

Anki

*What it is, what it's
good for, how to use it*



Overview

1. Context

2. What Anki is

3. What it's good for

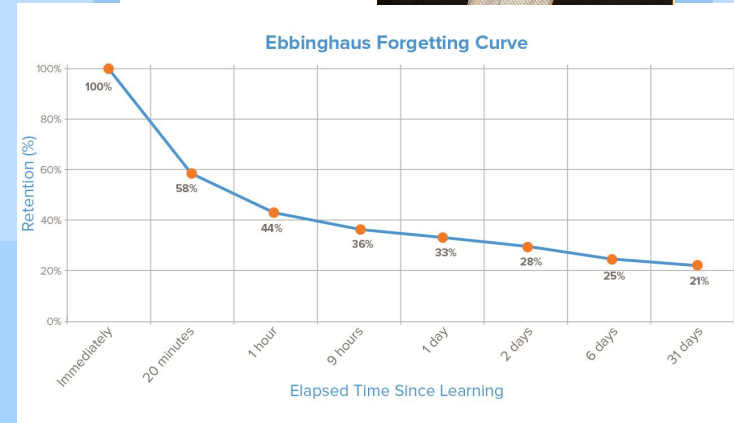
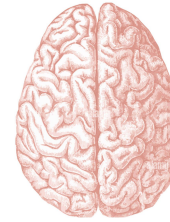
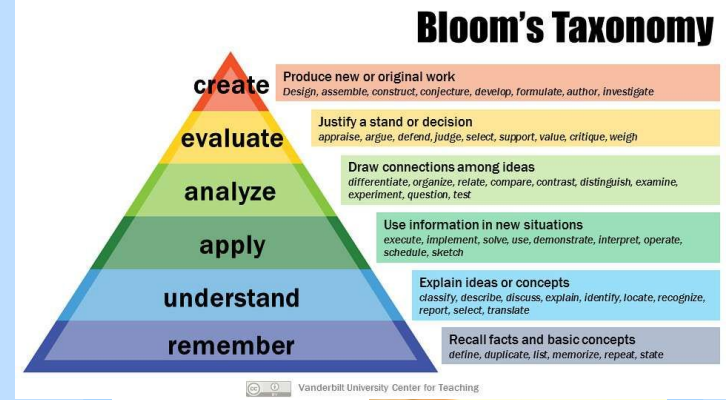
4. What it's **NOT** good for

5. How to use it

Context

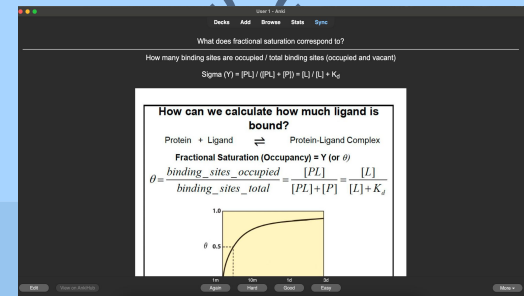
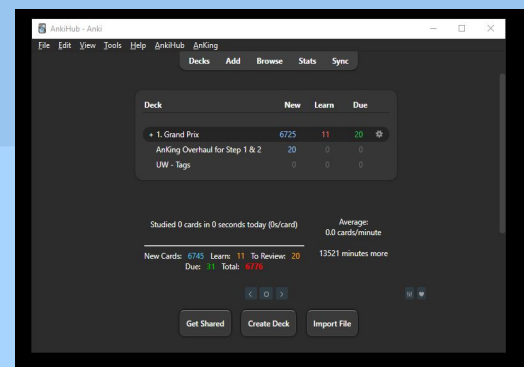
Pre-health education

- Learning and retaining lots of dense, technical material
- Bloom's Hierarchy
- Right-Left-Right
- Spaced repetition, Ebbinghaus's forgetting curve



