

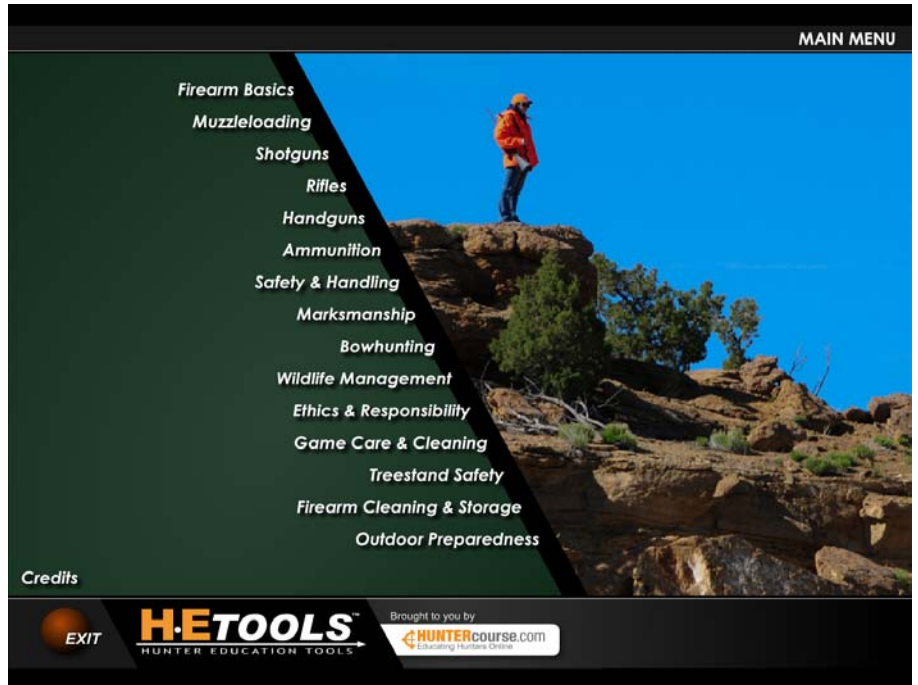


User Manual for PC/MAC version

November 2011

H.E TOOLS™

USER'S MANUAL



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Animation Control All of the animated firearm action types and ammunition animations allow interactive navigation. You can use the keyboard to move forward and backward through the animation, frame by frame. You do this using the ARROW KEYS on the keyboard.

RIGHT ARROW KEY - Moves forward one frame
LEFT ARROW KEY - Moves backward one frame

By holding any one of the above keys down you can FAST FORWARD or FAST REVERSE through the animation as well. The benefit of this is that you can show animations very slowly (for example, how the firing pin hits the primer) or back up and play animations several times until the students understand the concept. When you are done and wish to play the animation normally, just click on the RESUME ANIMATION button or other available buttons on the screen.

Firearm Basics

Parts of a Firearm

This is an interactive image of the parts of a firearm. Reveal the names individually by clicking on the part or click the SHOW PARTS button to show all the names at once. Click the HIDE PARTS button to hide the names. to use ask students to identify/name the common parts. Define the parts as they are identified.TIP: Start with Action, Stock, and Barrel.

Firearm Action Types

The five most common firearm action types are shown: **PUMP, BREAK, SEMI-AUTOMATIC, BOLT, and LEVER ACTION**. View any of the animated sequences by clicking on the appropriate firearm from the ACTION TYPES menu. Click the mouse to advance the animation through the loading and firing sequence or the left and right arrow keys on the keyboard. You can show the sequence quickly by clicking on the CONTINUOUS button. To return to the firearm action types, click on the ACTIONS MENU button or click on the BACK button.

Firearm Safeties

This section is a mini slide show showing various firearm safeties. Use the mouse to click through the images or use the left/right arrow keys to navigate.

Magazine Types

This section is a mini slide show showing various magazine types. Use the mouse to click through the images or use the left/right arrow keys to navigate.

Sights (Sight alignment and Sight picture)

This section is used ONLY to demonstrate proper sight alignment and sight picture using either an open sight, peep sight or telescope sight. You cannot fire at the targets. Use the arrow keys (up, down, left & right) to align the front sight with the rear sight. Once aligned, demonstrate proper sight picture by aligning the gun with the target using the mouse. (Note: To demonstrate actual shooting use the rifle range as described in the rifle range section.)

