



# Pharmacy Science

## Pilot Event 2017-2018

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**Purpose** To provide HOSA members with an opportunity to develop and demonstrate knowledge and skills in pharmacy careers.

**Description** This event will consist of two rounds of competition. Round One will be a written, multiple choice test. Written test will measure knowledge and understanding at the recall, application or analysis levels. Higher-order thinking skills will be incorporated as appropriate. The top scoring competitors will advance to Round Two for the performance of selected skill(s) identified in a written scenario. The scenario will require the use of critical thinking skills. The performance will be timed and evaluated according to the event guidelines.

**Dress Code** Competitors shall wear proper business attire or official HOSA uniform, or attire appropriate to the occupational area, during the orientation, written test and skill(s)– jeans and shorts are not acceptable. Bonus points will be awarded for [proper dress](#).

**Rules and Procedures**

1. Competitors in this event must be active members of HOSA-Future Health Professionals, in good standing at the appropriate division (secondary or postsecondary/collegiate). Competitors should compete in skill events at the highest level of their training.

2. Competitors must be familiar with and adhere to the "[General Rules and Regulations of the National HOSA Competitive Events Program \(GRR\)](#)."

\*\*\*Please Note: Only Skills (no test) will be performed at 2017-2018 State Leadership Conferences. At the International Leadership Conference, the Test and the Skills will both be required.

3. The test will consist of fifty (50) multiple choice items. The test score will be used as part of the final score for the event.

Round One: **Written Test Plan**

Pharmacy Practice History.....	10%
Pharmacy Law & Ethics .....	10%
Pharmacy Terminology & Abbreviations.....	10%
Dosage Formulations & Administration Routes.....	10%
Sterile and Non-Sterile Compounding .....	5%
Concentration & Dilutions .....	5%
Pharmacy Practice Settings.....	5%
Disorders & Treatments .....	45%

4. All competitors shall report to the site of the event orientation at the time designated. The Round One test will immediately follow the orientation. **No proxies will be allowed for the orientation.** No study materials are allowed in the room.

5. [Test Instructions](#): There will be a maximum of **60 minutes** to complete the test. There will be a verbal announcement when there are 15 minutes remaining.

NOTE: *States/regions may use a different process for testing, to include but not limited to pre-conference testing, online testing, and testing at a computer. Check with your Area/Region/State for the process you will be using.*

6. All official references are used in the development of the written test. The specific reference selected for each Skill is listed in the Facilities, Equipment and Materials section of these guidelines.

- [Johnston, Mike. The Pharmacy Technician: Foundations and Practices. Pearson, latest edition.](#)
- [Moini, Jahangir. The Pharmacy Technician: A Comprehensive Approach. Cengage Learning, latest edition.](#)
- [Simmers, L., Simmers-Narker, Simmers-Kobelak. DHO: Health Science. Cengage Learning, Latest edition.](#)
- American Academy of Allergy, Asthma, and Immunology. Symptoms and Diagnosis tab. <https://www.aaaai.org/conditions-and-treatments/allergies/drug-allergy>

7. The test score from Round One will be used to qualify the competitor for Round Two. The skills approved for Round Two for this event are:

Skill I: Patient Screening for Pharmacist Consultation and Services  
Skill II: Verifying Controlled Substance Prescription Content and DEA Number  
Skill III: Withdrawing Liquid from a Vial  
Skill IV: Reconstituting a Powder Vial  
Skill V: Compounding an Oral Suspension  
Skill VI: Identifying Equipment (*Including name of instrument and purpose or use*)

8. States/National HOSA have the option of including Skill VI: Identifying Equipment and Skill II: Verifying Controlled Substance Prescription Content and DEA Number, at the same time as the Round One written test.
9. The selected Skill(s) for Round Two, in the form of a written scenario, will be presented to the competitor at the start of the skill(s) to be performed. One or more skills may be combined in the scenario. The scenario will be the same for each competitor and will include a challenging component that will require the competitor to apply critical thinking skills.
10. The scenario is a secret topic. Professional ethics demand that competitors DO NOT discuss or reveal the secret topic until after the event has concluded. Violation of the ethics rules will be severely penalized.

