

The logo for Next Step Test Prep is centered in a blue square. It features the words "Next Step" in a large, white, sans-serif font, with "Next" on the top line and "Step" on the bottom line. Below "Step" is the text "TEST PREP" in a smaller, white, all-caps, sans-serif font. The background of the slide is dark blue with a repeating pattern of small white plus signs. A large white arrow points downwards from the top of the slide, framing the logo.

Next
Step
TEST PREP

MCAT Memorization

Today's Info Session

- ▶ Welcome to this Info Session!
- ▶ Introduction
- ▶ Nature of Learning
- ▶ How to prep
 - ▶ Brain = screwdriver
 - ▶ Strategies for dealing with specific areas
 - ▶ How to tackle Psych
- ▶ How Can Next Step Help?
- ▶ Questions?

Next
Step
TEST PREP

MCAT
Medical College
Admission Test

WHAT IS YOUR NEXT STEP?

Introduction

Hi, I'm Phil!

- ▶ **MCAT Content writer**
 - ▶ **Tutored and taught for 9+ years**
 - ▶ **Attended University of Nebraska Medical Center as an MD/PhD student.**
- ✓ **Next Step is a team of test prep and educational experts committed to excellence.**



Understanding the test

Exam Overview		
Section	# of Questions	Time Allotted
Examinee Agreement		8 minutes
Tutorial (optional)		10 minutes
Chemical and Physical Foundations of Biological Systems	59	95 minutes
Break (optional)		10 minutes
Critical Analysis and Reasoning Skills	53	90 minutes
Mid-Exam Break (optional)		30 minutes
Biological and Biochemical Foundations of Living Systems	59	95 minutes
Break (optional)		10 minutes
Psychological, Social, and Biological Foundations of Behavior	59	95 minutes
Void Question		5 minutes
Satisfaction Survey (optional)		5 minutes
Total Content Time		6 hours 15 minutes
Total "Seated" Time*		Approx. 7 hours 33 minutes

*Total seated time does not include check-in time on arrival at the test center.

MCAT: a test like no other

Subjects Tested

Chemical and Physical Foundations

- 30% general chemistry
- 25% physics
- 25% biochemistry
- 15% organic chemistry
- 5% biology

Bio and Biochemical Foundations

- 65% biology
- 25% biochemistry
- 5% organic chemistry
- 5% general chemistry

Psychological and Sociological Foundations

- 65% psychology
- 30% sociology
- 5% biology

Brief Neuroscience interlude

Next
Step
TEST PREP



Stuff that your brain wants to learn:

- Navigation
- Facial recognition
- Gossip???

Stuff that your brain DOESN'T want to learn:

- Lists of facts
- Piles of numbers and letters

Memorizing MCAT Science: Techniques

Mnemonics

- *Useful for?*

Formula sheets and practice questions

- *Useful for?*

Study sheets

- *Useful for?*

Flowcharts

- *Useful for?*

Flashcards

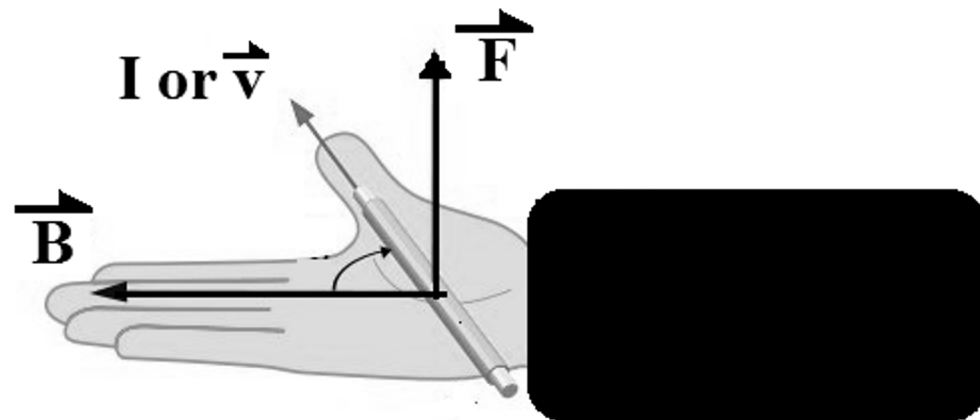
- *Useful for?*

Spaced repetition!

