

# Veterinary Science

## ***New for 2019-2020***

Competitors will no longer be required to show event guidelines at ILC. Time remaining announcements have been added to the test. Changes have been made to Skill VII and aligned to a new resource from the American Association of Feline Practitioners. Editorial updates and clarifications have been made to guidelines. Scholarship information has been added to the guidelines.

**Purpose** To provide the HOSA member with an opportunity to develop and demonstrate knowledge and skills in veterinary care.

**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 test score from Round One will be used to qualify the competitor for Round Two, and will be used as part of the final score. The top scoring competitors will advance to Round Two for the performance of a 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 in the division in which they are registered to compete (Secondary or Postsecondary/Collegiate).
  2. Competitors must be familiar with and adhere to the “[General Rules and Regulations of the HOSA Competitive Events Program](#) (GRR).”
  3. The written test will consist of fifty (50) multiple choice items. The test score will be used as part of the final score.

### **Round One: Written Test Plan** (Includes both Large and Small Animals)

Anatomy and Physiology	23%
Basic Nutrients	10%
Animal Behavior	6%
Diseases/Disease Prevention	15%
Zoonoses	6%
Clinical Practice	10%
Emergency Care/First Aid	12%
Principles of Surgery	12%
Veterinary Careers	6%

4. All competitors shall report to the site of the required event orientation at the time designated. The Round One test will immediately follow the orientation. At ILC, [photo ID](#) must be presented prior to competing in each round. **No proxies will be allowed for the orientation.**
5. **Test Instructions:** The competitors will be given instructions and will be notified to start the test. There will be a maximum of 60 minutes to complete the test. Competitors should leave the testing site promptly after submitting all testing materials and evaluations.

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. **TIME REMAINING ANNOUNCEMENTS:** There will be a verbal announcement when there are 30 minutes, 15 minutes, 5 minutes, and 1 minute remaining to complete the test.
7. 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.
  - [Lawhead, James and Baker, MeeCee. Introduction to Veterinary Science. Cengage Learning. Latest Edition.](#)
  - [Sirois, Margi. Principles and Practice of Veterinary Technology. Elsevier Mosby. Latest edition.](#)
  - [American Red Cross. Dog First Aid. Staywell. Latest edition.](#)
  - Reference for Skill VII: [Preparing a Feline for Exam AAFP and ISFM Feline-Friendly Handling Guidelines](#)
  - References for Companion Animal Breeds/Species Identification: (as posted as of September 1, 2019)
    - Dogs = American Kennel Club - [www.akc.org](http://www.akc.org)
    - Cats = The Cat Fanciers' Association - <http://cfa.org/#>

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

Skill I:	Preparation of the Operative Site	(7 minutes)
Skill II:	Lifting and Restraining a Dog	(4 minutes)
Skill III:	Identify <i>Instruments/Equipment</i>	(15 minutes)
Skill IV:	Simple Fecal Flotation	(5 minutes)
Skill V:	Identification of Companion Animal Breeds/Species	(8 minutes)
Skill VI:	Apply/Remove Gauze Restraint Muzzle	(3 minutes)
Skill VII:	Preparing a Feline to Obtain a Temperature	(6 minutes)

**(FOR ALL SKILLS, BODY FLUIDS WILL BE A SIMULATED PRODUCT)**

9. HOSA Management and event personnel have the option of providing one additional minute to the skill event interval prior to the scenario for competitors to preview the equipment that is provided for the event. If given, the one minute allowed for equipment preview will be added to the overall skill interval and competitors will be told they have an extra minute to review the equipment.
10. Affiliated HOSA chartered associations have the option of including Skills III and/or V at the same time as the Round One written test.