11. In case of a tie, the highest test score will be used to determine the rank.
12. Competitors must complete all steps of the skill listed in the guidelines even if the steps must be simulated/verbalized. Steps may NOT be simulated/verbalized when the equipment/materials are available.
13. The competitor must earn a score of 70% or higher on the combined skill(s) of the event (excluding the test and ID equipment) in order to be recognized as an award winner at the ILC.
14. The timing for the skill will begin when the scenario is presented. Competitors will be stopped at the end of the time allowed for the selected skill(s).

**Competitors Must Provide:**

- Event guidelines (orientation)
- Two #2 lead pencils with eraser (for test & skill II)
- Shoe covers
- Face mask
- Hair cover
- Non-shedding gown with snug-fitting cuffs
- Eye shields or goggles
- Sterile, powder-free, latex free gloves

**Required Personnel**

- One Event Manager per event
- One QA to provide quality assurance for the event by ensuring that the guidelines are followed and all event documents are complete.
- One Section Leader per section
- One judge per skill selected per section
- Proctors for testing
- One-two event assistants per section
- Patients as required by the scenario
- Holding room attendants(s)
- Timekeepers (if necessary)

**Facilities, Equipment and Materials (Per Section)**

**General**

- Work stations for selected skills
- Written scenario
- Judge scripts
- Calculators, note pads, and pencils for judges
- Stopwatch
- Alcohol-based hand sanitizer (for hand hygiene)
- Rating sheets – one per judge per competitor
- Evaluation Forms – competitor, judge, and personnel
- #2 lead pencils with eraser to complete evaluations

## Round One

### Written Test (Reference: All resources)

- One test copy per competitor
- Scantron / answer forms for each competitor

## Round Two

### Skill I Patient Screening for Pharmacist Consultation and Services (Reference: All)

- Scenario explaining which screening(s) are to be done
- Copies of the screening checklist identified in the scenario (judges will use during rating of competitor – found on pages 9-13 of the guidelines)
- Patient
- Patient script

### Skill II Verifying Content of a Controlled Substance Prescription and DEA Number (Reference: Johnston)

- Scenario (must include the prescription to be verified)
- Prescription Verification Form (one per competitor – found on page 15 of the guidelines)
- Sample controlled substance prescription with DEA number
  - ⊖ The prescription should include 5 missing items from the list of those required. Competitors are asked to identify the missing components.

### Skill III Sterile Compounding: Withdrawing Liquid from a Vial (References: Johnston, Moini, Simmers)

- Sink, paper towels, and soap (if available – may be verbalized for handwashing)
- Hood (can be simulated)
- Wipes for cleaning up “hood” and work area
- Alcohol preps
- Vial to be used
- Vials to serve as distraction
- Syringe and needle
- Directions for drug and amount to be withdrawn (scenario)
- Biohazard container (puncture proof)
- Alcohol-based hand sanitizer
- Wastebasket
- Stopwatch

### Skill IV Sterile Compounding: Reconstituting a Powder Vial (References: Johnston, Simmers, Moini)

- Sink, paper towels, and soap (if available – may be verbalized for handwashing)
- Hood (can be simulated)
- Wipes for cleaning up “hood” and work area
- Alcohol preps
- Powdered Vial to be used
- Powdered vials to serve as distraction
- Diluent vial
- Syringe and two (2) needles
- Vented needle for replacement
- Directions for drug and amount to be withdrawn (scenario)
- Biohazard container (puncture proof)
- Alcohol-based hand sanitizer
- Wastebasket

**Skill V Non-Sterile Compounding: Preparing an Oral Suspension** (References: Moini, Simmers)

- Smarties candy “tablets” or easily crushable demo dose drugs in Rx vials WITH LABELS that include drug name, tablet strength, lot number, expiration date)
- Recipe or formula using Master Formula Sheet (page 21 of guidelines) per scenario
- Prescription order for oral suspension
- Small Mortar and pestle
- Small bottle of suspending vehicle WITH LABELS that include agent, lot and expiration date (such as VersaFree by Humco)
- Liquid medication bottle as indicated by scenario information
- Label to be used
- Labels to serve as distraction
- Auxiliary Labels (Shake well, Refrigerate, Take with Food, Use By, etc.)
- Counting trays
- Calculator for determining number of tablets needed
- Spatula for counting tablets on tray
- Assorted graduated-cylinders
- Bottle brushes (for cleaning graduated cylinders)
- Wastebasket
- Sink, paper towels, and soap for equipment cleanup and handwashing
- Alcohol based hand sanitizer

