

**MCAT WEBINAR**

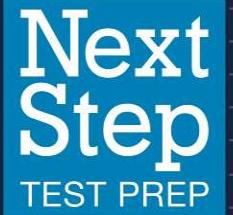
**All about the Diagnostic**

# Today's Agenda

- ▶ Welcome to this Info Session!
- ▶ Introduction
- ▶ General Information
- ▶ What to Do First
- ▶ Reviewing
- ▶ Questions?

**Next  
Step**  
TEST PREP





# Who Is Next Step?

- Began in 2009 as a tutoring company
  - Focus on graduate admissions tests only
  - Team of educational experts
  - First company to have materials built from ground up for 2015 MCAT format
  - Now the first company to have new 2018 MCAT Interface
- ✓ We never stop improving our materials!



STUDENTS HAVE A CHOICE

# 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.



# 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 should this plan include?

- Content review
  - Book chapters (from a set of prep books)
  - And/or content review videos
- Strategy/practice
  - Individual question practice (topic-specific)
  - Passage practice (topic-specific)
  - Full sections
  - Full-length exams
- AAMC resources



# First things first

- Take a diagnostic exam!
- Do this at the very beginning (first 1-3 days) of your prep
- Can be half-length or full-length
- Full-length: allocate 7-8 hours + review
- Half-length: allocate 3-4 hours + review

MCAT DIAGNOSTIC AND SCIENCE DIAGNOSTIC

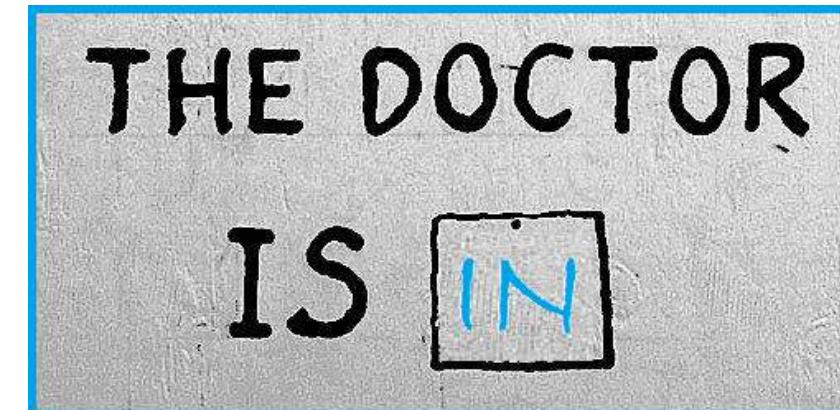
+ SCIENCE CONTENT DIAGNOSTIC ATTEMPTS

+ MCAT DIAGNOSTIC ATTEMPTS

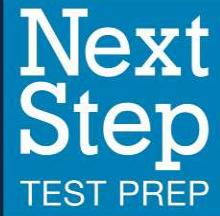
1 <i>not attempted</i> <input type="button" value="Start Timed"/> <input type="button" value="Start Untimed"/>	2 <i>not attempted</i> <input type="button" value="Start Timed"/> <input type="button" value="Start Untimed"/>	3 <i>not attempted</i> <input type="button" value="Start Timed"/> <input type="button" value="Start Untimed"/>	4 <i>not attempted</i> <input type="button" value="Start Timed"/> <input type="button" value="Start Untimed"/>	5 <i>not attempted</i> <input type="button" value="Start Timed"/> <input type="button" value="Start Untimed"/>
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# Why is it important to take a diagnostic?

- It's vital to get a feel for the exam early on! Then, you can:
  - Review weak areas
    - Sections, topics, timing or endurance issues
  - Optimize future prep
    - Start your Lessons Learned Journal
    - Begin planning your study schedule
- But remember, it's still early in the process! DON'T:
  - Worry about your score or feel pressure to improve right away
  - Assume your strengths/weaknesses will be the same on every test



# The Why and How of Reviewing:



- **Isolate weak areas**

*Weak sections (science or CARS)*

*Weak science topics (broad or specific)*

*Timing or endurance problems*

Bonus! Reviewing helps you understand “the box.”