Visual learning

- *Useful for?*

1 H 1.008																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.18
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95
19 K 39.10	20 Ca 40.08	21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.39	31 Ga 69.72	32 Ge 72.61	33 As 74.92	34 Se 76.96	35 Br 79.90	36 Kr 83.80
37 Rb 85.47	38 Sr 87.62	39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc (98)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.71	51 Sb 121.75	52 Te 127.60	53 I 126.90	54 Xe 131.29



Mnemonic Devices

Mnemonics

- *Good ones are outrageous, naughty, or related to people you know (or all 3!)*
- *Can be **visual**, auditory, kinesthetic*
- *You should create a new mnemonic every other week*

Examples:

The classification hierarchy for living things:

King Phillip Comes Over For Good Sushi

(Kingdom, Phylum, Class, Order, Family, Genus, Species)

The elements that are diatomic gases at standard conditions:

Have No Fear Of Ice Cold Beer

(H₂ N₂ F₂ O₂ I₂ Cl₂ Br₂)

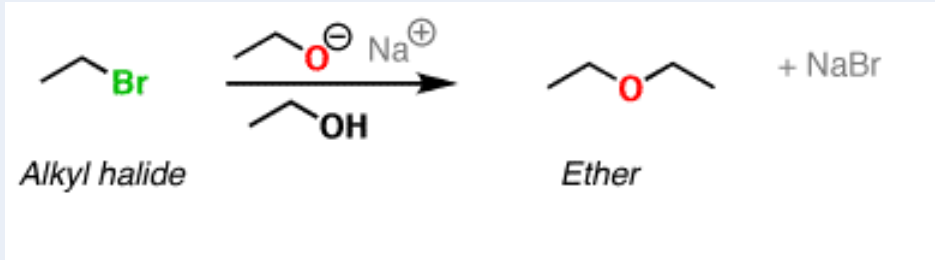
Or memorize it phonetically

“huh-noff cull-bree”: H₂ N₂ O₂ F₂ Cl₂ Br₂ I₂

Mnemonic Devices

When to Use:	Method:	Example:
For information involving key words	Acronym - an invented combination of letters with each letter acting as a cue to an idea you need to remember.	<i>AMPLE GiFTs – is an acronym for the anterior pituitary hormones (ACTH, MSH, prolactin, LH, beta-endorphin, GH, FSH, TSH).</i>
For information involving key words	Acrostic - an invented sentence where the first letter of each word is a cue to an idea you need to remember.	<i>Eat Tender Chicken Chunks Elegantly is an acrostic to remember Proteases in the Duodenum: Enterokinase, Trypsin, Chymotrypsin, Carboxypeptidase and Elastase.</i> <i>FOL(d)M(a)PS - Ovarian Cycle: Follicular phase, Ovulatory phase, and Luteal phase.</i> <i>Menstrual Cycle: Menstrual flow, Proliferative phase, and Secretory phase.</i> <i>SEVEN UP - Path of Sperm in the Male Reproductive Tract: Seminiferous tubules, Epididymis, Vas deferens, Ejaculatory Duct, N(Nothing), Urethra and Penis.</i> <i>LAb RAt – to remember the bicuspid valve of the left atrium and the tricuspid valve of the right atrium.</i> <i>SNoW DRoP – Lab techniques and the material they use. Southern blot, DNA; Northern blot, RNA, Western blot, protein</i>

Mnemonic Devices

When to Use:	Method:	Example:
For remembering information items	Loci Method- Imagine placing the items you want to remember in specific locations in a room with which you are familiar.	<i>To remember the path of the blood: The door to your house is the SVC/IVC entry to the right atrium. As you walk through the house, each door will serve as a valve and the room will serve as the next chamber.</i>
For ordered or unordered lists	Chaining- Create a story where each word or idea you have to remember will cue the next idea you need to recall.	<i>Williamson-ether synthesis: Throw a magic wand and your favorite brand of beer into a wishing well, bring up the bucket to find angel wings</i>  <p><i>WELL is reminiscent of "WILLIAMSON", the magic wand is a long alkyl chain with Br-and reminding you it ends in a halide, the beer is the alcohol, and the pair of wings represents the ether product</i></p>