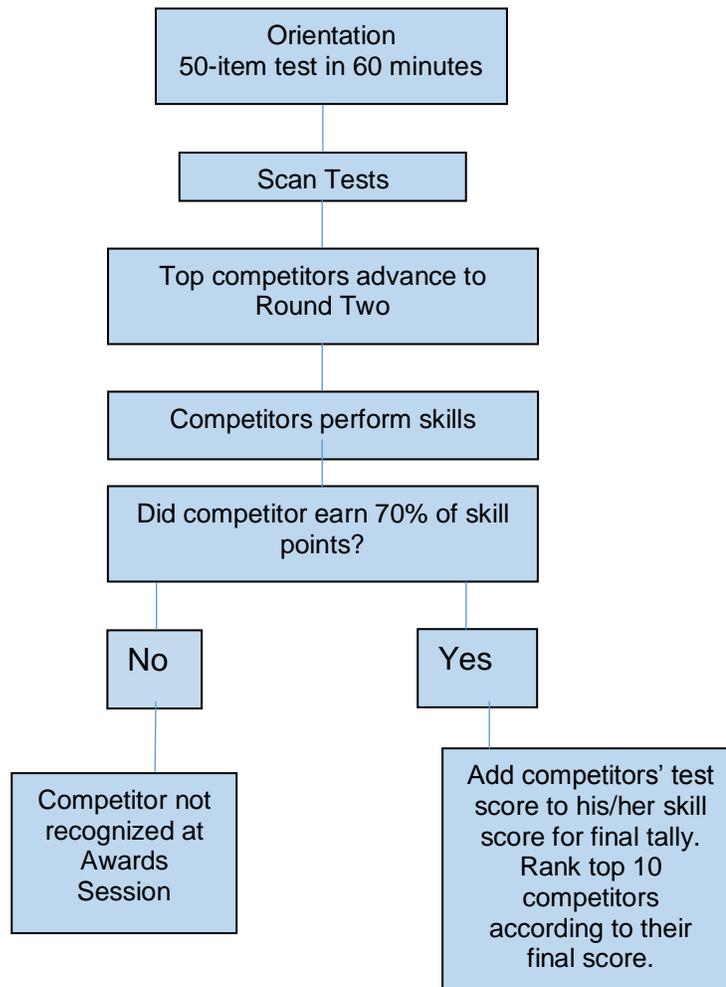
**Skill VI Identifying Pharmacy Equipment** (Reference: *Moini*)

15 instruments or photos from the following list:

- Class A prescription balance
  - Weighing pans
  - Graduate dial
  - Locking or arresting mechanism
  - Powder papers
- Compounding slabs or disposable sheets
- Mortar
- Pestle
- Heat gun
- Hot plate
- Crimper
- Tablet mold
- Suppository mold
  - Aluminum type
  - Plastic type
- Cylindrical graduates
- Conical graduates
- Pipettes
- Beakers
- Beaker tongs
- Intravenous system
  - IV solution bag
  - Injection port
  - Drip Chamber
  - Roller Clamp
  - Piggyback device

- Pumps
  - Volumetric infusion pump
  - Infusion pump or “smart pump”
  - Patient-controlled anesthesia (PCA)
- Fume hood
- Leaded shields
  - Syringe shields
  - Vial shield
- Components of hypodermic injection
  - Syringe
  - Hub
  - Needle
  - Needle cover
- Syringes
  - Safety syringe
  - Insulin syringes
  - Tuberculin syringe
  - Prefilled, single-dose syringe
  - Bevel
- Ampules
- Autoclave
- Individual Unit Dose Pack

## Event Flow Chart



## Sample Round One Test Questions

- The Harrison Narcotics Act of 1917 was passed to:
  - enforce New Drug Applications with the FDA.
  - stop the recreational use of opium.
  - to regulate the dispensing of drugs.
  - create classifications of prescription drugs.
- Hashimoto's disease attacks the:
  - pancreas.
  - pituitary gland.
  - thyroid gland.
  - adrenal glands.
- The newest forms of insulin were produced by:
  - animal source.
  - mineral source.
  - synthetic source.
  - genetic engineering source.

