is extremely easy to use for subjects such as biology, biochemistry, anatomy, physiology, pharmacology, genetics, and psychology, to name a few. It gets slightly more difficult to utilize for physics and mathematics. Stick to the more "fact-based" subjects, where individual facts can be condensed into small bits of information. It may seem like you are memorizing random facts, but they will soon mesh into a cohesive story in your mind and you will know the information very well.

## Where do I get this program and how much does it cost?

Anki can be downloaded free of charge on Mac or PC by visiting https://apps.ankiweb.net/. As of writing this guide, the newest edition is Anki 2.1. A mobile app is also available on the Apple App Store for $25. A mobile app on the Android Google Play store is Free. I personally suggest downloading the free version onto your personal computer first, then purchasing the app if you decide it is right for you. Creating cards on a computer is much faster than creating them on a mobile device, so I find myself using the desktop version 80% of the time and using the mobile app when I am walking the halls at work or school, or waiting in line at the coffee shop. There are third-party apps available for free, which I have not personally used, but I hear they are glitchy and unreliable. If you create a free account with Anki, another option is to use the web-browser on your phone and access your decks via AnkiWeb. AnkiWeb is where

your decks will be kept up-to-date and can be downloaded if something happens and all of your cards are lost. Personally, I would go ahead and purchase the app if you are an Apple user, rather than relying on spotty third-party applications.

Shared decks and add-ons:

Another awesome feature of Anki is the ability to share decks. There are thousands of decks that very intelligent and thoughtful people from around the world have taken the time to create for others to enjoy, which is a huge time saver. You can find these decks by searching online or on the Anki website. Once you find it, download the deck and save it to your desktop, open the desktop link and it will automatically sync to your personal anki decks. A word of caution: part of the beauty of anki is in making the cards yourself. When making your own cards, you can personalize them to your own strengths and weaknesses, which will help with memory retention. Using other people's premade decks is great, but making your own will help you learn the information much better. Notable shared decks for the MCAT include: PreMed95, Cubene, MilesDawn, Ortho528, and RebopBebop. You can find these by searching on Google or Reddit.

How to add add-ons: Add-ons are free to download from the Anki site and allow you to personalize your program with helpful and fun tools. There are add-ons for just about anything you can think of. My favorites are Heatmap and Image Occlusion. In order to get an add-on, just search for it on Ankiweb and scroll down until you find the code (for Heatmap Review the code is 1771074083), copy the code, then go to the desktop app and click tools → add-ons → get add-ons → paste the code. Once this is done, you will need to reboot the app before it takes effect. You can manage your add-ons from the tools drop down if you wish to delete one. Sometimes when you attempt to get an add-on, you will receive an error. This simply means the add-on is for an older version of Anki and you need to find the version of that add-on that is compatible with your version of Anki, whether that be 2.0 or 2.1.
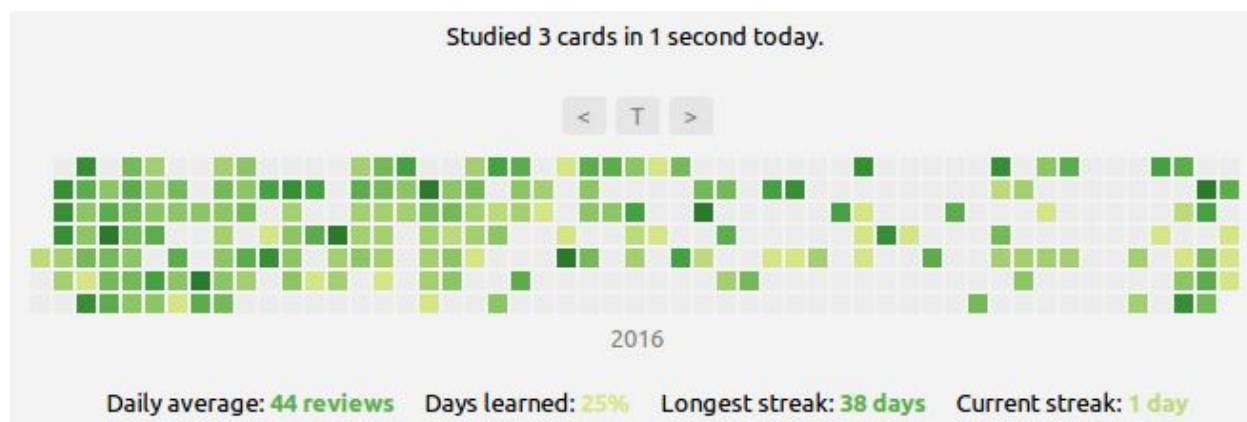
An example of Heatmap Review (above) Code: 1771074083
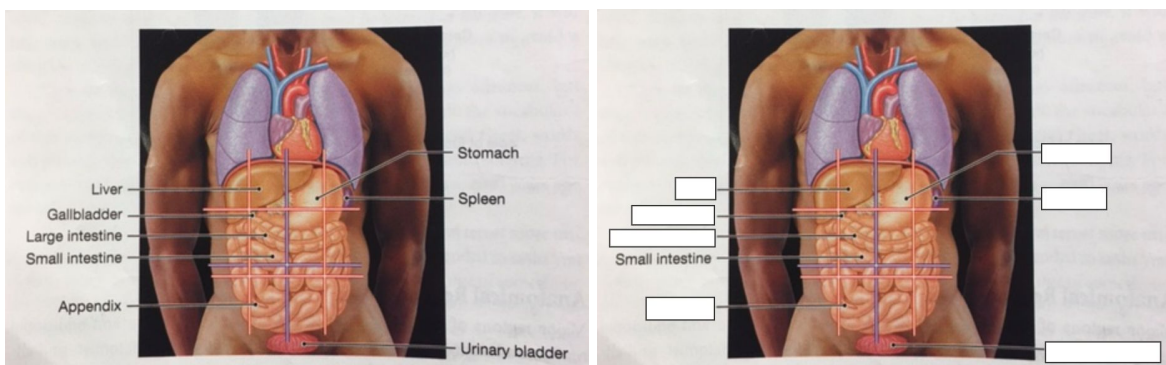
An example of Image Occlusion used for memorizing anatomy (above) Code: 1111933094

