

Improving Executive Function Skills

Brandon Slade



Association on
Higher Education
And Disability®



Overview

Intro

What is Executive Function?

Developing EF Skills

How to “Do” College

Q&A

**“Other people don’t
have more
motivation than you,
they just have better
routines.”**

- Nick Thompson

Brandon Slade

Diagnosed ADHD

Academic Struggles

Special Education/School Psychologist

Founder of Untapped Learning





Executive Function

The Common Link: Executive Function Skills

Executive function skills are the complex set of cognitive processes that work together so you can achieve your goals.



Executive Function Requires:

**Time
Management**

Organization

**Focused
Attention**

**Impulse
Control**

**Task
Initiation**

**Emotional
Regulation**

Flexibility

**Planning &
Problem
Solving**

**Verbal &
Working
Memory**

Metacognition

EF challenges can be associated with...

ADHD (129 million worldwide, 6.5 million diagnosed per year)

Dyslexia (30 million in the US)

Autism Spectrum Disorder (7 million in the US)

Anxiety (54 million in the US)

Depression (21 million in the US)

Making Toast

Get out bread

Plug in toaster

Set toaster to appropriate level

Put bread in toaster

Get butter out of the fridge

Get plate and knife ready

Get toast from toaster

Put toast on plate

Add butter to toast



Misconceptions about students with EF challenges:

1 Students who struggle with executive function are not intelligent.



2 Students who struggle with executive function are lazy, unmotivated, and can concentrate when they want to (like when playing video games).

3 Students who struggle with executive function are not successful in life.



The Power of EF Skills

Key Predictor of Success:

- EF skills are among the strongest predictors of academic and life success.

Outperforming SES and IQ:

- EF skills predict college graduation likelihood better than IQ and Economic Status.

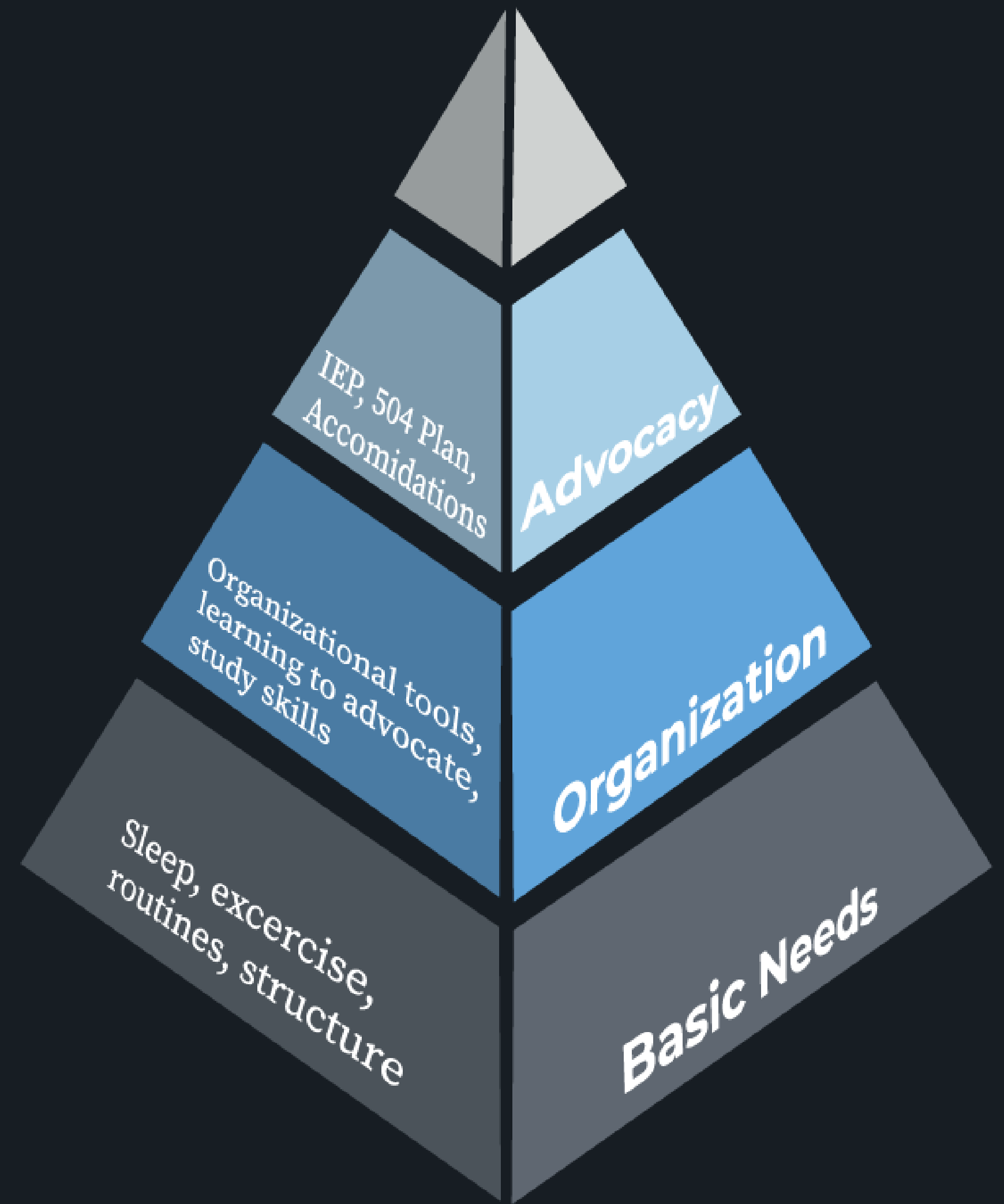
Reference: U.S. Department of Education. (2017). Executive Function: Implications for Education.