Telescope Sights Explained

This section defines what a 3-9x40mm telescope sight is and what the numbers mean. Use the mouse to click through the images or use the left/right arrow keys to navigate.

Muzzleloading

Parts of a Percussion Rifle

This section is an interactive image of the parts of a Percussion rifle; reveal the names individually by clicking on the part or click the SHOW PARTS button to show all the names at once. Click the HIDE PARTS button to hide the names. To use, ask students to identify/name the common parts. Define the parts as they are identified.

Muzzleloader Locks

The five basic types of muzzleloader locks are shown; **MATCHLOCK, WHEELLOCK, FLINTLOCK, TRADITIONAL (Percussion Cap), IN-LINE**. View any of the animated sequences by clicking on the appropriate muzzleloader from the ACTION TYPES menu. Click the mouse to advance the animation through the loading and firing sequence or the left and right arrow keys on the keyboard. To show the sequence quickly, click the CONTINUOUS button. To return to the firearm action types, click on the ML TYPES MENU button or click the BACK button. Note: **INLINE Rifle animation** is based on loading a Traditions™ inline muzzleloader with a Maxi-Ball™ and Bore Butter™. The Maxi-Ball™ does not use a patch or sleeve.

Loading a Muzzleloader

This animation sequence is controlled manually by following the on-screen prompts. Start with a container of black powder. From there you fill the powder measure and proceed to load the muzzleloader. You eventually come to a screen where you have three projectile choices. You can click on the Maxi-Ball™ with Bore Butter™, the Sabot with a plastic sleeve, or a round ball with a patch. Once you choose a projectile, the animation sequence will continue. Once the muzzleloader is loaded, you can fire the loaded round. NOTE: The animation sequence pauses between every step of the loading process to allow you time to explain the sequence. Simply click on the screen to continue to the next step.

Shotguns

Parts of a Shotgun

This section is an interactive image of the parts of a shotgun. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to show all the names at once. Click the HIDE PARTS button to hide the names. To use, ask students to identify/name the common parts. Define the parts as they are identified. TIP: Start with Action, Stock, and Barrel

Shotgun Action Types

The three most common shotgun action types are shown: **PUMP, BREAK and SEMI-AUTOMATIC**. You can view the animated sequence of any action type by clicking on the picture. The following screen will show a close up of that action type. You can cycle through the animation manually by following the on-screen instructions. This allows you to show the sequence of events that take place when using each specific shotgun action. It also allows you to move through the sequence slowly so you can discuss it with the class. You can show the sequence quickly by clicking on the CONTINUOUS button. To return to the firearm action types, click on the ACTIONS MENU button or click on the BACK button. NOTE: The **BREAK ACTION** screen shows the three types of break action shotguns including side-by-side, over and under, and single shot. Click on the OVER/UNDER shotgun to view the interactive animation.

Chokes

This animation is a visual aid depicting the shot pattern of three common chokes (FULL, MODIFIED & IMPROVED CYLINDER) and can be used after chokes are defined. Instructor tip: Click on the barrel labeled MODIFIED to show the pattern spread. Then ask the students which choke (FULL or IMPROVED CYLINDER) will produce a larger shot pattern. Once the class has responded you can click on either of the two remaining chokes to show the corresponding shot spread patterns. Of course you can do this in any order you prefer.

Gauges

This animation is a visual aid depicting shotgun gauges. The gauge is the size of the bore of a shotgun. It is measured by the number of lead balls equal to the diameter of the bore which weighs one pound (i.e. a ball the same width as a 12-gauge barrel would weigh one-twelfth of a pound and a corresponding ball for a 20-gauge would be one-twentieth of a pound). Instructor tip: Ask the class if they can tell you why a 20 gauge is called a 20 gauge. Then click on the 20 gauge barrel to show a lead ball drop out the diameter of the barrel and align with the other 19 lead balls at the bottom of the screen. You can click on any of the barrels for a similar demonstration. The .410 works differently because it is the actual barrel measurement.

Magazine Plug

This animation is a visual aid depicting a magazine plug in a Pump action shotgun and how it works. You can move through the sequence slowly so you can discuss it with the class. You can also show the sequence quickly by clicking on the CONTINUOUS button.