Personality Disorders Worksheet Exercise

	Disorder Type	Behaviors
"ODD" Behavior	Paranoid	Irrational suspicions and mistrust of others
	Schizoid	
	Schizotypal	
Overly Dramatic	Antisocial	Pervasive disregard for the law and rights of others; may account for half of prison population in some countries
	Borderline	Instability in relationships, self-image, identity and behaviour
	Histrionic	Pervasive attention-seeking behaviour: shallow or exaggerated emotions
	Narcissistic	Pervasive pattern of grandiosity: need for admiration and lack of empathy
	Avoidant	Social inhibition; feelings of inadequacy
Anxiety Ridden	Dependent	Pervasive psychological dependence on others
	Obsessive-compulsive	Rigid conformity to rules and moral codes; excessive orderliness

Why is an MCAT study plan important?

- Studying and practicing for the MCAT tend to be doable...
...but when you factor in planning as well, it can get stressful!
- This is especially true if you:
 - ▶ Work full-time
 - ▶ Are also taking college courses
 - ▶ Have a weak content background or specific MCAT needs

What makes Next Step so effective?



Customizable to You

With a highly customizable study planner tool, live-online office hours 5 days/week at no extra charge, plus hundreds of on-demand video explanations, you can truly tailor your MCAT prep



99th Percentile Instructors

Our online course was created by 524+ scoring instructors & more than 50 of our tutors have scored 520+ on the MCAT