Mindsets to Improve EF Skills

DISCIPLINE = FREEDOM

Hierarchy of Needs



Students with EF challenges could be faced with

**20,000 corrective or
negative comments**

by the time they're 10 years old.

Let's make up for that.

Skills Employers Seek in the Workplace

2015

Technical skills
and people
management

1. Complex problem-solving
2. Coordinating with others
3. People management
4. Critical thinking
5. Negotiation
6. Quality control
7. Service orientation
8. Judgement and decision making
9. Active listening
10. Creativity

2028

Innovation,
creativity and
originality

1. Creative and analytical thinking
2. Leadership and social influence
3. Resiliency, flexibility, and agility
4. Curiosity and lifelong learning
5. Technological literacy
6. Design and user experience
7. Motivation and self-awareness
8. Empathy and active listening
9. Talent management and customer service
10. Environmental and resource management

Q&A



Creating Routines That Work

What is *essential* for neurodiverse students is **best practice** for all students

Impact of Routines

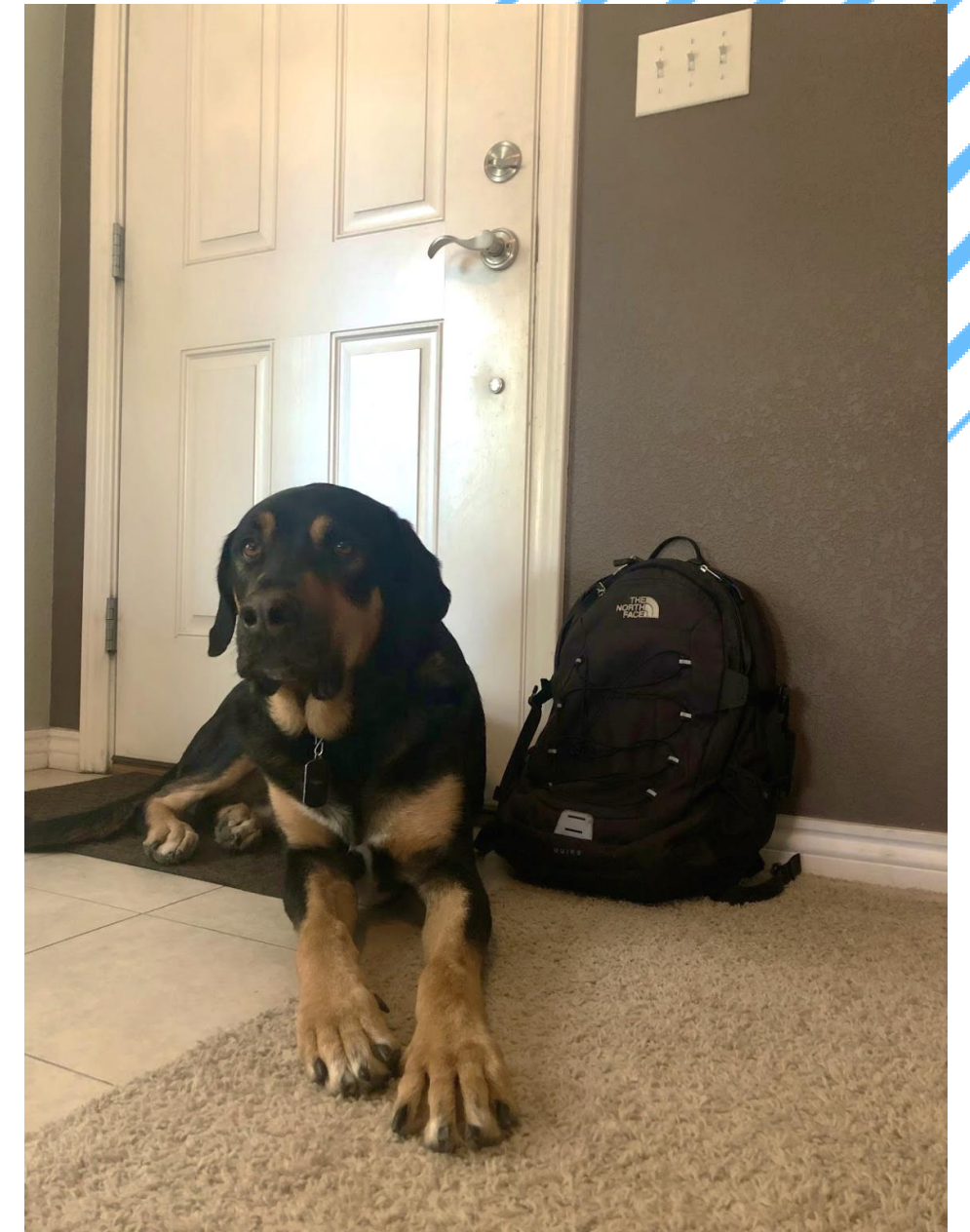
Routines allow our brain to switch from “manual” to “autopilot”, which allows us to focus on more important tasks.

