Foundations of Pharmacy Science

Event Category: Health Professions

Eligible Divisions: Middle School	**Round One:** 35 Q test (60 minutes) HOSA will provide a basic handheld calculator for the test.	**Digital Upload:** NO
Solo Event: 1 competitor	**Round Two:** Skill(s) assessment	

New for 2026-2027

NEW middle school event for 2026-2027.

Event Summary

Foundations of Pharmacy Science provides **Middle School Division** HOSA members with the opportunity to gain knowledge and skills required for a basic understanding of introductory pharmacy skills. This competitive event consists of two rounds. Round One is a written, multiple-choice test, and the top-scoring competitors will advance to Round Two for the skills assessment. This event aims to inspire members to learn more about the field of pharmacy care.

Sponsorship

HOSA- Future Health Professionals appreciates the sponsorship of this event by the ASHP. ASHP has developed a special landing page for HOSA competitors and advisors.	ashp

General Event Information

General Rules	Competitors must be familiar with and adhere to the General Rules and Regulations.
Dress Code	Proper business attire or official HOSA uniform. Bonus points will be awarded for proper dress. • Round One: Proper business attire, official HOSA uniform, or attire appropriate to the occupational area. • Round Two: Attire appropriate to the occupational area.
Competitors Must Provide	• Photo ID for both rounds • Two #2 lead pencils (not mechanical) with an eraser for test • Neon colored foam earplugs, NOT earbuds, for noise control (Rd1-optional) • 2 pairs of Non-Latex Exam Gloves (Rd2 skills) Gown, Gloves, Mask, Goggles (PPE) HOSA Conference Staff will provide equipment and supplies listed in Appendix I.
Official References	The references below are used in the development of the test questions and skill rating sheets. • Stuhan, Mary Ann. *Understanding Pharmacology for Pharmacy Technicians.* ashp. Latest edition. (Use this HOSA student promo code at checkout for a discount on this ASHP resource: **ASHPxHOSA**) • Top 150 Prescription Abbreviations & Medical Meanings • Marshal, Jacquelyn Rhine and Roe, Sue. *Health Science Concept and Skills.* G-W Publishers Latest edition. The following references are used in the development of the skill rating sheets only. • Medication History • AHFS DI Drug Monographs for Healthcare Professionals

The expectation is that competitors read and are aware of all the content within these guidelines and associated links. Successful competitors will study all links for the detailed information.

ROUND ONE- Test

Test Instructions	All competitors will be given a test and test answer sheet. The written test will consist of 35 multiple-choice items in a maximum of 60 minutes. See test instructions here. At the International Leadership Conference, HOSA will provide basic handheld calculators (no graphing calculators) for addition, subtraction, division, multiplication, and square root. USE OF ZERO: Decimal expressions of less than 1 should be preceded by a zero—a "leading zero." A whole number should never be followed by a decimal point and a zero – "trailing zero."
Time Remaining Announcements	There will be NO verbal announcements for time remaining during ILC testing. All ILC testing will be completed in the Testing Center, and competitors are responsible for monitoring their own time.
Written Test Plan	The written test for Foundations of Pharmacy Science is: ● Pharmacy Practice History & Practice Settings - 30% ● Pharmacy Law & Ethics and Safety & Infection Control - 20% ● Pharmacy Terminology & Abbreviations - 20% ● Dosage Formulations & Administration Routes - 15% ● Concentration & Dilutions - 10% ● Disorders & Treatments - 5%
Sample Test Questions	1. What is the term for the study of the movement of a drug through body systems, including absorption, distribution, metabolism, and excretion? (Stuham pp 19) A. Pharmacology **B. Pharmacokinetics** C. Therapeutics D. Pharmacogenomics 2. What law was passed in 1938 which began to regulate drugs and prohibit false therapeutic claims? (Bachenheimer & Phillips pp 53) A. Durham-Humphrey Amendment B. Omnibus Budget Reconciliation Act C. Harris Narcotic Tax Act **D. Food, Drug, and Cosmetic Act** 3. If a patient is to receive 1 ounce of an over-the-counter medication, how many tablespoons should be given? (Bachenheimer & Phillips pp 325) A. 1 tablespoon **B. 2 tablespoons** C. 3 tablespoons D. 4 tablespoons

ROUND TWO- Skill Assessment

1. The top competitors from Round One will advance to Round Two. The number of advancing competitors will be determined by the scores obtained in Round One and the space and time available for Round Two. Round Two finalists will be announced on-site at ILC per the conference agenda.

2. Round Two is a selected skill(s) assessment. The skills approved for this event are:

Skill I: Pill Identification (see list of medications in chart below that will be used for this skill)	**8 minutes**
Skill II: Performing Medication History	**7 minutes**
Skill III: Donning and Doffing Full Set of PPE	**6 minutes**
Skill IV: Handwashing	**3 minutes**

3. For all skills, medications and body fluids will be a simulated product.
4. The following medications will be included for the **Skill I: Pill Identification** skill. This skill may be administered with the Round One written test. If this skill is administered with the Round One test, the skill assessment allotted time (8 minutes) will be added to the test time (60 minutes) to equal 68 minutes.