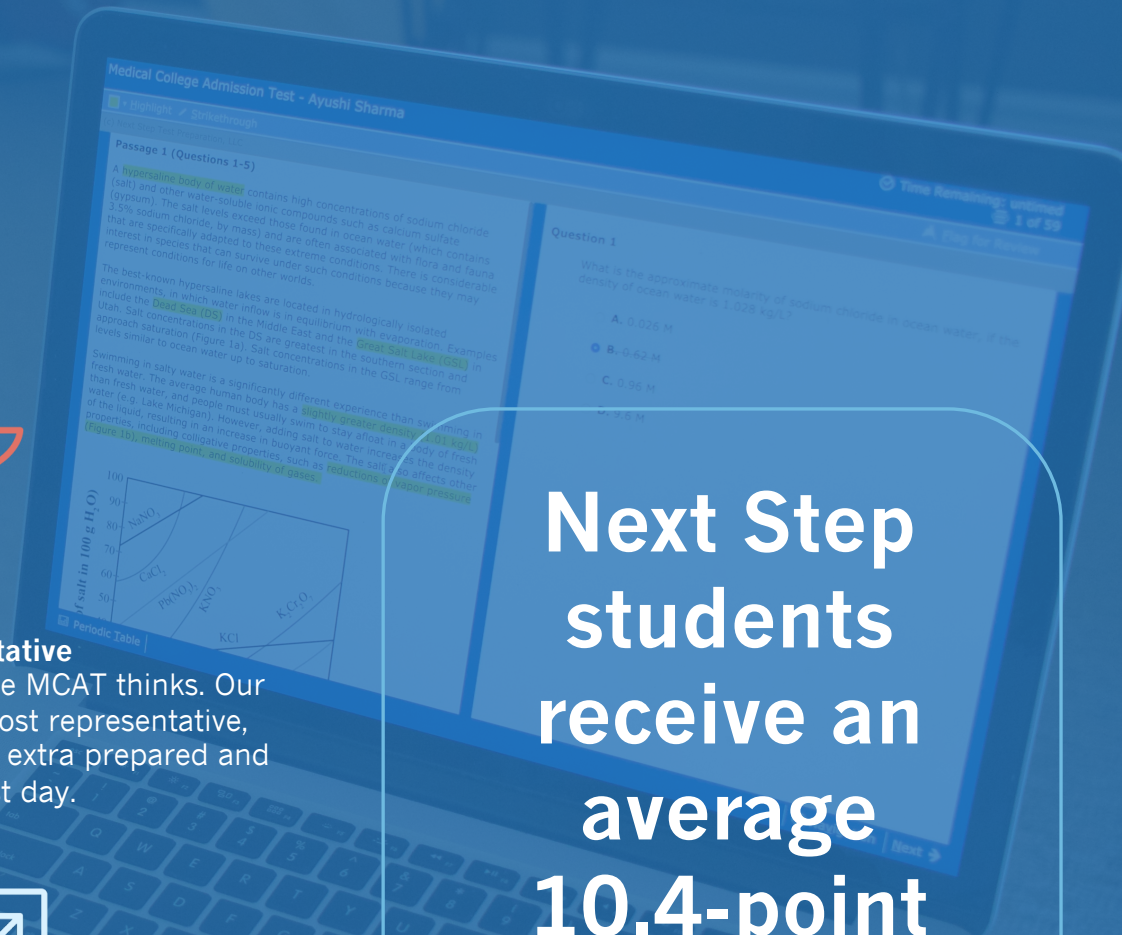
Most Representative

Next Step teaches you how the MCAT thinks. Our exams & interface are the most representative, after the AAMC, so you will be extra prepared and confident on test day.



Score Increase Guarantee

Because we're so confident in our methodology, we guarantee that your score will increase or your money back.



Next Step students receive an average 10.4-point score increase.

Don't take our word for it.

Hear what past students have said.

“Next Step is an **invaluable** resource, they truly have the **best strategies** in regards to approaching each section of this test.”
- T.D.

“Next Step helped me take my score from a **496 to a 523!!**
That's 35th percentile to **99th!** Every service they offer is top notch and definitely helps you prepare for the MCAT” - Gus

“This course has **significantly improved** the way I approach the exam, how I study, and has given me great **support** with any questions I have had along the way.” - Tyler