Routines:

- Reduce stress and anxiety
- Increase focus and organization
- Build confidence and discipline



My Routine



Lead Domino

1. Identify your lead domino: **the one thing that, if fixed, will have the largest positive trickle-down effect.**
1. Create a routine around your lead domino.
1. Institute the routine in portions—one at a time—until it is a habit.

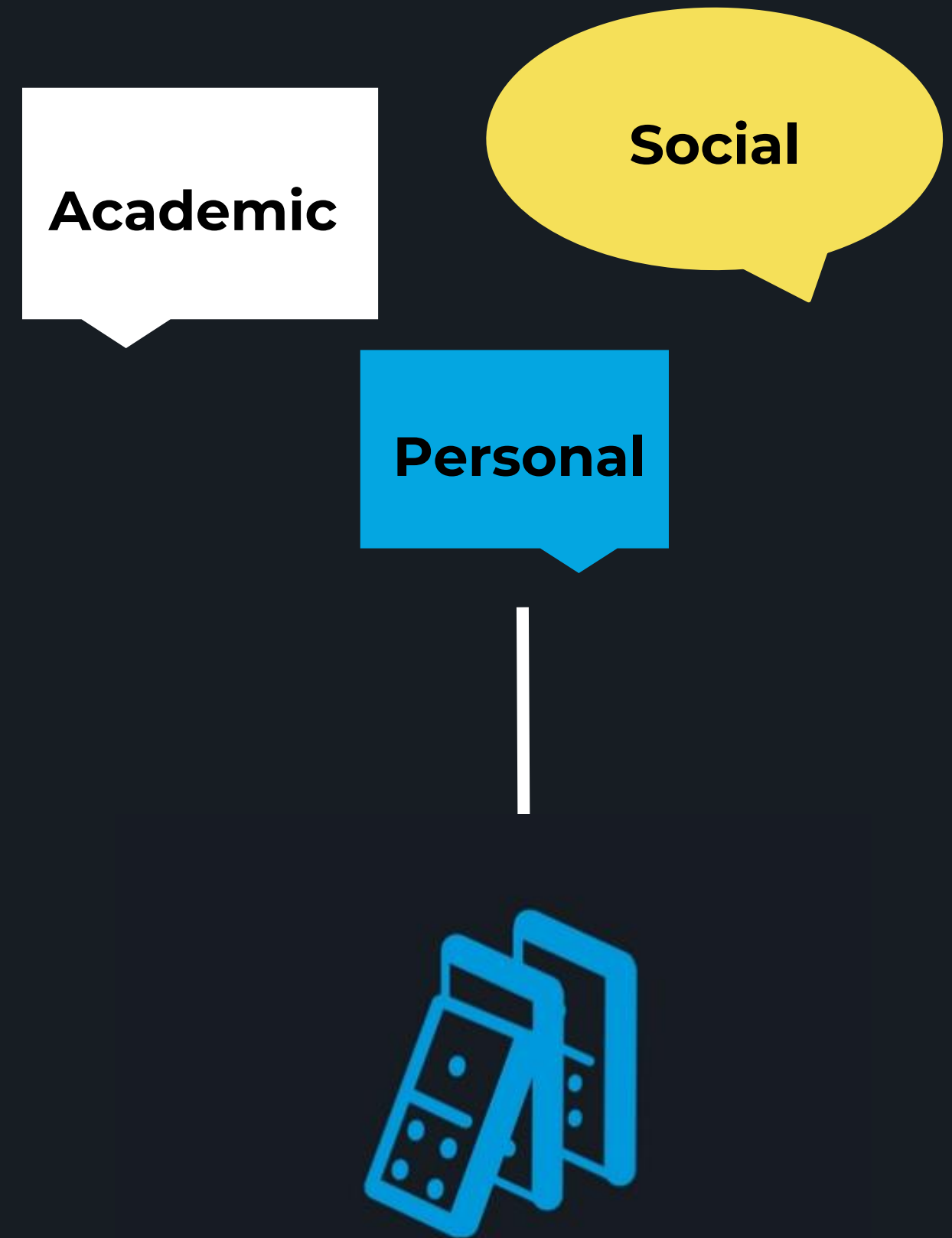


How to Find Your Lead Domino

Brainstorm Issues: List all pain points.