- **Optimize future prep**

*Start your Lessons Learned Journal*

*Efficiently choose which “optional” assignments to complete*

*Add related resources in your free time*

STUFF YOU’RE EXPECTED TO KNOW

- **But remember, you’re still early in your prep process! DON’T:**

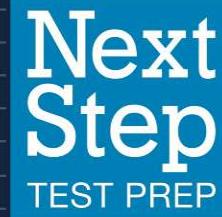
*Worry about your score - you still have a long way to go!*

*Put pressure on yourself to improve immediately*

*Assume that your strong/weak areas will be the same on every exam*

OTHER STUFF

# Dealing with Passages



- **Stuff you'll never see questions about**

Mostly background knowledge

“Research into these fields may satisfy this need.”

“*Ebola is a rising problem in third world countries*”

- **Stuff you will definitely need to refer back to**

*Figures and numbers*

*Things that are danced around*

*Thing that are tacked on*

- **Topics for questions, but you may not need to come back to.**

“5 mL of the cell solution were collected and fractionated with the aid of centrifugation”

“These β-lactam molecules are particularly reactive due in part to significant ring strain”

Research into floating drug delivery systems (FDDS) may satisfy this need.

# What comes next?

Next Step  
TEST PREP

- Content review!

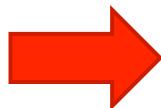
- **However:** it's very important to start question/passage practice early, too.
- Don't plan to do 100% of your content review before moving on to strategy!

Not ideal!

Diagnostic



Content review only



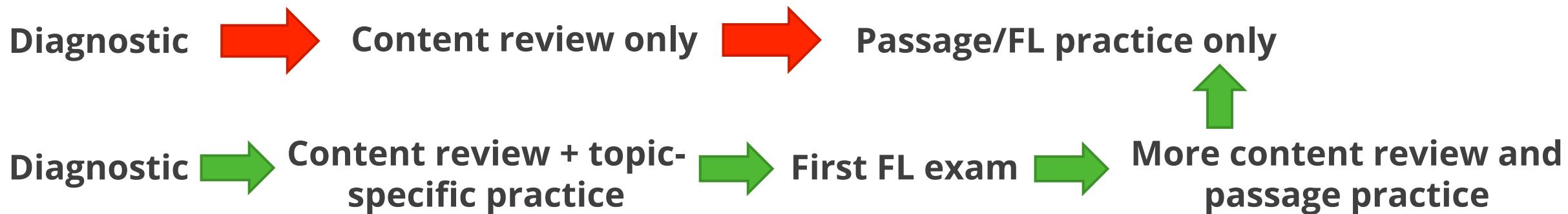
Passage/FL practice only

# What comes next?

Next Step  
TEST PREP

- Content review!

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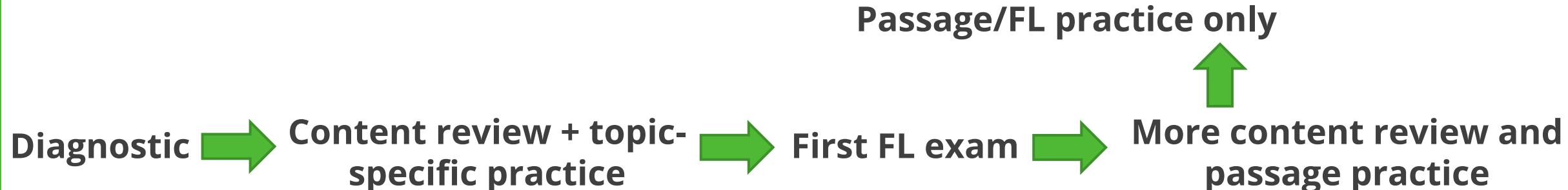
# What comes next?

- Content review!

- **However:** it's very important to start question/passage practice early, too.
- Don't plan to do 100% of your content review before moving on to strategy!

Next Step  
TEST PREP

Much better!