Syncing:

Yet another great feature of the program is how easy it is to sync your decks between all of your mobile devices, but this is really only a big deal if you have the mobile and desktop versions. Once a change is made to either your desktop or mobile apps, sync the changes by clicking the button on the top right corner. This will send your changes to the "cloud" and allow you to download those changes to your other devices.

Types of cards:

There are many types of cards you can create through Anki--you can even add sound to cards! For the purpose of this document, we will cover only three types--basic, cloze, and image occlusion.

Basic: Basic cards are, well, basic. This is the kind of flashcard you utilize on physical 3x5 notecards. There is also "basic (and reversed card)," which means the program will sometimes show you the back of the card and you will be tested on the front of the card.
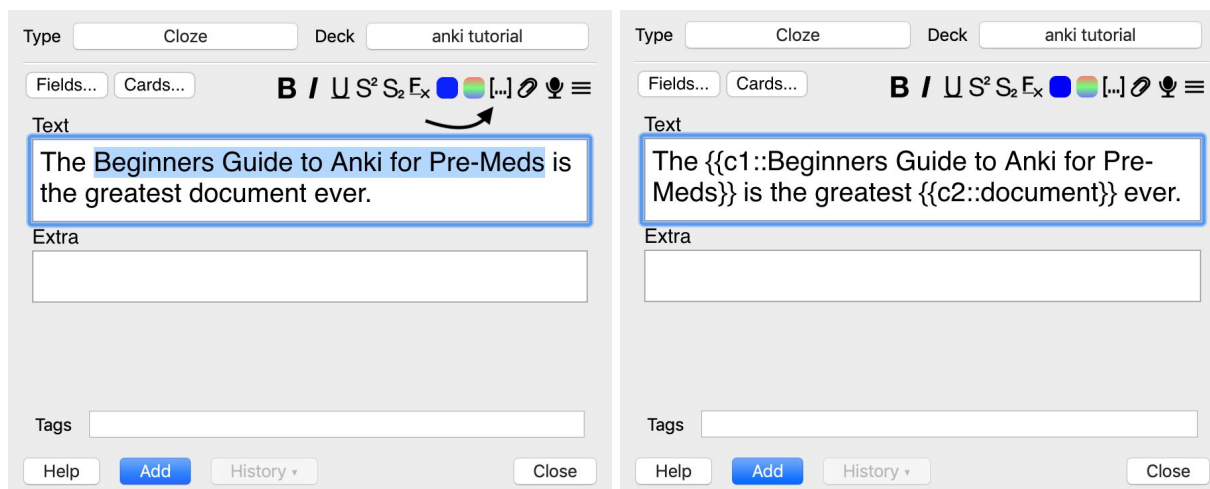

Front of card

Back of card

Cloze deletions: Cloze deletion cards are a great way to make several cards in one. They are basically "fill in the blank" cards. To make cloze cards, simply click the "type" of card at the top left and select cloze. Once you have this selected, highlight what you want blanked out and click the [...] button on the top right.