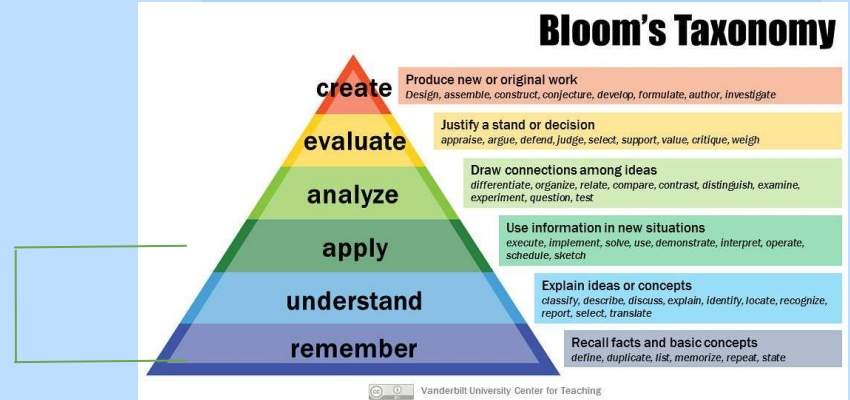
What Anki is

- Free flashcard app
- Based on the principle of **spaced repetition**
- An 'encoding' and 'rehearsal' study tool
- Memorizing details/discrete pieces of information
- Building fluency, retaining the 'ingredients' of a topic



What it's good for

- Long-term retention of discrete information
- Rehearsal
- Memorization-heavy subjects
- Building intuition
- 'the Anki sixth sense'
- Buzz-word recognition
- **Left-hemisphere** studying



Initial Exposure → Encoding → Rehearsal → Testing



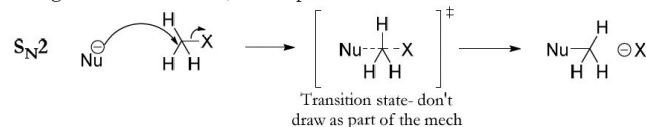


What it's good for

- Subjects:
 - Organic chemistry
 - Cell/molecular biology
 - Genetics
 - Biochemistry
 - Anatomy
 - Physiology
 - Pathophysiology
 - General chemistry (~)
 - MCAT/standardized test prep

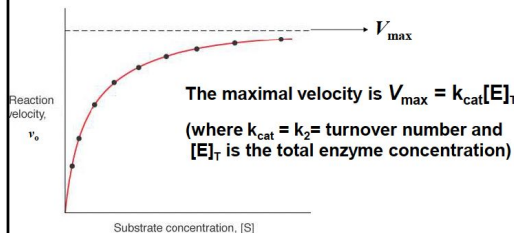
S_N2 : Bimolecular Substitution

The attacking nucleophile forms a bond to the substrate at the same time the leaving group is dissociating. This is a concerted, one-step reaction with this mechanism:



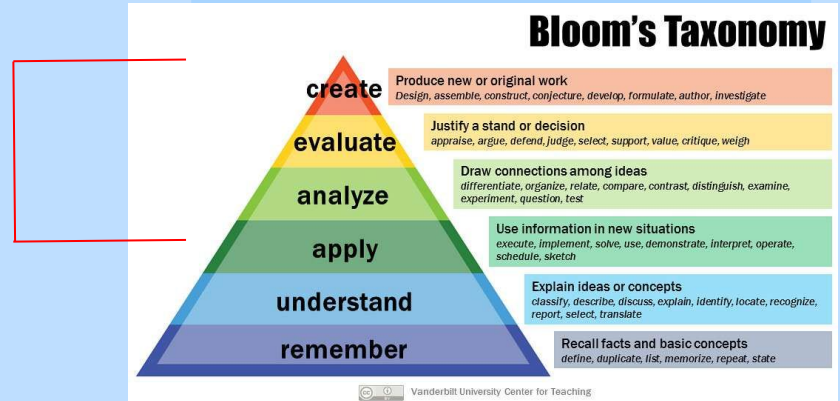
How do we describe simple enzyme kinetics?

$$v_o = \frac{V_{\max}[S]}{K_m + [S]}$$



✗ What it's NOT good for

- First exposures to information (learning from scratch)
- Cramming
- Replicating practice problems
- Higher levels of Bloom's Taxonomy
 - Analysis
 - Evaluation
 - Creation
 - Some aspects of application
- 'Right-hemisphere' studying

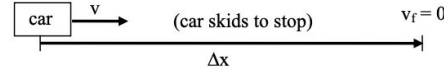


✗ What it's **NOT** good for

- Subjects
 - Physics I/II
 - Mathematics
 - Drug Discovery Lab
 - Lab courses

The work-energy principle applies even if there is friction involved.