11. 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 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. A sample scenario can be found [here](#).
12. The scenario is a secret topic. Professional ethics demand that competitors DO NOT discuss or reveal the secret topic for ANY event until after the event has concluded. Violation of the ethics rules will be severely penalized per [the GRRs](#).
13. In case of a tie, the highest test score will be used to determine the rank.
14. 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.
15. The competitor must earn a score of 70% or higher on the combined skill(s) of the event (excluding the test and cognitive Skills III and V) in order to be recognized as an award winner at the ILC.
16. The timing for the skill will begin when the scenario is presented. Competitors will be stopped at the end of the time allowed for selected skill(s).
17. HOSA offers numerous scholarships every year to its members interested in pursuing a variety of health careers. As you consider participating in this competitive event, please keep in mind there may be a HOSA Scholarship offered that fits your interests! For more information on the HOSA Scholarship program, please visit <http://www.hosa.org/scholarships>.

**Competitor Must Provide:**

- Two #2 lead pencils with eraser
- Watch with second hand (optional-Round Two only)
- Sterile non-latex surgical gloves
- Exam non-latex gloves
- 2 - 4 inch wide gauze roll (18 inches or longer)
- A [photo ID](#)

**FOR SPECIFICS ON EVENT MANAGEMENT SEE [MANAGING COMPETITIVE EVENTS](#)**

**Required Personnel:**

- One Event Manager
- One Judge Manager (JM) 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 per section
- Proctors for Testing – Approximately one proctor for 20 competitors
- Event assistants per section as needed
- Timekeepers
- Holding room attendants(s) as needed

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

**Round One: Written Test** (Reference: All resources)

- List of competitors for check-in
- One pre-numbered test per competitor
- Scantron/answer forms- one copy per competitor
- Evaluation forms - competitor and event personnel
- #2 lead pencils with eraser to complete evaluations (event personnel)

**Round Two Skills: General**

- Clinical and/or laboratory stations for selected skills (see [HOSA Room Sets](#))
- Holding rooms or areas for competitors (if off-site)
- List of competitors for check-in
- Written Scenario - copies for judges, section leaders
- Judge scripts as needed
- #2 lead pencils (judges & evaluations)
- Stopwatch(s)
- Rating sheets - one per judge per competitor
- Evaluation forms - competitor, judge, event personnel
- Copy of guidelines for judges
- Hand sanitizer (alcohol based handrub)

**Skill I Preparation of the Operative Site** (Sirois)

- Written scenario that indicates the patient's identity and surgical skill being performed,
- Progress notes stating that the patient was bathed and the surgical site clipped and scrubbed and urine was expressed from the bladder
- Surgical scrub/germicide (e.g., povidone-iodine or chlorhexidine scrub)
- Artificial animal
- Sterile forceps
- 10% Povidone iodine solution in a spray bottle
- Roll of 1" cloth tape
- Wrapped sterile bowl (2 per section)
- Waste bag
- 4 x 4 gauze sponges (4 per competitor)

**Skill II Lifting and Restraining a Dog** (Sirois)

- Scenario
- Small artificial dog
- Medium-sized artificial dog
- Exam table

**Skill III Identify Equipment and Instruments** (Reference: All resources)

- Equipment Identification sheets (pg.9)
- Instrument Numbers (1-15)
- Clipboards
- 15 equipment/instruments from list OR photos of equipment/instruments
  - Autoclave
  - Surgical pack
  - Sharps container
  - Radiograph machine
  - Hoof testers
  - Balling gun
  - Endotracheal tubes & laryngoscope
  - Equipment used for urinalysis