Group Themes: Categorize similar issues.

Implement Routine: Start with one new routine.

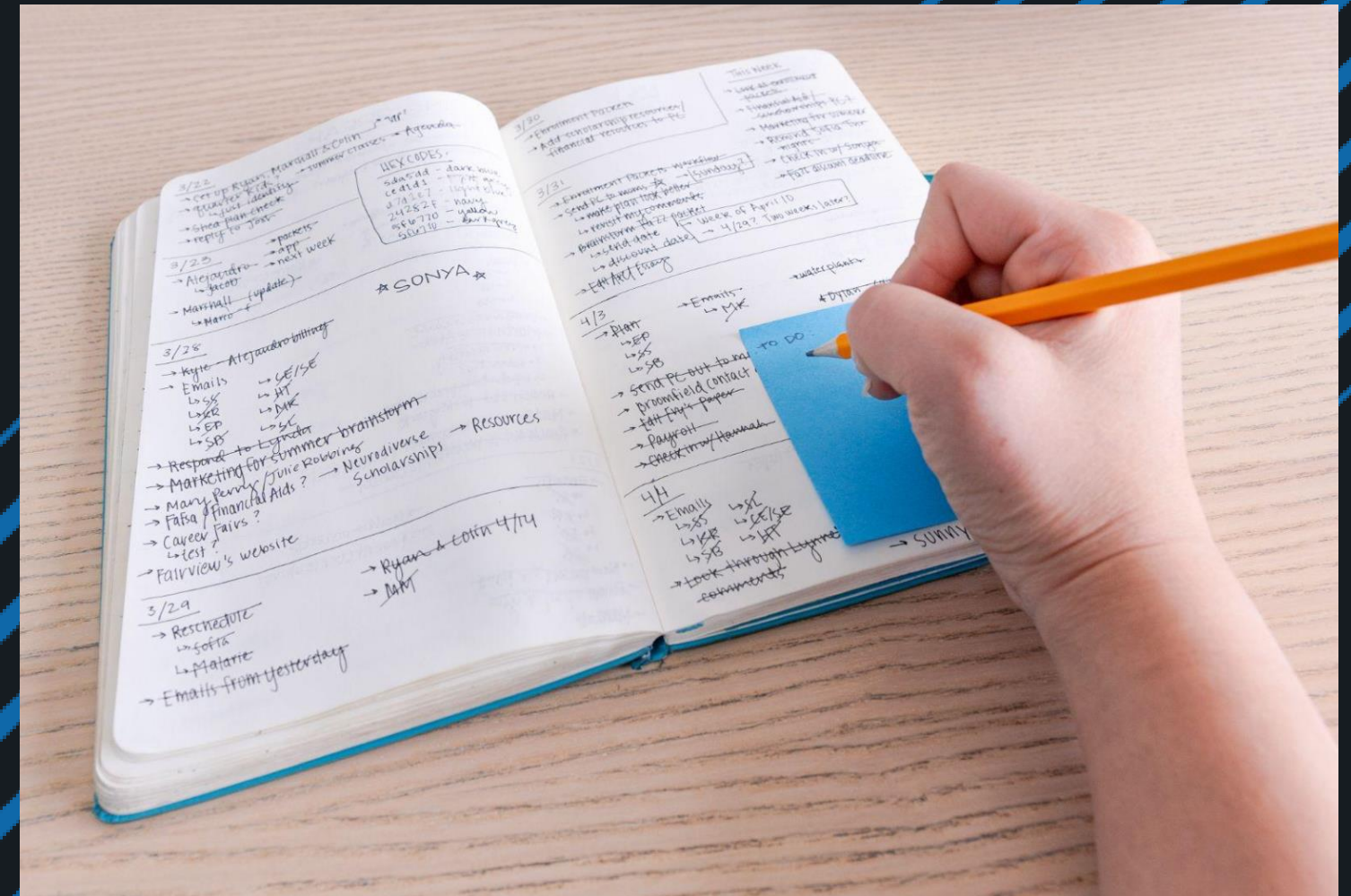


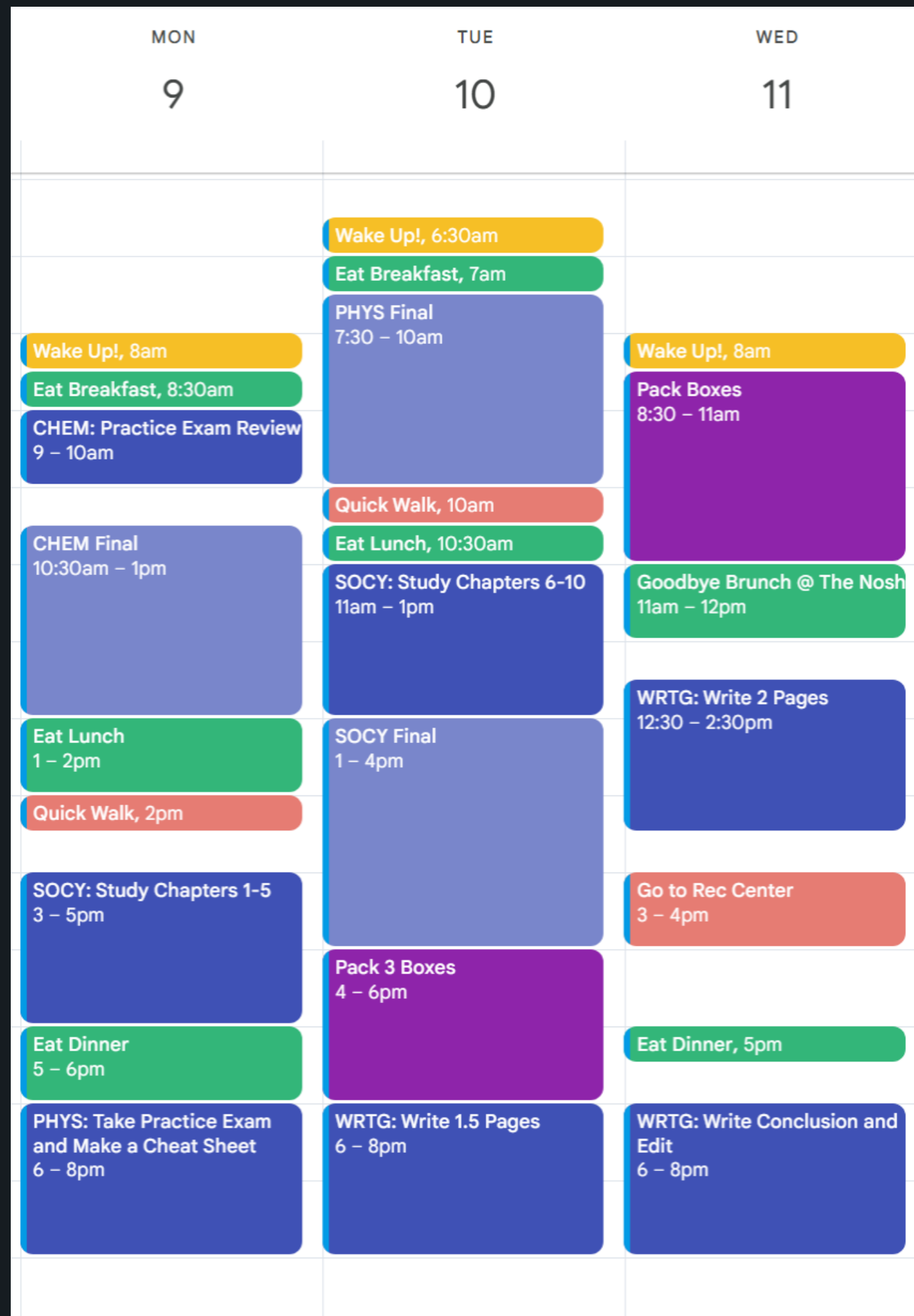


Improving Planning

Why We Plan

- Trains the brain to think ahead
- Prevents procrastination
- Reduces stress - reduction of mental and physical clutter lowers cortisol levels
- Develop organizational system





Time Blocking: Visualizing Your Time

What is Time Blocking?

How to do it:

- Time slots for studying, breaks, friends, and practice.
- Include flexibility for unexpected changes.

Why it Works: Helps in prioritizing tasks, reducing procrastination, and able to “see” time.

Q&A



Learning to Learn

How to Study

Short, Spaced-Out Study Sessions

Active Recall is Crucial: Don't just reread!

- Connect to prior knowledge
- Make it Visual
- Notecard/ 1-pager
- Quiz yourself
- Ability to teach a concept to a peer

Constantly Reflect!