Example: A car of mass m is moving with speed v . The driver applies the brakes and the car skids to a stop. What was the magnitude of the work done by the friction force on the tires?



At first glance, it seems that we don't have enough info to answer the question. We don't know the coefficient of kinetic friction μ_K and we don't know how far (Δx) the car skidded. So how are we to compute the work done $|W_{\text{fric}}| = F_{\text{fric}} \cdot \Delta x = \mu_K N \cdot \Delta x$?

How to use it

- **After** you have learned material for the first time (after first exposure)
 - Lecture, textbook, etc.
- Carve out time each day, tie to routine (like a workout)
 - Studying along the way/over time
- Use default settings (keep it simple)
- Interleave topics, old/new cards
- Make your own cards
- Pre-made decks
- Primary card types

The screenshot shows the 'Options for Biochemistry+' window in Anki. At the top, there's a dropdown menu set to 'Default (used by 380 decks)' and a 'Save' button. The window is divided into three main sections: 'New Cards', 'Lapses', and 'Display Order', each with a help icon (?) in the top right corner.

New Cards

Learning steps	1m 10m
Graduating interval	1
Easy interval	4
Insertion order	Sequential (oldest cards first)

Lapses

Relearning steps	10m
Minimum interval	1
Leech threshold	8
Leech action	Tag Only

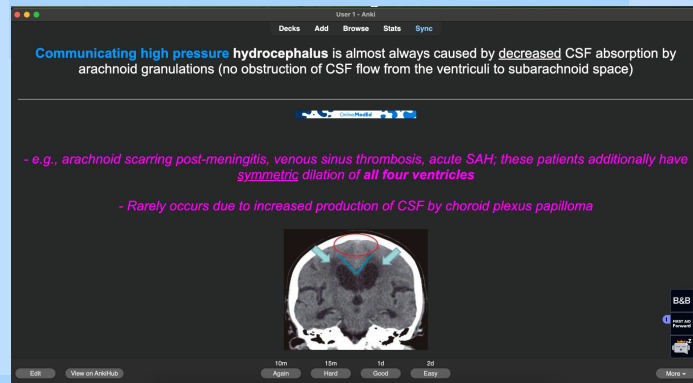
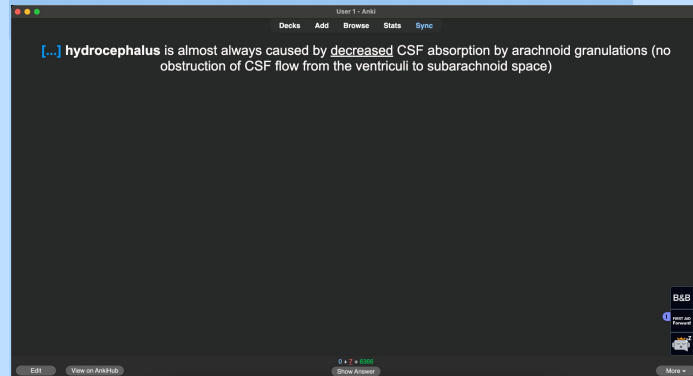
Display Order

New card gather order	Deck
New card sort order	Card type, then order gathered
New/review order	Mix with reviews
Interday learning/review order	Mix with reviews
Review sort order	Due date, then random

In the bottom right corner, there is a 'Trash' button.