# PHARMACY SCIENCE

Competitor #: \_\_\_\_\_

Judge's Signature: \_\_\_\_\_

<b>Skill I Patient Screening for Pharmacist Consultation and Services (Time: 5 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Greeted patient and introduced self.	1 0	
2. Provided privacy.	1 0	
3. <b>**Asked patient to respond to all questions related to screening (as identified in scenario)</b> - Judge verifies correct questions are asked using screening checklist	5 0	
4. Demonstrated a pleasant and upbeat manner.	1 0	
5. Demonstrated NO distracting elements of nonverbal communication including lack of eye contact, inappropriate facial expressions and body position such as closed posture.	2 0	
6. Avoided the use of medical jargon during discussion with patient.	1 0	
7. Spoke with appropriate volume, pitch, inflection, pronunciation and diction	1 0	
8. Actively listened and did not interrupt while patient was speaking.	1 0	
9. Questioned the patient as needed to ensure that responses were completely understood.	1 0	
10. Referred patient to the pharmacist for counseling.	5 0	
<b>TOTAL POINTS -- SKILL I</b>	<b>19</b>	
<b>70% Mastery for Skill I = 13.3</b>		

**\*\* Competitors should ask the patient the questions outlined in the screening checklists on the following pages 9-13 that are applicable to the screening (vaccination, late refill, or drug allergy) listed in the scenario received at the time of competition.**

**\*\*If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.**

# PHARMACY SCIENCE

## Skill I Patient Screening for Pharmacist Consultation and Services

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### Screening Checklist for Contraindications to Injectable Influenza Vaccination

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_

For patients (both children and adults) to be vaccinated: The questions asked are developed to determine if the requested vaccination should be given. If you answer “yes” to any of the following questions it, it does not necessarily mean the vaccination will not be given. Additional information will be required.

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	Yes	No	Don't Know
1. Is the person to be vaccinated today showing any signs of illness?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Does the person to be vaccinated have allergies to any component of the vaccine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Is the patient over the age of 65 resulting in the need for CDC recommended higher dose?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the person have a severe allergy to chicken eggs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the person to be vaccinated-younger than 6 months of age?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Form completed by: \_\_\_\_\_

Date: \_\_\_\_\_

Form reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

Reference: Moini, Jahangir. The Pharmacy Technician: A Comprehensive Approach. Cengage Learning, latest edition.

# PHARMACY SCIENCE

## Skill I Patient Screening for Pharmacist Consultation and Services

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### Screening Checklist for Contraindications

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_

### to Injectable Inactivated Poliovirus Vaccination

For patients (both children and adults) to be vaccinated: The questions asked are developed to determine if the requested vaccination should be given. If you answer “yes” to any of the following questions it, it does not necessarily mean the vaccination will not be given. Additional information will be required.

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	Yes	No	Don't Know
1. Does the person to be vaccinated have allergies to any component of the vaccine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the person to be vaccinated today immune depressed in any way?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Does the person to be vaccinated live with anyone who has an immune deficiency disease?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Is there a suspected familial immune deficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is there possibility that the person being vaccinated is pregnant?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Form completed by: \_\_\_\_\_

Date: \_\_\_\_\_

Form reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

Reference: Moini, Jahangir. The Pharmacy Technician: A Comprehensive Approach. Cengage Learning, latest edition.

# PHARMACY SCIENCE

## Skill I Patient Screening for Pharmacist Consultation and Services

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### Screening Checklist for Contraindications to Injectable Rubella Vaccination

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_

For patients (both children and adults) to be vaccinated: The questions asked are developed to determine if the requested vaccination should be given. If you answer “yes” to any of the following questions it, it does not necessarily mean the vaccination will not be given. Additional information will be required.

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	Yes	No	Don't Know
1. Does the person to be vaccinated have allergies to any component of the vaccine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the person to be vaccinated today immunosuppressed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Is the person being vaccinated receiving corticosteroids?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Has the person being vaccinated been diagnosed with tuberculosis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is there possibility that the person being vaccinated is pregnant or attempting to become pregnant?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Form completed by: \_\_\_\_\_

Date: \_\_\_\_\_

Form reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

Reference: Moini, Jahangir. The Pharmacy Technician: A Comprehensive Approach. Cengage Learning, latest edition.