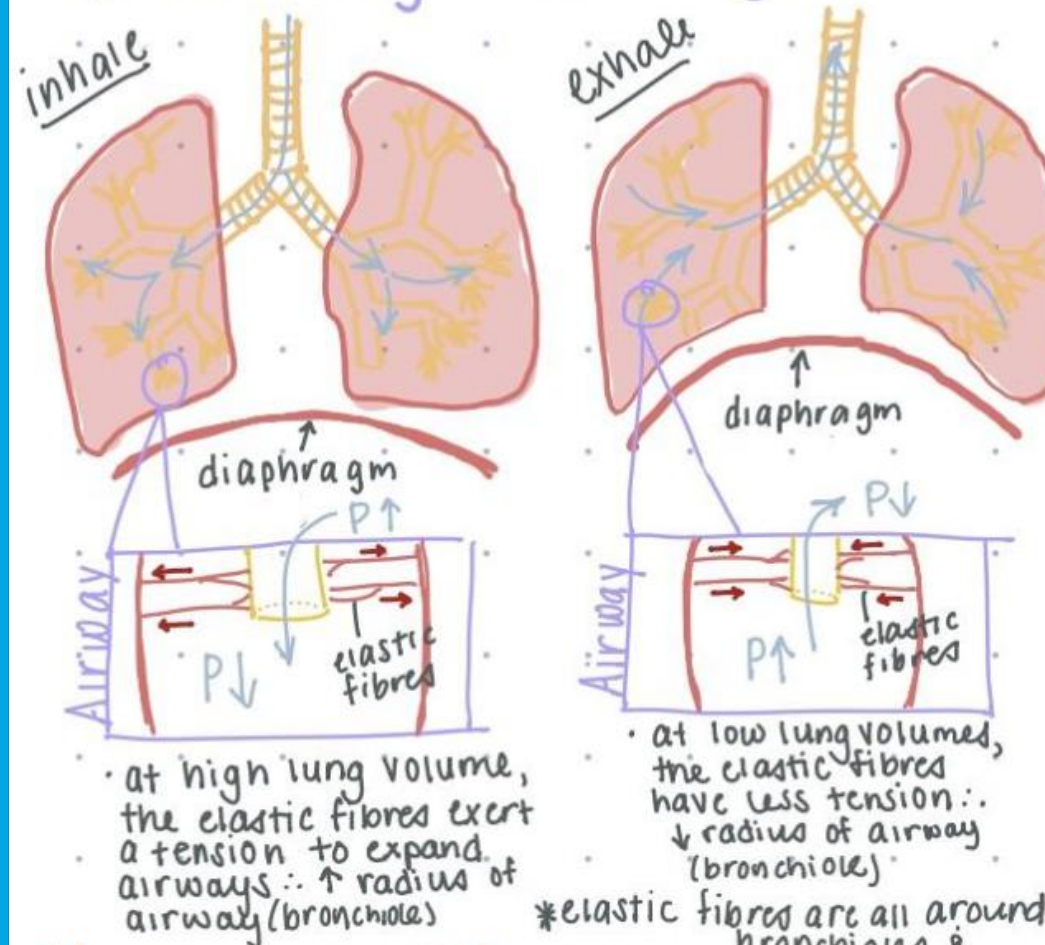
Sample One-Pager

One Pagers Have:

- Visual organization
- Color coding
- Connection of ideas
- Both text and diagrams

Respiratory System

Breathing - Anatomy



Mechanisms of Breathing

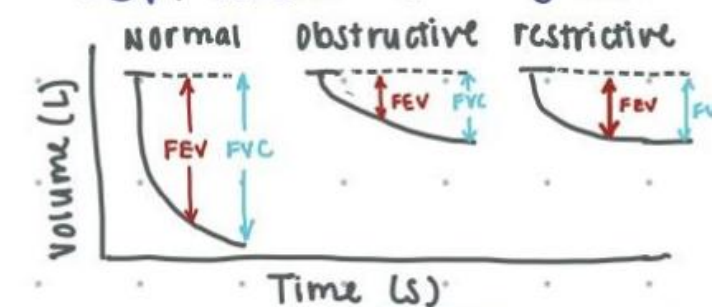
- **inspiration** - active
- **expiration** - passive during quiet breathing
- **resistance to airflow**
 - increases w/ decreased lung volume
 - ↳ small radius results in shift from laminar to turbulent flow
 - changes depending on smooth muscle tone in bronchioles
 - increases w/ inflammation, \uparrow mucus, edema

Lung Volumes

- ① **Residual Volumes**
the **left over volume** when you exhale as much air as you can
*you can never get all air out of your lung
- ② **Vital Capacity**
the largest volume of air that you can dynamically push out of the lungs
- ③ **Tidal volume**
the volume of air that you breathe in & out at **normal, quiet breathing**
- ④ **Functional Residual Capacity**
the amount of volume you have in your lungs when you relax all your inspiratory & expiratory muscles and open up your airways and all the pressure equilibrates