- |   |  |
|---|--|
| <input type="checkbox"/> Urinary catheters      | <input type="checkbox"/> Tenotomy or Iris scissors             |
| <input type="checkbox"/> Trocar                 | <input type="checkbox"/> Mayo scissors                         |
| <input type="checkbox"/> Colostrometer          | <input type="checkbox"/> Needle holders                        |
| <input type="checkbox"/> Tooth float            | <input type="checkbox"/> Tissue forceps                        |
| <input type="checkbox"/> Mobile x-ray unit      | <input type="checkbox"/> Senn or Rake retractor                |
| <input type="checkbox"/> Mouth speculum         | <input type="checkbox"/> Barnes dehorner                       |
| <input type="checkbox"/> Binocular microscope   | <input type="checkbox"/> Butterfly catheter                    |
| <input type="checkbox"/> Vacutainer             | <input type="checkbox"/> Through the needle catheter           |
| <input type="checkbox"/> Leukopet system        | <input type="checkbox"/> Mobile crash cart                     |
| <input type="checkbox"/> Reagent strip test     | <input type="checkbox"/> Ambu bag                              |
| <input type="checkbox"/> Fecal flotation kits   | <input type="checkbox"/> Semi-automated external defibrillator |
| <input type="checkbox"/> Lavage system          | <input type="checkbox"/> Bair Hugger warming unit              |
| <input type="checkbox"/> Penrose drains         | <input type="checkbox"/> Cattle prod                           |
| <input type="checkbox"/> Splints                | <input type="checkbox"/> Insulin syringe                       |
| <input type="checkbox"/> Pulse oximeter         |  |
| <input type="checkbox"/> Patient warming system |  |
| <input type="checkbox"/> Mayo stand             |  |
| <input type="checkbox"/> Scalpel blades         |  |

**Skill IV Simple Fecal Flotation (Sirois)**

- Flotation solution (Commercially prepared or water labeled as flotation solution)
- Paper cups
- Simulated animal feces
- Tongue depressor
- 10 cm (4" x 4") gauze squares
- Shell vial or 15 ml conical centrifuge tube
- Cover slip
- Glass slide

**Skill V Identification of Companion Animal Breeds/Species (AKC and Cat Fancier web sites.)**

- 15 Breed/Species pictures from resources
  - o Dogs = American Kennel Club - [www.akc.org](http://www.akc.org)
  - o Cats = The Cat Fanciers' Association - [www.cfainc.org](http://www.cfainc.org)
- Companion Animal Breeds Identification Sheets (pg.11)

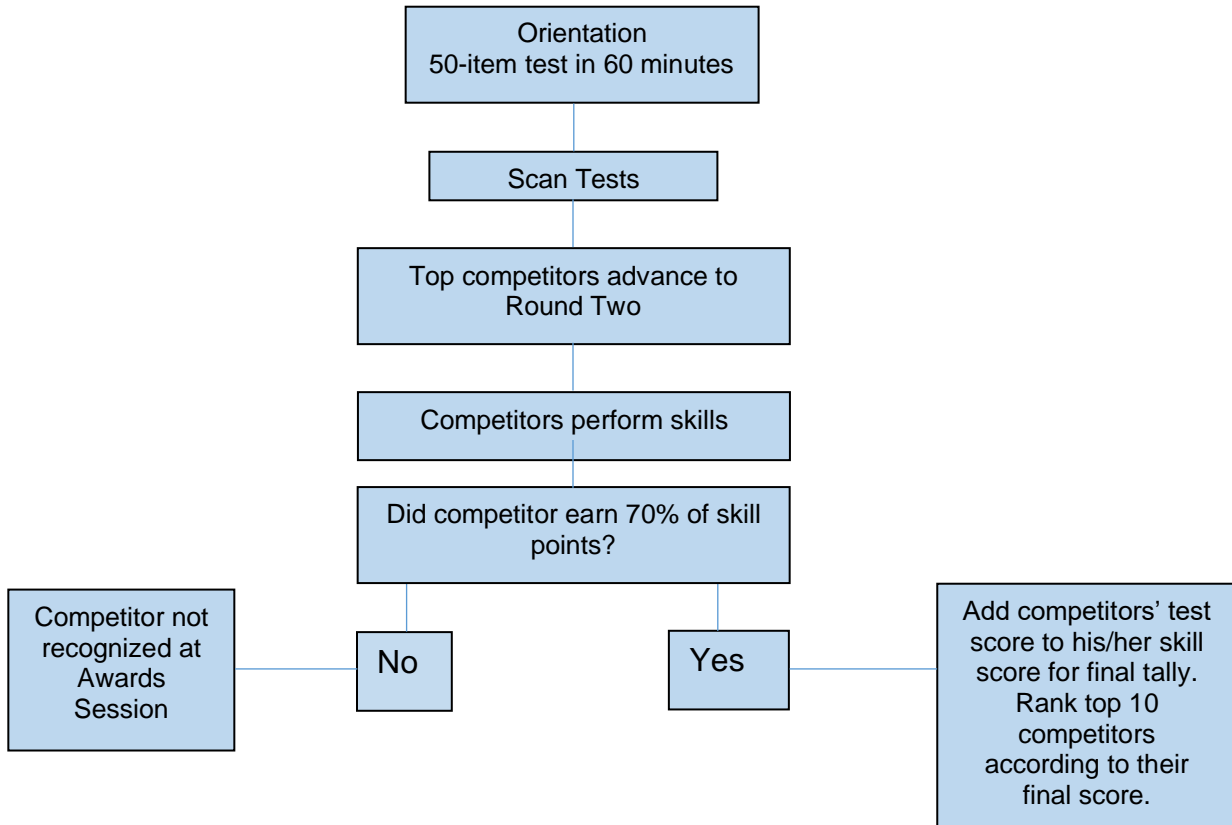
**Skill VI Apply/Remove Gauze Restraint Muzzle (Reference: ARC Dog First Aid)**