**Let's make a  
plan!**

# How many FLs should you take?

- **MYTH:** The more practice FLs you take, the better.
- In reality – thorough review is most important!
- # of FLs should vary based on prep timeline, endurance, etc.
  - “Typical” student: takes 7-8 FLs
  - If you have endurance of timing problems: take more
  - If you’re confident/crunched for time: 4-5 may be enough!
- Remaining FLs can be taken as separate sections

# How often should you take FLs?

- **MYTH:** It's often helpful to take many FLs right before your test date.
- In reality – sticking to 1 per week is best!
- Plan 1 entire day to take each FL, plus 1-2 days for review
- Then spend the rest of the week targeting weak areas, fitting in section practice, and analyzing lessons learned.
- In general, save AAMC scored exams for last!

# Don't be afraid to let your plan evolve over time!

- For example: is it much more time-consuming than expected?
  - ▶ Evaluate how thoroughly you are reading/taking notes
  - ▶ Reprioritize assignment types and topics
- Or are you having trouble staying focused?
  - ▶ Cover multiple topics in a day instead of a single topic
  - ▶ Break content review up into more manageable chunks
  - ▶ Don't forget to stay healthy!

# Finally – remember to take breaks!

- Breaks are absolutely essential to staying at your best throughout your prep.
- How should a break be spent?
  - ▶ Exercising; keeping a normal routine
  - ▶ Catching up with other obligations (and even having fun)
  - ▶ NOT thinking about the MCAT!
- For longer prep plans, set aside 1 day for a break per week
- For shorter timelines, set aside 1 half-day per week

# Next Step: Core Values



Educate Daily



Approachability



Authenticity



Professionalism



Ownership

We are dedicated to providing personalized support, advice and prep options that match each student's individual needs.

STUDENTS HAVE A CHOICE IN TEST PREP



# Students Have a Choice

✓ Over 50,000 students have used Next Step Test Prep in their MCAT prep journey

- Always up-to-date content, strategy and tests
- Guaranteed Satisfaction
- No call center – instead, Academic Managers guide you all the way!
- Always updating our content based on announced changes and student feedback
- Are ensured the most up-to-date, realistic experience... always
- Access to Online Forum for additional live support from fellow students and NSTP Content Team



# New 2018 MCAT Interface

- New Highlighting features
- New Strikethrough features
- New Keyboard Shortcuts
- New Navigation/Review Screens

Next Step is ready. Are you?



Medical College Admission Test - Clara Gillan

Time Remaining: 01:21:34  
18 of 59

Flag for Review

Question 18

Which of the statements below is supported by the experimental results, as shown in Figures 1 and 2?

A. The duration of Eos co-culture with NK cells directly and linearly correlates to the amount of ECP found in the supernatant after centrifugation.

B. Cells cultured with a 1:1 NK-to-Eos ratio displayed statistically similar levels of activation to cells cultured with a 5:1 NK-to-Eos ratio, as measured by CD69 expression.

C. NK co-culture stimulates Eos activation while inhibiting degranulation.

D. Co-culture with NK cells significantly increased Eos degranulation in all groups, as compared to Eos cells cultured alone.

**Figure 1** Eosinophil activation as measured by percent of CD69-positive cells after 3 and 12 hours of co-culture (\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001)

Next, researchers aimed to assess the effect of NK co-culture on eosinophil degranulation. After 3 and 12 hours of co-culture, samples were centrifuged at 1500 rpm, and ECP levels were measured in the supernatants (Figure 2). No ECP was detected in supernatant culture of NK cells alone.

3 H                          12 H

Periodic Table | Review Screen | ← Previous | Next →

A screenshot of the Next Step MCAT test interface. At the top, it says "Medical College Admission Test - Clara Gillan". Below that is a toolbar with "Highlight" and "Strikethrough" buttons. The main area shows two scatter plots of CD69+ Eos cells versus NK : Eos ratio at 3H and 12H. To the right is a question about eosinophil activation with four options (A, B, C, D) and a statement about NK co-culture. At the bottom are navigation buttons for the periodic table, review screen, and previous/next questions.

✓ Your practice experience matters! Prep with the most realistic testing environment with Next Step.