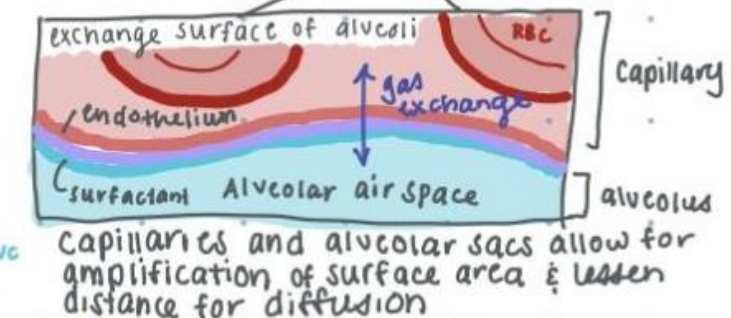
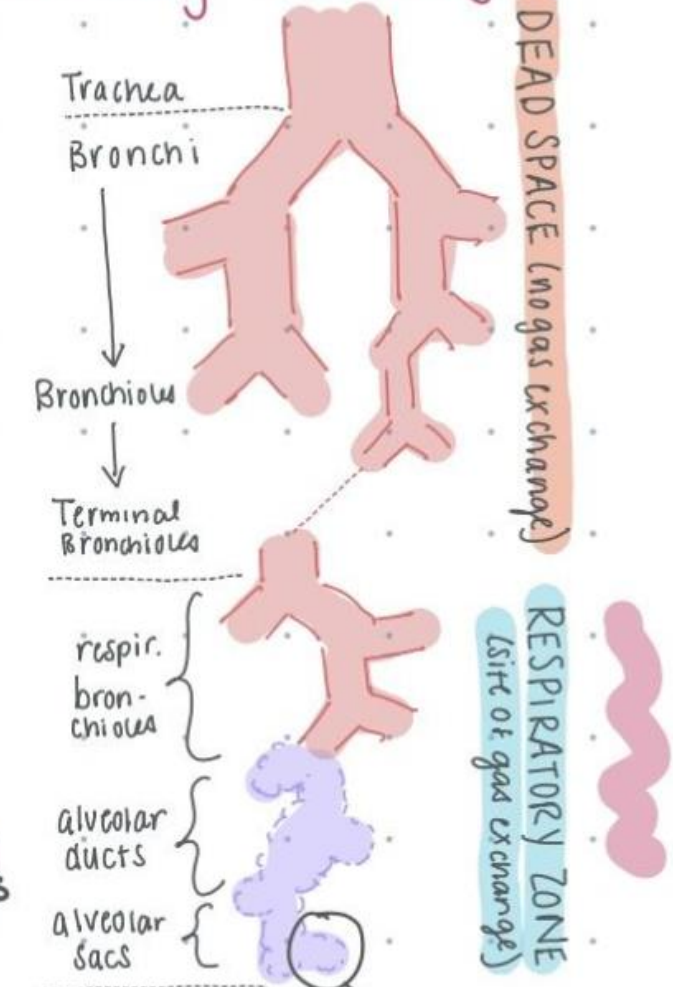
FEV and FVC

FVC: forced vital capacity
FEV: forced expiratory vol.



- if something is **obstructing** your airway (e.g. asthma), it affects the amount you inhale & exhale
 - ↳ not as steep slope indicates more resistance bc less air pushed out per second
- **Restrictive**: lung can't expand
 - ↳ airways are fine \therefore slope is same
 - ↳ volume dynamic range restricted

Airway Anatomy



Batch Breathing

$$V_{total} = V_A + V_D$$

*if you inhale 500mL of air, 350 goes to respiratory space & 150mL stays in dead space

$$\dot{V}_E = \dot{V}_T \times f$$

* if we want to \uparrow alveolar ventilation, $\uparrow \dot{V}_T$ or $\uparrow f$ (breathe faster & deeper)

Self-Reflection

Help students to:

- Recognize strengths and weaknesses
- Understand different abilities and capacities

Do your students learn better when there's an activity involved in the lessons?