- Scenario
- Canine Mannequin
- Bandage scissors

**Skill VII Preparing a Feline to Obtain Temperature ([Preparing a Feline for Exam AAFP and ISFM Feline-Friendly Handling Guidelines](#))**

- Artificial cat
- Carrier (front/door & top remove)
- Large towel
- Scenario (indicating if cat comes out of carrier easily or not)
- Synthetic FFP analog (simulated)

## Event Flow Chart



## Sample Round One Test Questions

- The average gestational period for a cat is \_\_\_\_\_ days.
  - 15-20
  - 30-35
  - 58-65
  - 90-112
- When performing a surgical site prep scrub, the procedure is to scrub:
  - the area with alcohol after removing the hair.
  - from the intended incision area outward in concentric circles.
  - from the outside of the shaved area to the central area.
  - in large straight strokes across the surgical area.
- What is the agent that causes ringworm in animals?
  - bacteria
  - parasite
  - virus
  - fungi

## VETERINARY SCIENCE

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

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

<b>Skill I Preparation of the Operative Site (Time: 7 minutes)</b>	<b>Possible</b>		<b>Awarded</b>
1. Used alcohol-based handrub for hand hygiene.	1	0	
2. Verified the patient's identity, surgical skill being performed, and surgical site.	2	0	
3. Checked progress notes to assure that patient was bathed and surgical site clipped and scrubbed and urine was expressed from bladder.	2	0	
4. Assembled materials for prep.	1	0	
5. Positioned patient on back and secured legs with tape.	2	0	
6. Opened sterile packages: bowl and gauze using aseptic technique.	2	0	
7. Dropped four (4) gauze sponges into a sterile bowl and then poured germicide to cover sponges, using aseptic technique.	2	0	
8. Donned sterile gloves correctly.	2	0	
9. Handled gauze sponges with sterile sponge forceps or the gloved hand using aseptic technique.	1	0	
10. Began scrub at the intended incision site and continued out in concentric circles to an area of at least two inches larger than expected size of sterile field.	1	0	
11. Sponge discarded after reaching the periphery.	1	0	
12. Repeated steps 9, 10 & 11 two more times.	2	0	
13. Blotted excess germicide solution with sterile gauze sponge(s).	1	0	
14. Sprayed 10% Povidone Iodine solution on site.	1	0	
15. Removed gloves and used alcohol-based handrub for hand hygiene.	1	0	
16. Appropriate verbal and nonverbal communication with patient and other personnel.	2	0	
<b>TOTAL POINTS -- SKILL I</b>	<b>24</b>		
<b>70% Mastery for Skill I = 16.8</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.*