# Personalized Options

- ✓ **No matter your study style, strengths, timing or MCAT goal, Next Step has an option to keep you on target.**
- **Free Practice Bundle Materials**
- **Self-Prep Materials and Planning**
- **Guided Online Study with Free Extra Help**
- **One-on-One Tutoring**

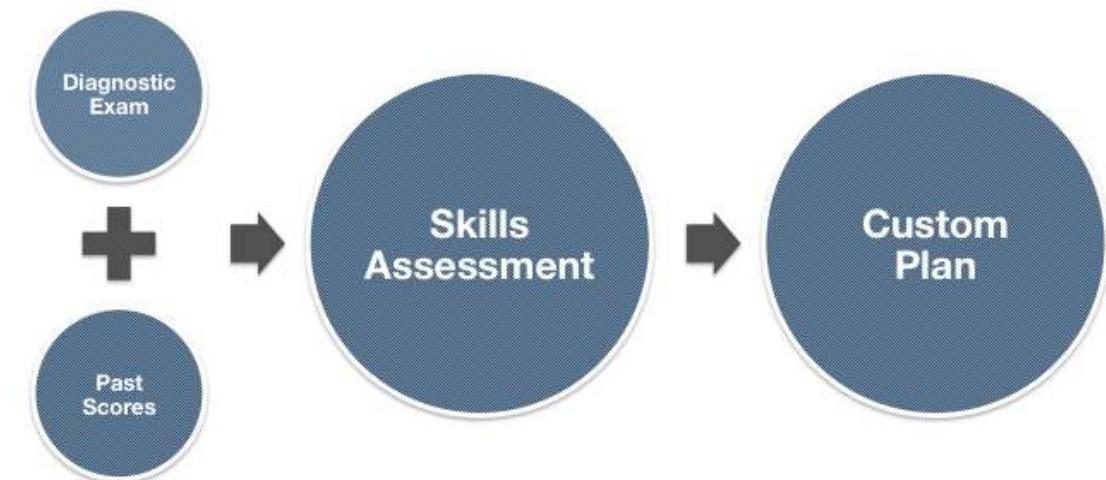


# One-On-One Tutoring

✓ No matter your study style, subject expertise, or MCAT goal, Next Step's Tutoring is personalized for YOU.

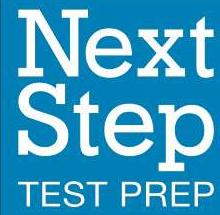
- Tailored Study Plan
- Most online resources (including course)
- Flexible Online Tutor Sessions
- Top-Scoring, Expert MCAT Tutors

Hourly packages from Crash Course to Elite



Schedule a free MCAT consultation with an experienced Academic Manager

# Unmatched Online Course



✓ Finally, a high-quality live-online MCAT course delivering personalization, flexibility, and affordability in an easy-to-understand platform.

- One-On-One Orientation
- Exclusive Study Plan Generator
- All 10 Next Step MCAT Practice Exams
- Next Step's MCAT Half-Length Diagnostic - 5 attempts
- Class Videos & Course Book (20 lessons/over 60 hours)
- Express Videos (15 videos)
- MCAT Supplemental Reading
- Content Review Videos (nearly 30 hours)
- Online Qbank of 1,880 passage-based and discrete science questions & quizzes
- Test Review Videos
- All Online AAMC Resources
- MCAT 6-Book Review Series in 4-color
- MCAT Qbook with over 2000 discrete practice questions
- MCAT Verbal Practice 108 Passages

Best value – only \$1,599

# Most Realistic Practice Exams

# Next Step TEST PREP

✓ Your testing experience matters.  
Practice with the most representative PCAT exam platform available.