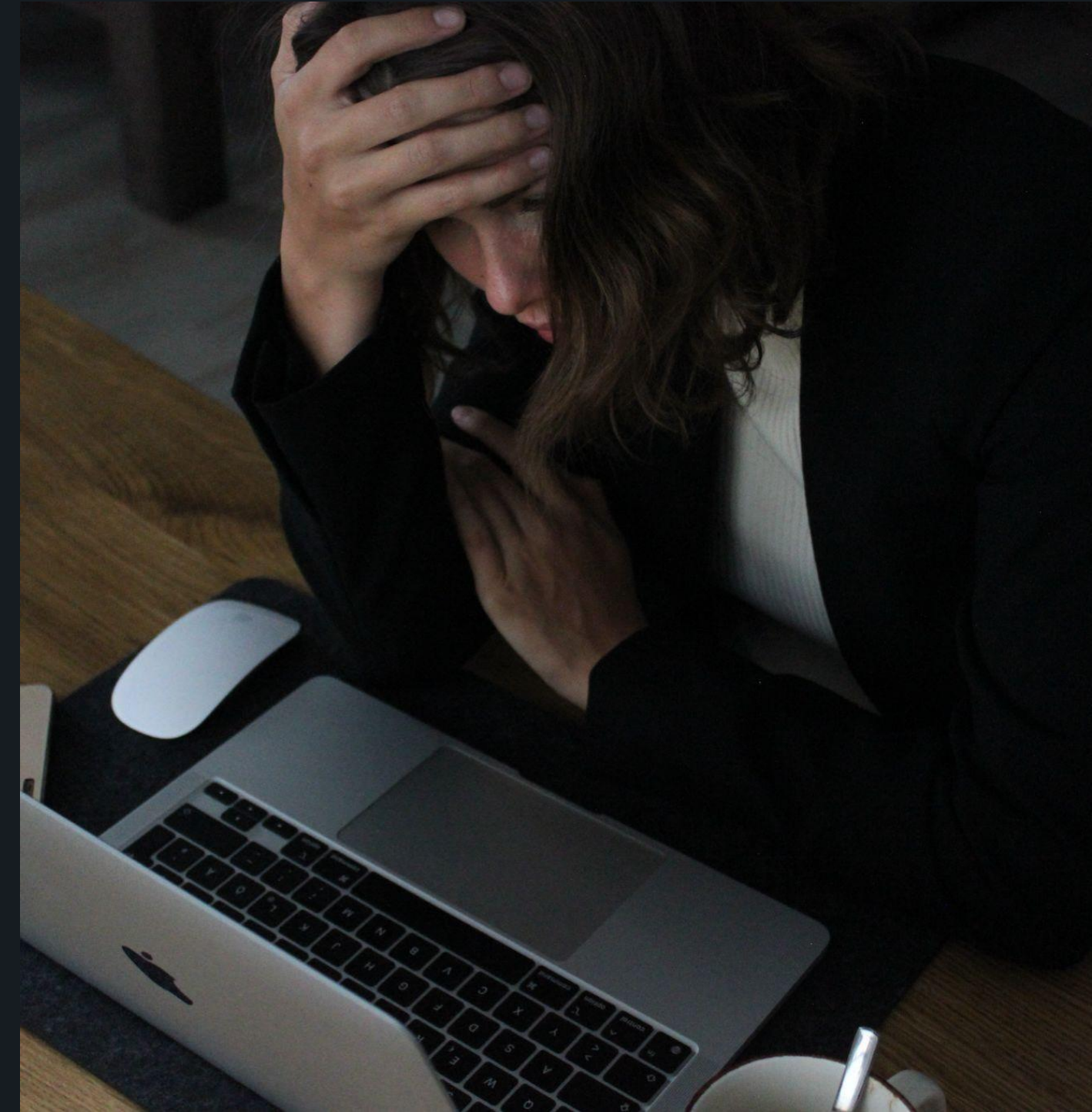
How do you help students get back on track when they lose focus?

How do you model good routines for your students?



Why Students Don't Advocate

- They don't know *how* to ask for what they want or need.
- They are intimidated.
- They don't know what to ask for.
- They feel there's a stigma around needing help.
- They are unaware others aren't experiencing the same struggles as them.



Advocating Face to Face

Role play: provide scripts/bank

You're confused about the second part of your project and the due date is approaching. Instead of waiting until the last minute or not doing it, what do you do?

“Hi Ms. Webb, I'm not sure how to complete the second part of the project and can't stay after school to see you anytime this week. I was wondering if I could check-in at lunch or before school so you could explain it to me?”



Advocating in Writing

Subject: Odyssey Essay Extension _____

Informative subject line

Hi Ms. Webb, _____

Respectful greeting

I was wondering if I could have until Sunday to continue to work on the Odyssey essay. The essay is taking me _____ longer to write than I expected, even though I have my outline completed, and I don't think I will have the whole essay done by class time on Friday. Please let me know if this is okay or if there is anything else you need from me. Thank you! _____

Clear request

Show appreciation

Best, _____
Lucas

Complimentary close

**Stress +
Rest =
Growth**

Add recovery time after intense project phases. This could be small check-ins or low-stakes tasks keep progress moving without burnout.

- Helps avoid burnout
- Allows them to stay engaged
- Increases comprehension and retention

Q&A

RESOURCES

For Educators



For Parents



THANK YOU!

Untapped Website



More Information

www.untappedlearning.com
bslade@untappedlearning.com



@UntappedLearning