# PHARMACY SCIENCE

## Skill I Patient Screening for Pharmacist Consultation and Services

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### Screening Checklist for **Late Refill**

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_

Promoting compliance with prescribed medication is an important role of the pharmacy staff. If the patient is not taking medication as prescribed the following questions may help determine the cause of noncompliance.

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1. How did the prescriber recommend you take this medication?
2. What methods do you use to help remember to take your medication?
3. What side effects have you experienced with the medication?
4. Do you believe the medication helps resolve the issues for which it was prescribed?
5. What are your concerns regarding taking this medication?

Form completed by: \_\_\_\_\_

Date: \_\_\_\_\_

Form reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

Reference: Johnston, Mike. The Pharmacy Technician: Foundations and Practices. Pearson, latest edition.

# PHARMACY SCIENCE

## Skill I Patient Screening for Pharmacist Consultation and Services

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### Screening Checklist for **Possible Allergic Reaction**

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_

Allergic reactions can be life threatening. Concerns expressed by patient must be investigated. The following questions should be asked to obtain basic needed information.

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1. What medication were you taking when you noticed symptoms of concern?
2. Please describe your symptoms.
3. When did your symptoms begin?
4. How long have the symptoms lasted?
5. Were any other medications taken during this time, including over-the-counter drugs?
6. Have you stopped taking the medication?

Form completed by: \_\_\_\_\_

Date: \_\_\_\_\_

Form reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

Reference: American Academy of Allergy, Asthma, and Immunology. Symptoms and Diagnosis tab. <https://www.aaaai.org/conditions-and-treatments/allergies/drug-allergy>

# PHARMACY SCIENCE

## **Skill II: Verifying the Content of a Controlled Substance Prescription and DEA Number (6 minutes)**

\*\*\* Via the event scenario, the competitor will be given a prescription. Each competitor will also be given a Prescription Verification Form which acts as the rating sheet (page 15 of the guidelines). The prescription in the scenario will have missing information. Competitors must know all the required components (below) of the prescription in order to identify which components are missing. The Prescription Verification Form will be scored by the judges using the points indicated.

When verifying a Controlled Substance Prescription with DEA Number, the below list of items must all be verified.

1. Patient Information
  - a. Name
  - b. Address
2. Prescriber Information
  - a. Name
  - b. Address
  - c. Telephone Number
  - d. License Number
3. DEA Number
  - a. Verified the second letter corresponds to the provider's last name
  - b. Added the first, third, and fifth digits of the DEA number.
  - c. Added the second, fourth, and sixth digits of the DEA number. Double the sum.
  - d. Added the sum of b and c.
  - e. Verified that the last digit from step d matches the last digit of the DEA number.
4. When prescribed
  - a. Month
  - b. Day
  - c. Year
5. Drug name and strength
6. Dose and quantity
7. Route of administration
8. Directions (signature or "Sig")
9. Number of refills authorized
10. Product selection was permitted
11. Prescriber's signature
12. No dangerous abbreviations, acronyms, or symbols are used from the Joint Commission's "Minimum" Do Not Use list and Joint Commission's "Recommended" Do Not Use List.

# PHARMACY SCIENCE

Competitor #: \_\_\_\_\_

Judge's Initials: \_\_\_\_\_

**Skill II: Verifying the Content of a Controlled Substance Prescription and DEA Number (6 minutes)**

## Prescription Verification Form – Rating Sheet

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Please list which 5 components are missing from the prescription given to you (below):

1. \_\_\_\_\_ (3 points)
2. \_\_\_\_\_ (3 points)
3. \_\_\_\_\_ (3 points)
4. \_\_\_\_\_ (3 points)
5. \_\_\_\_\_ (3 points)

DEA Number listed on prescription: \_\_\_\_\_

Is the DEA number valid? Yes or No (3 points)

Explain your yes or no answer by showing your work in **five** steps to verify the DEA Number:

1. \_\_\_\_\_ (1 point)
2. \_\_\_\_\_ (1 point)
3. \_\_\_\_\_ (1 point)
4. \_\_\_\_\_ (1 point)
5. \_\_\_\_\_ (1 point)

Are there any dangerous abbreviations, acronyms, or symbols used from the Joint Commission's "Minimum" Do Not Use list and the Joint Commission's "Recommended" Do Not Use List? If yes, **list below**. If no, **write NO** (3 points)