You can make several blanks on one card, if you wish, by highlighting and clicking the [...] button again.
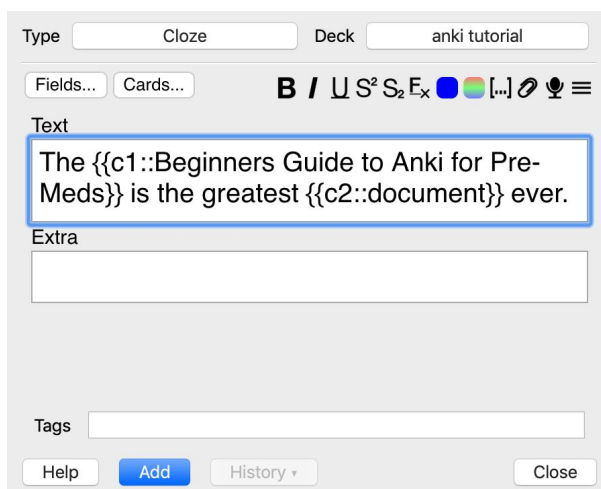
In order to blank multiple things at once, just change the number before the card "{{cX}}" to match the number you want it blanked out with.

Image Occlusion: Image occlusion is a wonderful tool for pre-medical classes, such as Biochemistry, Organic Chemistry, and Anatomy & Physiology. Image occlusion is not stock with Anki, so you will need to download the add-on to your personal program. This can be done pretty easily (go up to Shared Decks and Add-ons for an explanation on page 4). Once you have the add-on and restart the app, you are ready to start creating image occlusion cards.

Find the image you would like to use on Google, then copy that image. Go to Anki and add a new card. Now, select the new button at the top left and you should see the image you copied in this new screen.
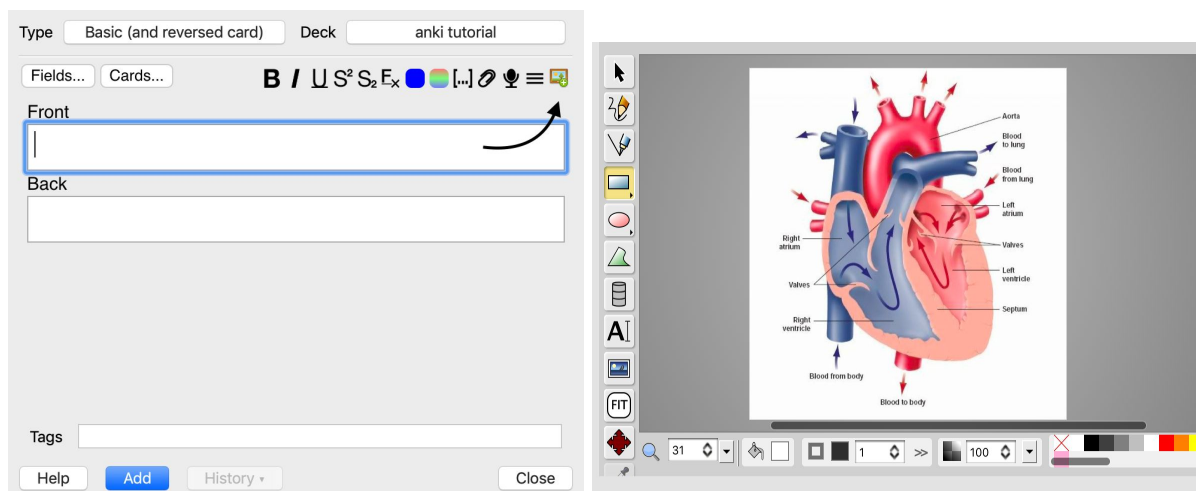
Now, just click and drag over each label. Each box you create is a new card. So, here, I created 12 new cards in about 15 seconds. Once you are finished blacking out all labels, select which type of image occlusion you would like. You can select "Hide all, guess one" or "Hide one, guess one". Below is an example of "Hide all, guess one".
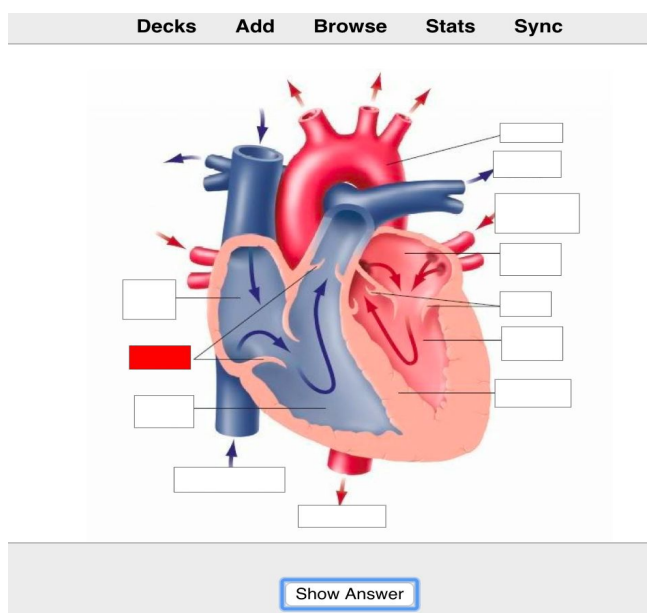
Mistakes and pitfalls of the novice user:

I can think of a few major mistakes people tend to make when they are first beginning to use Anki. The first, I briefly touched on above, is relying only on premade decks and not creating any of your own. Making cards for yourself does several important things that helps you learn the information. For one, you are forced to go through the information thoroughly and pick out things that seem important. Second, you then need to take that information and condense it into a factoid that works for you. Third, you can focus on your weakest points and put the strengths on the backburner. Personally, I think premade decks should only supplement your personal decks.