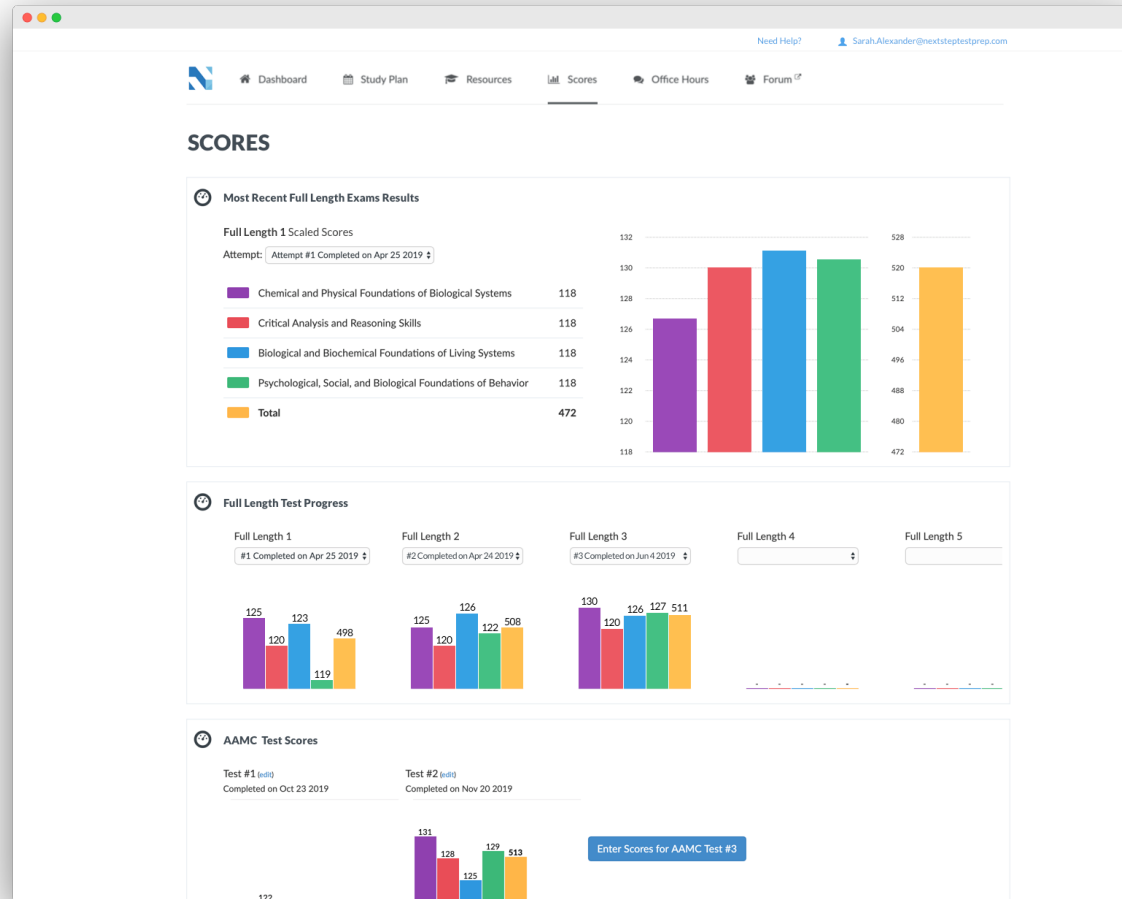


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- 99th+ Percentile Instructors
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- Review sessions online with live Instructors 5x/week
- Proprietary Study Planner tool
- 9 MCAT Books (updated for 2020!)
- Qbank with 2000+ questions
- Access to AAMC online resources
- 6 months access, with free extension for another 6 months, if needed.
- Score Increase Guarantee



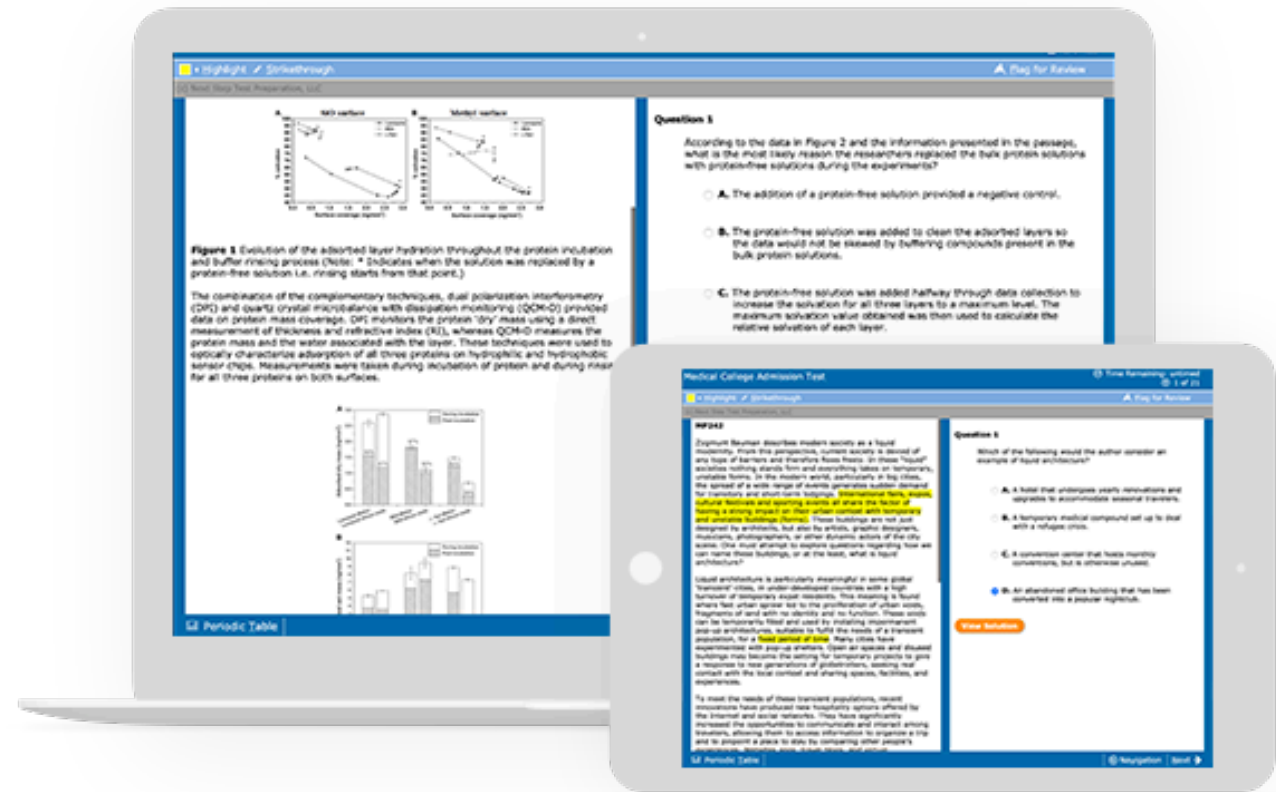
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- The most realistic test day experience you can get