## VETERINARY SCIENCE

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

*Note: In this skill, the competitor will lift a small dog, and then will also lift a medium-sized dog. He/she will verbalize the process for lifting a large dog. Simulation of the cephalic venipuncture will be done on the medium dog.*

<b>Skill II Lifting and Restraining a Dog (Time: 4 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Used alcohol-based handrub for hand hygiene.	1 0	
2. Spoke to patient in calm, affectionate tone throughout skill.	1 0	
3. Lifted the small dog onto the table, holding the dog draped over a forearm with the other hand holding on to the head just below the mandible.	1 0	
4. Lifted the small dog off the table and back to the floor, using correct body mechanics and lifting technique.	2 0	
5. Lifted the medium-sized dog onto the table, with one arm around the neck and the other arm around the rear end.	2 0	
6. Held the medium-sized dog in a standing position by placing one arm around the dog's neck and the other around the abdomen, and hugging the dog close to the body.	2 0	
7. Verbalized the proper technique for lifting a large dog.	1 0	
<b>* Judge states "Place the dog in a sitting position for a cephalic venipuncture."</b>	-	
8. Placed patient on the table near one end, facing the edge, in the sitting position.	2 0	
9. Restrained the patient's head by reaching under the neck, placing the hand behind the jaw and pressing the patient's head against the person's chest.	2 0	
10. Used other arm to reach around rear of the dog and pull dog close to the body.	2 0	
11. Moved arm that was holding the rear across the shoulders and grasped the leg opposite his/her body.	2 0	
12. Held the leg by placing the elbow of the dog into the palm of that hand and pushing the leg forward.	2 0	
13. Placed thumb on top of the leg, squeezing and rotating laterally, to occlude the vein. <b>* Judge will verbalize venipuncture and when blood is drawn.</b>	2 0	
14. Released thumb after the blood was drawn.	2 0	
15. Appropriate verbal and nonverbal communication with patient and other personnel.	2 0	
16. Used alcohol-based handrub for hand hygiene.	1 0	
<b>TOTAL POINTS – SKILL II</b> <b>70% Mastery for Skill II = 18.9</b>	<b>27</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.*



# VETERINARY SCIENCE

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

**Skill III: 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 poss.)</b>	

# VETERINARY SCIENCE

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

<b>Skill IV Simple Fecal Flotation (Time: 5 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Used alcohol-based handrub for hand hygiene	1	0
2. Applied non-latex exam gloves.	1	0
3. Assembled equipment and supplies.	1	0
4. Placed approximately 2 – 5 g of feces in a paper cup.	2	0
5. Add 30 ml of flotation solution.	2	0
6. Using the tongue depressor, mix the feces to produce an evenly suspended emulsion.	2	0
7. Poured the suspension through a 10 cm (4"x4") gauze square into another cup.	2	0
8. Filled the shell vial (or 15 ml conical centrifuge tube) with the filtered solution to form a convex dome (meniscus) at the rim.	2	0
9. Placed a cover slip on top of the meniscus.	2	0
10. Verbalized leaving the cover slip in place for 10 – 20 minutes.	1	0
11. Picked the cover slip straight up and placed on a glass slide, fluid side down.	2	0
12. Removed non-latex gloves and used alcohol-based handrub for hand hygiene.	1	0
<b>TOTAL POINTS – SKILL IV</b>	<b>19</b>	
<b>70% Mastery for Skill IV = 13.3</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.*

# VETERINARY SCIENCE

Competitor #: \_\_\_\_\_ Judge's Initials: \_\_\_\_\_ Total Points (30 poss.) \_\_\_\_\_