Another mistake people make is just quickly pressing the spacebar to get through cards as quickly as possible. This is a massive mistake and makes me cringe when people do it! The whole point of Anki is to engage the learner and achieve *active* learning. In order to do this, I suggest using scrap paper. When looking at the front of a card, think about what is on the other side, and write it down or draw it out. Write everything you can think of that pertains to that card. Then, once you flip the card, you can't lie to yourself and say, "ah, I knew that," or "It's okay. I'll get that card right next time!" You most likely will not get that card right next time. Force yourself to actively learn your decks. You probably should not be getting more than 250 cards reviewed in one hour--you will only be cheating yourself and not allowing the algorithm to work for you.

The last common mistake is not staying on top of your cards. STAY ON TOP OF YOUR CARDS! Do them everyday. Do every single card due each day. While studying for the MCAT, I would wake up around 7, make coffee, and go through some cards as I woke up and got warmed up for the daily studying grind. Then in the evening, add all of your cards from the information you learned that day. Now, ignoring what I just said, skipping days is usually not a good idea, but it is not the end of the world. If you do skip a day, you will notice you have twice the amount of reviews to do once you log back on. So, as you can imagine, it doesn't take long to get behind.

Settings:

This is where Anki can get overwhelming. There are many complex settings that change the algorithm I spoke about above. Don't let them scare you from using the program completely. There are really only a few you should ever mess with as a beginner using Anki.

New Cards

Manage: Here you can create settings for several subdecks (say, if you want a different settings configuration for Anatomy and Physics).

Options group: After you create different settings groups, you can select to apply them to certain decks.

Steps: These are the intervals (in minutes) for a new card if you get the card wrong, correct, or if the card was extremely easy.

Order: Do you want to see the cards in the order they were created or in random order?

New cards/day: Pretty simple. This is how many new cards you will see from this deck every day, until you have no more new cards. I would advise to not go overboard with this because you need to do every single card that is due for that day in order for the algorithm to work.

Graduating interval: Time interval after you answer "good" on a new card.

Easy interval: Time interval after answering "easy" on a new card.

Starting ease: Technical. Leave it at 250%.

Bury related new cards until the next day: Say you have a cloze deletion card with four blanks on it. If you select this, you will only see one of those four in any given day.

Reviews

Maximum reviews/day: Pretty simple. This is where you can set the max review cards you will see in any given day. I would suggest not limiting these cards. If you do, the algorithm cannot function properly and cards you should have seen one day, you will not see for a few days due to them being backed up in line.

Easy bonus: This allows the user to set the difference between "good" and "easy" on a card while studying. I would leave this at 130%.

Interval modifier: Very technical and confusing. Leave this at 100%.

Maximum interval: This allows you to set a time limit to how often the algorithm will wait to show you a card. For example, at 30 days, even if you have marked "good" on a card 1000 times in a row, you will still see that card at least every 30 days.

Bury related reviews until the next day: Say you have a cloze deletion card with four blanks on it. If you select this, you will only see one of those four in any given day.

Tagging cards:

A great way to keep your cards organized into specific groups is by tagging cards as you make them. To tag cards, just type a keyword in the "tags" box at the bottom when you are creating a new card. To study specific tags only, go to tools → create filtered deck → search the tag you are wanting to study. This custom deck will in no way interfere with your regularly scheduled decks.

Anki for the MCAT:

If you like learning from flashcards, Anki is a great tool to use for the MCAT. The MCAT requires you to learn a lot of information and minutiae for a significant period of time, and this is exactly where spaced repetition shines. If using it properly, you should know the subjects you studied first more so than the subjects you most recently studied. Anki is easy to use for the majority of subjects on the MCAT, with the exceptions being Organic Chemistry and some General Chemistry and Physics topics. The best way to use it, in my opinion, is to go through review books and take small notes and highlight. At the end of the day, add these notes to cards into questions or easy to digest cards (this helps with the learning process tremendously!). Do these every day or you will get bogged down with thousands of reviews. Review new cards every morning and add new cards every evening. When you get to the practice phase, take notes on questions you missed or guessed on and make them into flashcards. It's pretty simple, but it worked for me and my friends. The settings I used are pictured above. Feel free to tweak the Steps or New Cards/day as you see fit.