Over-the-Counter	Meds to treat Cardiovascular Disorders	Meds used in Respiratory Illness	Meds used in Infection
Acetaminophen (Tylenol)	Atorvastatin (Lipitor)	Albuterol (Ventolin / ProAir)	Amoxicillin (Amoxil)
Ibuprofen (Advil / Motrin)	Amlodipine (Norvasc)	Azithromycin (Zithromax / Z-Pak)	Cephalexin (Keflex)
Diphenhydramine (Benadryl)	Metoprolol (Lopressor)	Tiotropium (Spiriva)	Doxycycline (Vibramycin)
Loratadine (Claritin)	Lisinopril (Zestril)		
Dextromethorpahan (Robitussin /Delsym)			

Meds used in Gastrointestinal Illness	Meds used in Diabetes	Meds used to Tx Brain Health	Meds used to Tx Allergic Reaction
Omeprazole(Prilosec)	Metformin (Glucophage)	Sertraline (Zoloft)	Prednisone (Deltasone)
Ondansetron (Zofran)	Insulin Glargine (Lantus)	Escitalopram (Lexapro)	Epinephrine (Epipen)
Promethazine (Phenergan)		Methylphenidate (Ritalin / Concerta)	

5. The selected skill(s) will be presented to competitors as a written scenario at the beginning of the round. The scenario will be the same for each competitor. Some scenarios may involve the combination of multiple skills. In the event rating sheets are combined, it is not necessary to repeat a task a second time. An example would be that competitors would not need to identify the patient twice. A sample scenario is available here.

6. Timing will begin when the scenario is presented to the competitors and will be stopped at the end of the time allowed. The scenario is a secret topic. Competitors MAY NOT discuss or reveal the secret topic until after the event has concluded or will face penalties per the GRRs.

7. Competitors must complete all skill steps listed in the guidelines, even if the steps must be simulated/verbalized. (If the equipment is available, the competitors would complete all skill steps as the scenario warrants. The competitors will simulate/verbalize the steps if the equipment is unavailable.)

8. Judges will provide information to competitors as directed by the rating sheets. Competitors may ask questions of the judges while performing skills, if the questions relate to patient's condition and will be included in the scenario or judge script.

9. Competitors must use all equipment correctly and safely. Judges will stop a student and not award points for a step if they see a competitor is about to cause a risk of harm or about to damage equipment or other supplies.

Final Scoring

1. The competitor must earn a score of 70% or higher on the combined skill(s) of the event (excluding the test and ID of medications) in order to be recognized as an award winner at the ILC.

2. The final rank is determined by adding the round one test score plus the round two skill score. In the event of a tie, the highest test score will be used to determine the final placement.

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Skill I: Pill Identification

Time: 8 minutes

**Ten pills will be chosen to identify from the provided list

Competitor #:_____ **Division:** Middle School **Judge's Signature:**_____

	Pill Identification Generic Name (1 point)	Pill Identification Brand Name (1 point)
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
	Total (10 possible): _____	Total(10 possible): _____
Total Overall Points (20 possible): _____		

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Skill II: Performing Medication History

Time: 7 minutes

Competitor #:_____ **Division:** Middle School **Judge's Signature:**_____

*If equipment is available, competitors should complete the steps while verbalizing.

	Skill II: Performing Medication History	Possible	Awarded
1	Washed hands or used alcohol based hand-rub for hand hygiene.	2 0	
2.	Greeted patient.	2 0	
3.	Verified patient name, date of birth.	2 0	
4.	Identified patient's current pharmacy.	2 0	
5.	Obtained medication allergies.	2 0	
6.	Obtained list of Prescription Medications, dosage, time, last took.	2 0	
7.	Document dosage of medications.	2 0	
8.	Documented time when medications are usually taken.	2 0	
9.	Documented last dose of medication taken.	2 0	
10.	Obtained a list of Over The Counter (OTC) medications.	2 0	
11.	Inquired about other possible medication being used.	2 0	
12.	Documented information related to medication and routine.	2 0	
13.	Allowed the patient to share other medications not previously identified.	2 0	
14.	Verbalized to the patient the medication history will be shared with the pharmacist for review.	2 0	
15.	Used appropriate verbal and nonverbal communication with the patient and others present.	2 0	
	Total Points- Skill II: 70% Mastery for Skill II: 21	30	

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HOSA Medication History Worksheet

Student Name: _____ **Date: _____**

Patient Interview Notes

Patient Name:	
Date of Birth:	
Pharmacy Name:	
Allergies:	

Medication List

Medication Name	Dose	Route	Frequency	Last Dose Taken	Notes

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Skill III: Donning & Doffing a Full Set of PPE

Time: 7 minutes

Competitor #:_____ **Division:** Middle School **Judge's Signature:**_____

*If equipment is available, competitors should complete the steps while verbalizing.