**Skill V: Identification of Companion Animal Breeds/Species  
(Time: 8 Minutes)**

Breed Species	One point for correct identification	One point for correct spelling
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: ID (15)</b>	<b>TOTAL: Spelling (15)</b>

# VETERINARY SCIENCE

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

<b>Skill VI Apply Gauze Restraint Muzzle (Time: 3 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Used alcohol-based handrub for hand hygiene.	1	0
2. Assembled supplies.	1	0
3. Used an 18" or longer piece of gauze and placed a knot in the middle of the material to serve as an anchor.	2	0
4. Made a loop large enough to drop over the dog's nose.	1	0
5. Kept enough distance from the dog's mouth to avoid being bitten, and slipped the loop over the dog's nose from above and behind his head.	2	0
6. Tightened the loop down on top of the nose, but not so tight it obstructed the dog's breathing.	2	0
7. Pulled an end of the gauze down each side of the face, crisscrossed it under the chin, and brought the ends back behind the ears.	2	0
8. Tied the loose ends in a bow behind the ears.	2	0
9. Kept hand scissors close by in case the muzzle must be quickly cut off.	1	0
10. Appropriate verbal and nonverbal communication with patient and other personnel.	2	0
11. Used alcohol-based handrub for hand hygiene.	1	0
<b>TOTAL POINTS – SKILL VI</b>	<b>17</b>	
<b>70% Mastery for Skill VI = 11.9</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.*

# VETERINARY SCIENCE

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

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

*Note: Verbalization of the temperature will be provided by judge. In standard practice, please note that all feline visits should be at a minimum of 15 minutes to follow the American Association of Feline Practitioners motto of "Go Slow to Go Fast." For HOSA purposes, this skill time has been reduced in order for competitors to demonstrate sufficient knowledge of the appropriate steps as demonstrated on a stuffed animal.*

<b>Skill VII Preparing a Feline to Obtain a Temperature (Time: 6 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Used alcohol-based handrub for hand hygiene.	1	0
2. Gathered and prepared equipment needed for skill.	1	0
3. Sprayed the area where cat will be seen with a synthetic FFP analog to promote calming and decrease anxiety.	1	0
4. Greeted cat & client by name with moderated body language & voice.	1	0
5. Placed the carrier on the exam table and opened the door to the carrier as soon as you enter the room.	1	0
6. Verbalize "the animal history of the cat has been obtained."	1	0
<i>After obtaining the history, if the cat has left the carrier follow step 7 and skip 8. If the cat has not come out of the carrier skip step 7 and start again with step 8.</i>		
7. If the cat has left the carrier: Placed the carrier out of sight until the procedures are completed.	2	0
5. If the cat will not come out of the carrier: To decrease the cat's anxiety, placed a towel between the two halves of the carrier as you remove the top and front of the carrier. This covers the cat in a "tent" but the cat remain accessible.	2	0
9. Used a towel to lightly swaddle the cat and placed on exam area (OR if cat is still in carrier, allowed to remain in bottom of carrier for the exam).	1	0
10. Placed hand on the top of the cat's head with the fingers pointed toward cat's nose using the first and fifth finger to hold each side of the head to prevent movement.	2	0
11. Attempted to massage or stroke the top of the head to relax the cat.	2	0
12. Observed for signs of increased anxiety in cat throughout procedure such as posture or facial changes. Reported observations to the judge.	2	0
<b>*Judge will verbalize that temperature has been performed and skill is complete.</b>		
13. Released cat by unwrapping towel OR removing towel tented on top of carrier.	1	0
14. Verbalized "Owner will now comfort the cat and return the cat to the carrier."	1	0

ITEM EVALUATED	POSSIBLE	AWARDED
15. Used a calm, positive demeanor and worked at a consistent pace throughout the skill.	2 0	
16. Used alcohol-based handrub for hand hygiene.	1 0	
<b>TOTAL POINTS -- SKILL VII</b> <b>70% Mastery for Skill VII = 14</b>	<b>20</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.*