- **Free Half-Length Diagnostic**
  - **4-, 6-, 10-Full-Length MCAT Exam Bundles**
  - **Qbank with 10-Pack Bundle**
  - **Exclusive Study Plan Generator**
  - **Science Content Diagnostic**
  - **Thorough explanations**
  - **MCAT Class Video**
  - **Lesson 1 videos from Online MCAT Course**
  - **Selection of Content Review Videos**
  - **Test Review Videos**
  - **Public Live Online Q&A Office Hours**
  - **Online Forum Access**

## MCAT Exam Bundles- \$99. \$149. \$249

Medical College Admission Test - Clara Gillan

⌚ Time Remaining: 01:23:11  
2 of 59

Yellow Highlight ✎ Strikethrough ⚪ Flag for Review

**Passage 1 (Questions 1-4)**

HIV protease is an example of an aspartyl protease; an enzyme that utilizes an aspartate side chain during the catalytic cleavage of a peptide bond. Since HIV protease is a relatively small homodimer of a 99-residue protein, it can be directly synthesized, or cloned and expressed in fast growing cells. For this reason, it was targeted for structure-based drug design in order to treat HIV infection.

A portion of the peptide cleaved by HIV protease is shown in Figure 1.

Figure 1 shows a chemical structure of a peptide segment with a cleavage site indicated by a dashed line. The sequence is: CONH<sub>2</sub>-CH(CH<sub>3</sub>)<sub>2</sub>-NH-C(=O)-Ph-CH<sub>2</sub>-NH-C(=O)-CONH<sub>2</sub>. The cleavage site is between the second and third amino acid residues.

**Figure 1** The peptide bond cleaved by HIV protease

Using molecular models of the HIV protease enzyme, researchers designed and synthesized transition state analogs. One such molecule is Compound 1, shown in Figure 2, which is a potent HIV protease inhibitor.

Question 2

How many stereoisomers of Compound 1 exist?

A. 8

B. 16

C. 32

D. 64

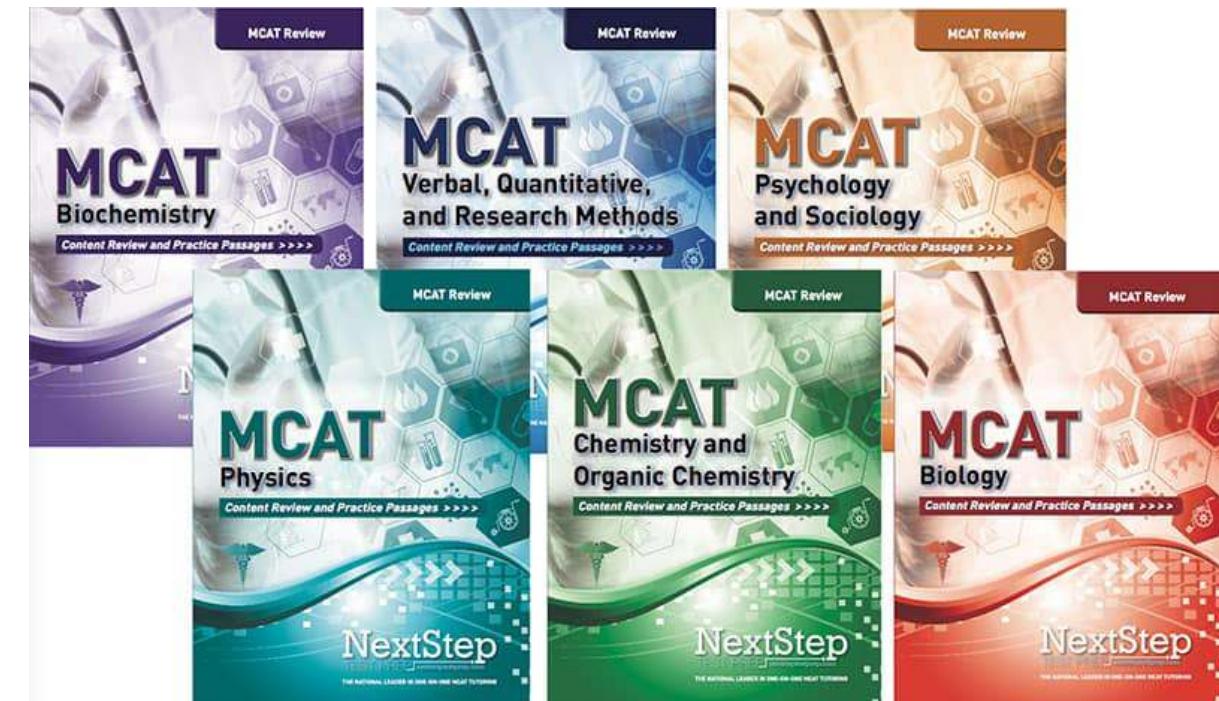
# NSTP MCAT Books: Enhance Your Self- Study

✓ Newly released books, in 4-color, fully aligned to 2018 MCAT

## Next Step's MCAT Review Series

Next Step's MCAT Review Series provides an extensive foundation of the science knowledge and understanding at the core of a top MCAT performance.