	Skill III: Donning & Doffing a Full Set of PPE	Possible		Awarded
1.	Assembled equipment and supplies.	1	0	
2.	Washed hands or used alcohol based hand-rub for hand hygiene.	2	0	
3.	Opened the gown by holding it in front of you & allowing it to unfold without shaking the gown.	2	0	
4.	Faced the back opening of the gown & placed arms through each sleeve.	2	0	
5.	Fastened the neck opening.	2	0	
6.	Reached behind & pulled the gown until it completely covered all clothing & secured at the waist.	2	0	
7.	Picked up mask by elastic strap or top strings not touching the inside	2	0	
8.	Pulled elastic strap or tied top strings first & then tied bottom strings.	2	0	
9.	Pinched the metal strip at the top of the mask to fit tightly around the nose.	2	0	
10.	Fitted mask snugly around face & below chin.	2	0	
11.	Placed goggles over your eyes or eyeglasses while making sure they fit snugly.	2	0	
12.	If right-handed slid one glove on left hand (reverse if left-handed).	2	0	
13.	Used the gloved hand to slide the other hand into the second glove.	2	0	
14.	Interlaced fingers to smooth out folds & created a comfortable fit.	2	0	
15.	Checked gloves for tears, holes, cracks, or discolored spots & replaced if needed.	2	0	
16.	Adjusted gloves until they are pulled over the wrist fitting correctly & pulled cuffs of gloves over the sleeves of the gown.	2	0	
	**** Judge states, "Skill is completed, remove PPE."***			
17.	Removed gloves by touching only the outside of one gloved hand at the palm and pulled the glove off.	2	0	

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Skill II: Continued...		Possible	Awarded
18.	With the fingertips of gloved hand, held removed glove.	2 0	
19.	With the ungloved hand, slid two fingers under the remaining glove at the wrist without touching the outside of the glove.	2 0	
20.	Pulled down, turning the glove inside out over the first glove as you removed it & dropped gloves in the appropriate container.	2 0	
21.	Removed goggles.	2 0	
22.	Unfastened the gown at the neck & waist.	2 0	
23.	Removed gown without touching the outside of the gown by rolling dirty side in, while holding gown away from the body.	2 0	
24.	Disposed of gown in appropriate container.	2 0	
25.	Untied mask and removed without touching mask.	2 0	
26.	Disposed of mask in appropriate container.	2 0	
27.	Washed hands or used alcohol based hand-rub for hand hygiene.	2 0	
	Total Points- Skill III: 70% Mastery for Skill III: 37.1	**53**	

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Skill IV: Handwashing

Time: 3 minutes

Competitor #:_____ **Division:** Middle School Only **Judge's Signature:**_____

*If equipment is available, competitors should complete the steps while verbalizing.

	Skill IV: Handwashing	**Possible**	**Awarded**
1.	Stand back from sink to avoid contamination of clothing.	**2 0**	
2.	Removed rings and pushed wristwatch or long sleeves up above wrist using a paper towel.	**2 0**	
3.	Turned faucet on with paper towel, adjusted temperature (water should be warm) and discarded towel in waste container.	**2 0**	
4.	Wet hands, wrists, and the skin 1-2 inches above the wrist thoroughly with fingertips pointing down.	**2 0**	
5.	Removed hands from water stream and applied soap to create thick lather on hands.	**2 0**	
6.	Rubbed palms together in a circular, counterclockwise motion.	**2 0**	
7.	Pushed the fingers of the right hand between the fingers of the left hand and rubbed up and down.	**2 0**	
8.	Repeated Step #7 with left hand.	**2 0**	
9.	Interlaced fingers, rubbed the palms together from side to side.	**2 0**	
10.	Bent fingers and interlocked them with backs of fingers touching the opposite palm. Rubbed side to side.	**2 0**	
11.	Cleaned under fingernails by rubbing them against other palm and forcing soap underneath them. Continued rubbing to clean around tops of nails.	**2 0**	
12.	Reversed hands and repeated Step #11	**2 0**	
13.	Held the left thumb in the palm of the right hand. Rubbed in a circular, counterclockwise motion.	**2 0**	
14.	Reversed hands and repeated Step #13.	**2 0**	
15.	Held the fingers of the right hand together and placed them in the middle of the left palm. Rubbed in a circular, counterclockwise motion.	**2 0**	
16.	Reversed hands and repeated Step #15.	**2 0**	
17.	Washed hands for a minimum of 20 seconds.	**2 0**	
Skill IV Continued...		**Possible**	**Awarded**

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18.	Held hands under running water with fingers pointed downward. Rinsed wrists and hands thoroughly.	**2**	**0**	
19.	Dried hands thoroughly with a clean paper towel starting with hands and then the wrists. Did not shake hands or touch dispenser. Repeated if needed.	**2**	**0**	
20.	Used clean, dry paper towel to turn off faucet.	**2**	**0**	
21.	Discarded paper towel in waste container without touching the container.	**2**	**0**	
	Total Points- Skill IV: 70% Mastery for Skill IV: 29.4	**42**		

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