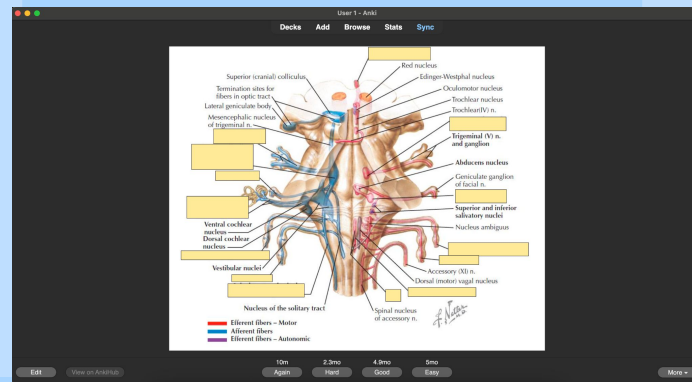
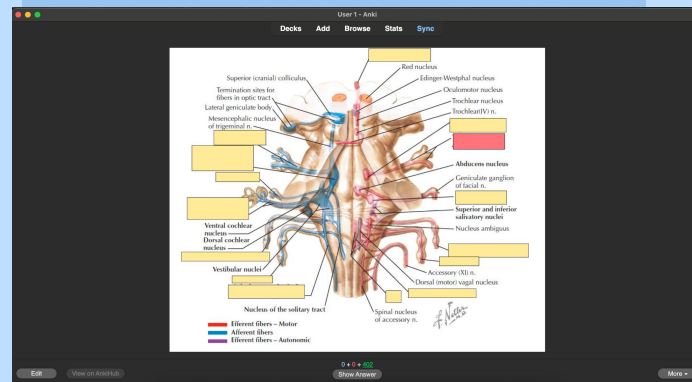
How to use it

- Cloze/delete cards
 - Most shallow level of learning/understanding
 - Fill in the blank
 - Good for places where word recognition/broad-but-thin knowledge is helpful (MCAT)
- Don't be freaked out these are med school cards!



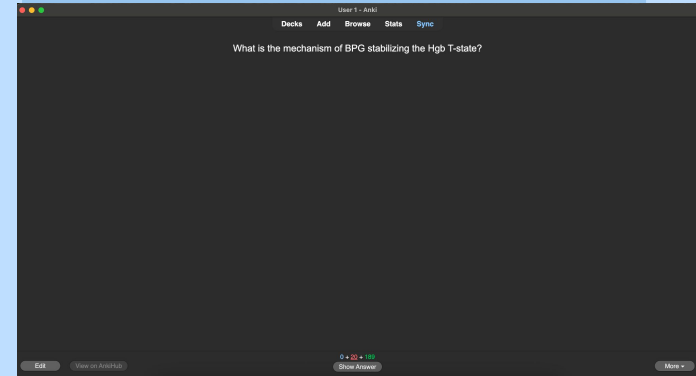
How to use it

- Image occlusion cards
 - Pure name/labeling memorization
 - Good for anatomy, visual topics
 - Just knowing what things are called
 - **Don't be freaked out! These are med school cards**



How to use it

- Question/answer cards
 - Deeper level of understanding
 - Prompting you to explain rather than just fill in the blank
- Good for almost any conceptual discipline
 - OChem, Biochem, molecular/cellular biology



A screenshot of the Anki desktop application showing the answer to the previous question. The question text "What is the mechanism of BPG stabilizing the Hgb T-state?" is at the top. Below it, the answer is provided in three lines: "Binds in center pocket between all 4 subunits", "Its PO_4^{2-} groups interact with positive charges", and "This contributes to further salt-bridge formation between C-terms".