Visit the Next Step Book Store at:  
[nextsteptestprep.com/mcat-book-store](http://nextsteptestprep.com/mcat-book-store)

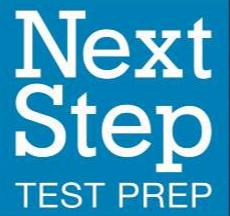


# Next Step: Educate Every Day

- ✓ Start your prep with high-value FREE practice to build a study plan suited to your goals, needs, and schedule.

## Industry's Best FREE MCAT Practice Bundle

- Half-length MCAT diagnostic
- Full-length MCAT exam
- 500+ Question Science Content Diag exam
- Test Review Videos
- Multiple QBank Samples
- 16 Test & 4 Content Review Videos
- Proprietary Study Plan Generator
- Aligned to new MCAT 2018 Interface



Get your  
**FREE MCAT Practice  
Bundle**

[nextsteptestprep.com/free-mcat](http://nextsteptestprep.com/free-mcat)

# Additional Free Resources

✓ Supplement your prep with additional support tools

- **Question of the Day Quick Prep**
- **Get Social: YouTube, Facebook and Instagram**
- **Ongoing Public Webinars and Q&A Sessions**
- **MCAT Blog: Content and Admissions**
- **Next Step MCAT Forum**



Question of the Day

Two people push a box along a frictional surface. One pushes the box at an angle of  $30^\circ$  to horizontal with force  $F$  while the other pushes the box horizontally with force  $F\cos30^\circ$ . Which person does the most work?

A) Person A  
B) Person B  
C) Person A and B do equal amounts of work  
D) cannot be determined

Next Step Test Prep  
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Next Step AAMC 2 Review Video - Chemistry and

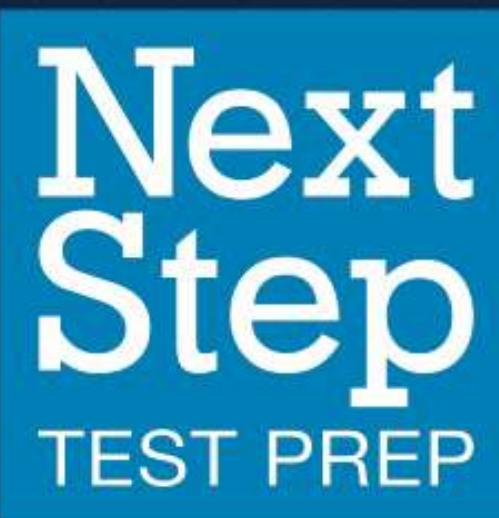
Next Step AAMC 2 Review Video - Biological

# Take the Best Next Step

✓ Others say it. We deliver it.

**Remember:**

- **Most Representative Testing Platform updated for 2018 Interface**
- **Free Live, Online Office Hours**
- **Exclusive Study Plan Generator**
- **Online MCAT Forum**
- **4-color books and all online AAMC Resources**
- **10 Full Length Tests**

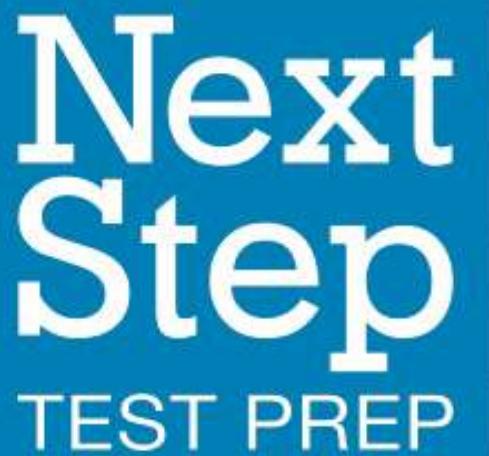


**Next  
Step**  
TEST PREP

**Questions?**

1.