\_\_\_\_\_

What other actions are needed or required? \_\_\_\_\_ (2 points)

**Total Points Possible: 28**

**Total Points Awarded: \_\_\_\_\_**

**70% Mastery for Skill II: 19.6**

# PHARMACY SCIENCE

Competitor #: \_\_\_\_\_ Judge's Signature: \_\_\_\_\_

<b>Skill III: Withdrawing Liquid from a Vial (Time: 15 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Assembled equipment and supplies.	1	0
2. Obtained drug and verified correct drug.	1	0
3. Determined expiration date has not passed.	1	0
4. Followed appropriate procedure for skill preparation:		
a. Cleaned hood (can be verbalized) Used long strokes from left to right; worked down from the top cleaning the back of the hood; then clean each side of the airflow hood; lasts, clean the countertop of the airflow hood.	2	0
b. Applied shoe covers.	1	0
c. Applied face mask and hair cover.	1	0
d. Aseptically washed hands (may be verbalized if no sink available)	2	0
e. Dressed in nonshedding gown with snug-fitting cuffs.	1	0
f. Placed eye shields or goggles on.	1	0
g. Donned sterile, power-free gloves.	2	0
5. Clean all surfaces of the vial with alcohol swab before placing in hood	1	0
6. With a new swab, swabbed rubber tops with alcohol and allowed to dry.	1	0
7. Made sure needle firmly attached to the syringe.	1	0
8. Checked the amount required to withdraw.	2	0
9. Removed the needle cap.	1	0
10. Correctly pulled plunger of syringe back to slightly less than required amount to be drawn up.	1	0
11. Placed needle in center of stopper with bevel end up.	1	0
12. Held the needle at a 45-degree angle and inserted the needle through the stopper. Then move syringe to a 90-degree angle.	2	0
13. Pushed the air gently from syringe into the vial.	1	0
14. Inverted the vial and released the plunger.	1	0
15. Pulled back on the plunger until desired amount was withdrawn.	2	0
16. Withdrew the needle and <u>verbalized</u> needle recapped (DO NOT RECAP NEEDLE).	1	0

Items Evaluated	Possible	Awarded
17. Placed used needle in biohazard puncture proof container.	2 0	
18. Cleaned area and returned all equipment to proper place.	1 0	
19. Removed garb and disposed of properly.	1 0	
20. Demonstrated proper handwashing. (may be verbalized if no sink available)	1 0	
<b>TOTAL POINTS - SKILL III</b> <b>70% Mastery for Skill III = 23.1</b>	<b>33</b>	

*\*\*If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*

# PHARMACY SCIENCE

Competitor #: \_\_\_\_\_

Judge's Signature: \_\_\_\_\_

<b>Skill IV: RECONSTITUTING A POWDER VIAL (Time: 15 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Assembled equipment and supplies.	1	0
2. Obtained drug and verified correct drug.	1	0
3. Determined expiration date has not passed.	1	0
4. Followed appropriate procedure for skill:		
a. Cleaned hood (can be verbalized) Used long strokes from left to right; worked down from the top cleaning the back of the hood; then clean each side of the airflow hood; lasts, clean the countertop of the airflow hood.	2	0
b. Applied shoe covers.	1	0
c. Applied face mask and hair cover.	1	0
d. Aseptically washed hands. (may be verbalized if no sink available)	2	0
e. Dressed in non-shedding gown with snug-fitting cuffs.	1	0
f. Placed eye shields or goggles on.	1	0
g. Donned sterile, power-free gloves.	2	0
5. Clean all surfaces of the vial with alcohol swab before placing in hood	1	0
6. With a new swab, swabbed rubber tops with alcohol and allowed to dry.	1	0
7. Made sure needle firmly attached to the syringe.	1	0
8. Drew up the correct amount of diluent for the reconstitution.	1	0
9. Checked the amount required to withdraw.	2	0
10. Removed the needle cap.	1	0
11. Correctly pulled plunger of syringe back to slightly less than required amount to be drawn up.	1	0
12. Placed needle in center of stopper with bevel end up.	1	0
13. Held the needle at a 45-degree angle and inserted the needle through the stopper. Then move syringe to a 90-degree angle.	2	0