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 - Full-Length Exam
 - Content Review Videos
 - Advanced Study Planner Tool
 - & More!

The screenshot displays the 'STUDY PLAN' interface for January 2020. The interface includes a navigation bar with 'Dashboard', 'Study Plan', 'Resources', 'Scores', 'Office Hours', and 'Forum'. A 'Reset' button is located below the 'STUDY PLAN' heading, and an 'Assignment Bank' button is on the right. The main content is a calendar grid for January 2020, with tasks assigned to specific days:

- January 15:** AAMC Sample Test
- January 16:** AAMC Sample Test Review; Complete 2 passages from the 108 CARS book
- January 17:** Lesson 13; Read Psych & Soc Ch 11 and 12; Read Biochemistry Ch 11; Complete Timed Section 1 from 108 Verbal book; Complete 2 passages from the 108 CARS book
- January 18:** Complete the Chem/Phys section from AAMC Official Guide; Read Biochemistry Ch 12; Complete 2 passages from the 108 CARS book
- January 19:** Lesson 14; Complete Timed Section 2 from 108 Verbal book; Complete the Bio/Biochem section from AAMC Official Guide; Complete 2 passages from the 108 CARS book
- January 20:** Psych/Soc QBank 4: Identity, Disorders, and Groups; Complete 2 passages from the 108 CARS book
- January 21:** Lesson 15; Complete Timed Section 3 from 108 Verbal book; Complete the Psych/Soc section from AAMC Official Guide; Biology QBank 5: Nervous and Endocrine Systems; Complete 2 passages from the 108 CARS book
- January 22:** AAMC Scored Test 1
- January 23:** AAMC Scored Test 1 Review; Complete 2 passages from the 108 CARS book
- January 24:** Lesson 16; Complete the CARS section from AAMC OG; Chemistry QBank 2: Solutions, Acids, and Electrochemistry; Complete 2 passages from the 108 CARS book
- January 25:** Chemistry QBank 3: Bonding and Phases; Review your Lessons Learned Journal (LLJ); Complete 2 passages from the 108 CARS book
- January 26:** Lesson 17; Complete Timed Section 4 from 108 Verbal book; Complete the AAMC Chem/Phys Section Bank (may be split up over multiple sittings); Complete 2 passages from the 108 CARS book
- January 27:** Biochem QBank 2: Biotechnology and Analysis; Review your LLJ and any notes you may have taken; Complete 2 passages from the 108 CARS book
- January 28:** Lesson 18; Complete Timed Section 5 from 108 Verbal book; Complete the AAMC Bio/Biochem Section Bank (may be split up over multiple sittings); Physics QBank 3: Sound and Light

Start your MCAT journey here!