Electricity and Magnetism	Waves	Gases	Kinematics
$F = kQ_1 Q_2 / r^2$	$v = f\lambda$	$PV = nRT$	$v_f = v_0 + at$
$F = qVB \sin \theta$	$T = 1/f$	Boyle: $PV = k$	$d = v_0 t + (1/2)at^2$
$F = iLB \sin \theta$	Light	Guy-Lussac: $P/T = k$	$v_f^2 = v_0^2 + 2ad$
$V = IR$	$n_1 \sin \theta_1 = n_2 \sin \theta_2$	Charles: $V/T = k$	$a_c = v^2 / r$
$P = IV$	$\sin \theta_c = n_2/n_1$	Avogadro: $n/V = k$	$F_c = mv^2 / r$
$R = \rho L / A$	$E = hf$	$R_1/R_2 = \sqrt{(m_2/m_1)}$	$v_x = v_0 \cos \theta$
$V_{rms} = V_{max} / \sqrt{2}$	$m = -d_i / d_o$	$P_A = X_A \times P_{tot}$	$v_y = v_0 \sin \theta$
$I_{rms} = I_{max} / \sqrt{2}$	$P = 1/f$	Solutions	Mechanics
Resistors in series:	$f = (1/2)r$	$pH = pK_a + \log (A^-/HA)$	$F = ma$
$R_{tot} = R_1 + R_2 \dots$	$n = c/v$	$M = mol / L$	$F_{a \text{ on } b} = -F_{b \text{ on } a}$
Resistors in parallel:	$1/f = 1/d_i + 1/d_o$	$m = mol / kg$	$F_{fric} = \mu F_N$
$1/R_{tot} = 1/R_1 + 1/R_2 \dots$	Sound	$N = M \times \# \text{ of } H^+$	$F_g = GM_1 m_2 / r^2$
Capacitors in series:	$d\beta = 10 \log (I/I_0)$	$pH = -\log [H^+]$	$F_g = mg$
$1/C_{tot} = 1/C_1 + 1/C_2 \dots$	$L = n\lambda/2 \text{ (n=1, 2\dots)}$	$M_i V_i = M_f V_f$	$F = kx$
Capacitors in parallel:	$L = n\lambda/4 \text{ (n=1,3\dots)}$	$\Pi = MRT$	$\tau = rF \sin \theta$
$C_{tot} = C_1 + C_2 \dots$	$f_{beat} =  f_1 - f_2 $	$\Delta T_f = ik_f m$	$P = W/t$
$C = Q/V$	$f = f_e [v \pm v_d] / [v \pm v_s]$	$\Delta T_b = ik_b m$	$W = Fd \cos \theta$
Energy = $(1/2)QV$	Fluids	$X_A = mol_A / mol_{tot}$	$E_K = (1/2)mv^2$
$F = qE$	$\rho = m/V$	Thermo	$U = mgh$
$V = Ed$	$P = F/A$	$\Delta U = Q - W$	$U = -GM_1 m_2 / r$
Energy = $qEd$	$P = P_{atm} + \rho gd$	$\Delta U = (3/2)nRT$	Inclined Plane
$E = kQ/r^2$	$F_b = \rho g V$	$W = P\Delta V$	$F_{incline} = mg \sin \theta$
Energy = $kQq/r$	$Q = Av$	$Q = mc\Delta T$	$F_N = mg \cos \theta$
$V = kQ/r$	$P + \rho gy + (1/2)\rho v^2 =$	$Q = mH_L$	$F_{fric} = \mu mg \cos \theta$
$\Delta G = -nFE$	constant	$\Delta G = \Delta H - T\Delta S$	
$E_{cell} = E_{cath} - E_{an}$		$\Delta H_{rxn} = \Delta H_{prod} - \Delta H_{react}$	



**Schedule a one-on-one consultation with an Academic  
Manager.**

**REQUEST IN TODAY'S WEBINAR SURVEY.**