Items Evaluated	Possible	Awarded
14. Pushed the air gently from syringe into the vial.	1 0	
15. Inverted the vial and released the plunger.	1 0	
16. Pulled back on the plunger until desired amount of diluent was withdrawn.	2 0	
17. Pulled back on the plunger to clear the neck of the syringe.	1 0	
18. Removed the needle and replaced with a vented needle.	1 0	
19. Carefully added diluent to the powdered vial.	1 0	
20. Gently swirled the vial to dissolve powder.	1 0	
21. Determined that powder had dissolved completely.	2 0	
22. Changed the vented needle back to a regular needle and carefully removed desired amount from the vial.	2 0	
23. Removed any air bubbles.	2 0	
24. Withdrew the needle and <u>verbalized</u> needle recapped (DO NOT RECAP NEEDLE)	1 0	
25. Placed used needle in biohazard puncture proof container.	2 0	
26. Cleaned area and returned all equipment to proper place.	1 0	
27. Removed garb and disposed of properly.	1 0	
28. Demonstrated proper handwashing. (may be verbalized if no sink available)	1 0	
<b>TOTAL POINTS - SKILL IV</b> <b>70% Mastery for Skill IV = 30.8</b>	<b>44</b>	

*\*\*If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*

# PHARMACY SCIENCE

Competitor #: \_\_\_\_\_

Judge's Signature: \_\_\_\_\_

<b>Skill V: COMPOUNDING AN ORAL SUSPENSION (Time: 15 minutes)</b>		<b>Possible</b>	<b>Awarded</b>
1.	Obtained the recipe or formula via scenario using the Master Formula sheet.	1	0
2.	Checked the prescribed dosage with the pharmacist (judge).	2	0
3.	Calculated the number of tablets needed for compounding and notified the pharmacist (judge). * Judge verified accuracy. Competitor proceeds either way. Points only awarded if math was done correctly.	5	0
4.	Obtained needed equipment	1	0
5.	Used alcohol-based hand sanitizer for hand hygiene.	1	0
6.	Donned sterile, power-free gloves.	1	0
7.	Triturated or reduced to a fine powder by using mortar and pestle.	1	0
8.	Added a small amount of suspending vehicle to levigate or grind the powder until a smooth paste is formed.	1	0
9.	Continued to add suspending vehicle until product is liquid enough to transfer to a graduated cylinder.	2	0
10.	Poured the liquid into a graduated cylinder.	1	0
11.	Rinsed mortar several times with suspending vehicle and added to product in graduated cylinder.	1	0
12.	Verified the amount of the suspension at eye level.	2	0
13.	Poured the compounded suspension into medication bottle.	2	0
14.	Selected the appropriate label from those provided and affixed to the medication bottle. *Judge verified accuracy.	2	0
15.	Selected the appropriate auxiliary label from those provided and affixed to medication bottle. *Judge verified accuracy.	2	0
16.	Cleaned the area and equipment using soap and water and returned equipment to proper place.	2	0
17.	Demonstrated proper handwashing.	2	0
<b>TOTAL POINTS - SKILL V</b>		<b>29</b>	
<b>70% Mastery for Skill V = 17.5</b>			

*\*\*If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*

**Skill V - MASTER FORMULA SHEET: NON-STERILE COMPOUNDING**

PRODUCT: \_\_\_\_\_

Date Prepared: \_\_\_\_\_ FINAL PRODUCT CHECKED BY: \_\_\_\_\_

EXPIRATION DATE: \_\_\_\_\_

INGREDIENT	MANUFACTURER	Lot #	MFR EXPIRATION DATE	FORMULA QUANTITY REQUIRED	QUANTITY USED	PREPARED BY	CHK BY

EQUIPMENT

PRESCRIPTION LABEL

AUXILIARY LABELS

COMPOUNDING DIRECTIONS

DATE PREPARED:

EXPIRATION DATE:

STABILITY

REFERENCE(S)

FINAL APPEARANCE

# PHARMACY SCIENCE

Competitor #: \_\_\_\_\_ Judge's Initials: \_\_\_\_\_ Total Points (45 possible) \_\_\_\_\_

**Skill VI: Identify Equipment and Instruments (Time: 15 minutes)**

Name of Instrument	Points (1 each for name & spelling)	Purpose or Use	Points (1 point for correct purpose/use)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
<b>TOTAL: ID &amp; Spelling (30 poss)</b>		<b>TOTAL: Purpose (15 possible)</b>	