Get Solid Advice for Your Next Step

CALL 888-530-6398 FOR A FREE CONSULT

Electricity and Magnetism

$$F = kQ_1Q_2 / r^2$$

$$F = qVB\sin\theta$$

$$F = iLB\sin\theta$$

$$V = IR$$

$$P = IV$$

$$R = \rho L / A$$

$$V_{rms} = V_{max} / \sqrt{2}$$

$$I_{rms} = I_{max} / \sqrt{2}$$

Resistors in series:

$$R_{tot} = R_1 + R_2 \dots$$

Resistors in parallel:

$$1/R_{tot} = 1/R_1 + 1/R_2 \dots$$

Capacitors in series:

$$1/C_{tot} = 1/C_1 + 1/C_2 \dots$$

Capacitors in parallel:

$$C_{tot} = C_1 + C_2 \dots$$

$$C = Q/V$$

$$\text{Energy} = (1/2)QV$$

$$F = qE$$

$$V = Ed$$

$$\text{Energy} = qEd$$

$$E = kQ/r^2$$

$$\text{Energy} = kQq/r$$

$$V = kQ/r$$

$$\Delta G = -nFE$$

$$E_{cell} = E_{cath} - E_{an}$$

Waves

$$v = f\lambda$$

$$T = 1/f$$

Light

$$n_1\sin\theta_1 = n_2\sin\theta_2$$

$$\sin\theta_c = n_2/n_1$$

$$E = hf$$

$$m = -d_i / d_o$$

$$P = 1/f$$

$$f = (1/2)r$$

$$n = c/v$$

$$1/f = 1/d_i + 1/d_o$$

Sound

$$d\beta = 10 \log(I/I_0)$$

$$L = n\lambda/2 \quad (n=1, 2, \dots)$$

$$L = n\lambda/4 \quad (n=1, 3, \dots)$$

$$f_{beat} = |f_1 - f_2|$$

$$f = f_s[v \pm v_d] / [v \pm v_s]$$

Fluids

$$\rho = m/V$$

$$P = F/A$$

$$P = P_{atm} + \rho g d$$

$$F_b = \rho g V$$

$$Q = Av$$

$$P + \rho g y + (1/2) \rho v^2 =$$

constant

Gases

$$PV = nRT$$

$$\text{Boyle: } PV = k$$

$$\text{Guy-Lussac: } P/T = k$$

$$\text{Charles: } V/T = k$$

$$\text{Avogadro: } n/V = k$$

$$R_1/R_2 = \sqrt{m_2/m_1}$$

$$P_A = X_A \times P_{tot}$$

Solutions

$$pH = pK_a + \log(A^-/HA)$$

$$M = \text{mol} / L$$

$$m = \text{mol} / \text{kg}$$

$$N = M \times \# \text{ of } H^+$$

$$pH = -\log[H^+]$$

$$M_i V_i = M_f V_f$$

$$\Pi = MRT$$

$$\Delta T_f = i k_f m$$

$$\Delta T_b = i k_b m$$

$$X_A = \text{mol}_A / \text{mol}_{tot}$$

Thermo

$$\Delta U = Q - W$$

$$\Delta U = (3/2)nRT$$

$$W = P\Delta V$$

$$Q = mc\Delta T$$

$$Q = mH_L$$

$$\Delta G = \Delta H - T\Delta S$$

$$\Delta H_{rxn} = \Delta H_{prod} - \Delta H_{react}$$

Kinematics

$$v_f = v_o + at$$

$$d = v_o t + (1/2)at^2$$

$$v_f^2 = v_o^2 + 2ad$$

$$a_c = v^2 / r$$

$$F_c = mv^2 / r$$

$$v_x = v_o \cos\theta$$

$$v_y = v_o \sin\theta$$

Mechanics

$$F = ma$$

$$F_{a \text{ on } b} = -F_{b \text{ on } a}$$

$$F_{fric} = \mu F_N$$

$$F_g = GM_1 m_2 / r^2$$

$$F_g = mg$$

$$F = kx$$

$$\tau = rF\sin\theta$$

$$P = W/t$$

$$W = Fd\cos\theta$$

$$E_K = (1/2)mv^2$$

$$U = mgh$$

$$U = -GM_1 m_2 / r$$

Inclined Plane

$$F_{incline} = mg\sin\theta$$

$$F_N = mg\cos\theta$$

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