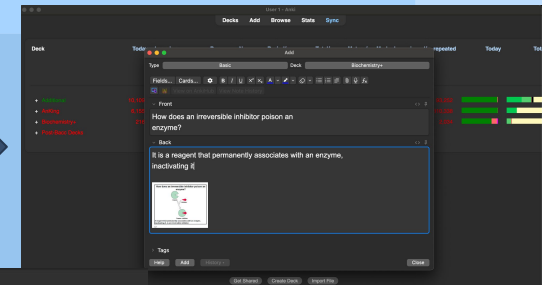
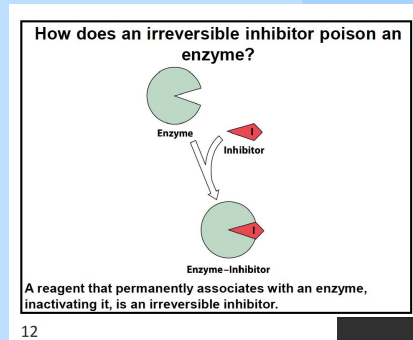
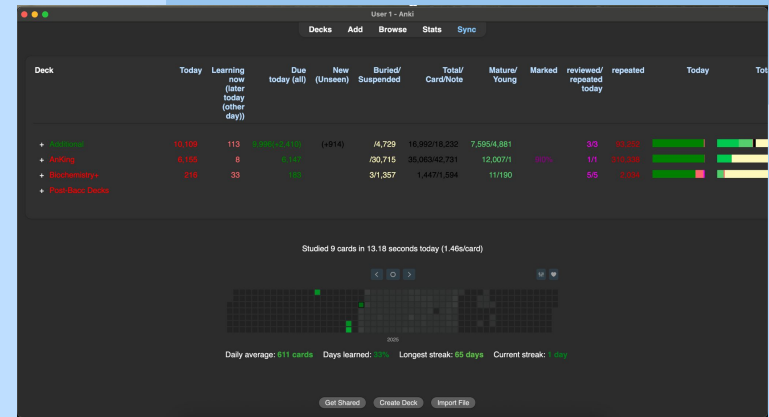
The answer is followed by a detailed box containing the following information:

- How does the presence of BPG affect oxygen binding to hemoglobin?**
- Chemical structure of 2,3-Bisphosphoglycerate (BPG):**
[O-]C(=O)C(COP(=O)([O-])[O-])COP(=O)([O-])[O-]
- Graph:** A plot of fractional saturation (Y-axis, 0 to 1.0) versus partial pressure of oxygen (X-axis, 0 to 60 mmHg). Two curves are shown: a purple curve labeled "Without BPG" and a green curve labeled "With BPG". The "With BPG" curve is shifted to the left, indicating increased oxygen affinity.
- Text:** "BPG binds and stabilizes the T-state of hemoglobin." and "→ BPG binds in the central cavity of T-state hemoglobin and contributes to further salt-bridge formation."

At the bottom, there are buttons for "Edit", "View on AnkiWeb", "Again", "Hard", "Good", "Easy", and "More >".

How to use it

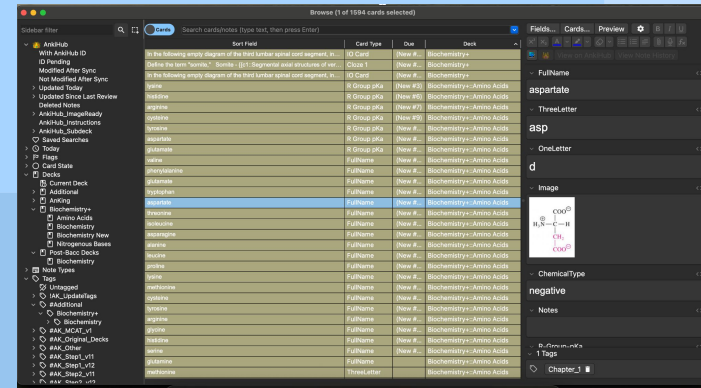
1. Download it at <https://apps.ankiweb.net/>
2. 'Create deck' at bottom
3. 'Add' on top toolbar to add card
4. Make based off of lecture slide/textbook material or notes
5. Paste screenshot of relevant material for reference that will appear with answer
6. Click on deck title to start studying
7. Do your cards everyday!



- + Additional
- + AnKing
- + Biochemistry+
- + Post-Bacc Decks

How to use it

- **Browse**
 - Allows you to see all of the cards in a deck
 - Can edit as needed
 - Can 'suspend'/'unsuspend'
- **Tags**
 - Helps organize cards so that you can search for certain things
- **Mobile App**
 - Can pay (\$25) for phone version to allow you to do cards when out and about
 - Syncs with desktop app



Questions?

Helpful Resources

- <https://docs.ankiweb.net/>
- [How To Use Anki Like A Pro](#)
- Email me: jj.goddu@gmail.com
- Text/call me: (203) 644-6596