Shotgun Range

The shotgun range is a great tool to teach about differences in gauges, shot sizes, shot patterns, shot densities, pellet counts and more. Below is an example of how to use the shotgun range but there are many options and ways to demonstrate a point.

The various options on the Shotgun Range are:

- **Close-Up Button** – Use this button to show or hide a close up view of targets. The close-up targets display the statistics on the bottom of the target once a shot is taken. It will show the yardage, gauge, choke, shot type used, shot size, and the shot count.
- **Distance Button**- Use this button to choose target distances. You can change your target distances to 10 yards, 25 yards, 40 yards, or one target at each distance. Be aware that if you change your target distances it will clear your targets.
- **Clear Button**- Use this button to clear all of the targets at once. To clear ONE target, click on the corresponding close-up target. Also use this button to change target types. The first time you click on this button, it will clear all the targets. If the targets are already cleared, it will cycle through 5 available target types; X-type, quail, pheasant, duck and turkey.
- **Gauge Button** - Use this button to choose among six (6) different shotgun gauges; 10 ga., 12 ga., 16 ga., 20 ga., 28 ga., and .410.
- **Choke Button** - Use this button to choose among three (3) different choke types; FULL, MODIFIED and IMPROVED CYLINDER.
- **Shot Type Button** - Use this button to choose between lead shot and steel shot
- **Shot Size Button** - Use this button to choose among five (5) different shot sizes; 7, 6, 4, 2, and BB

NOTE: All shot shells used in this demonstration are 2 ¾" shells with the following loads (in ounces):

SHOT TYPE	10 Ga.	12 Ga.	16 Ga.	20 Ga.	28 Ga.	.410
Lead	1-1/4.	1-1/8	1	7/8	3/4	1/2
Steel	1-1/8	1	7/8	3/4	5/8	1/2

TEACHING ABOUT CHOKES: Make sure the FULL choke is selected on the lower toolbar then shoot at the left target. You aim the gun by moving the mouse and shoot the gun by clicking the mouse button. Next, change the choke to "MODIFIED" and shoot at the center target. Finally, change the choke to IMPROVED CYLINDER and shoot at the right target. This gives a fairly good example of the differences in shot spread with each type of choke.

Now click on the CLOSE-UP button to show close up views of each target. Notice that at the bottom of each close up target it shows you statistics about the last shot. This information is displayed so you don't have to remember exactly what you shot; the computer keeps track of it for you! Change your target layout so you have three targets at 25 yards or 3 targets at 40 yards. Now shoot each target with a different choke to show how distance and choke affects the shot spread.

Pointing a Shotgun

This section shows the correct and incorrect way to point a shotgun, and two shotgun shooting techniques.

- **Proper Alignment of the Shotgun:** Either click on the left side of the screen to advance the shotgun through correct and incorrect alignment scenarios or click and drag the Point of View shotgun on the right side of the screen to align or misalign the shotgun.
- **Swing-Through Shooting Method:** Roll over the box at the top of the screen that says "Swing-Through" to get to this sub-section. Either click on the screen to advance through the section or click on the CONTINUOUS button to play the sequence without interruption. This is helpful to give students a feel for how you swing the shotgun smoothly.
- **Sustained Lead Shooting Method:** Roll over the box at the top of the screen that says "Sustained Lead" to get to this sub-section. Either click on the screen to advance through the section or click on the CONTINUOUS button to play the sequence without interruption.

Shotgun Shell

This animation allows you to show the parts of the shotgun shell while loaded in the chamber of a firearm. (There is an EXTERNAL Parts view and an INTERNAL parts view) Ask students to identify/name the parts. Define the parts as they are identified. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to reveal all the names at once. Click the HIDE PARTS button to hide the names.

In addition, while viewing the INTERNAL parts of the shotgun shell you have the option to FIRE the shotgun shell by clicking the FIRE button. This animation shows how the firing pin strikes the primer and fires the shot. It also follows the shot with the wad as it exits the muzzle.

Shot Sizes

This interactive chart is a visual aid that allows you to show the differences in shot sizes. (Shotgun shells are loaded with different sizes of shot depending on your target) This interactive chart allows you to move the cursor over each of the shot sizes in the chart and see the corresponding shot size measurement next to the ruler. You will also see an internal view of a shotgun shell with the corresponding shot inside. You can also switch to the steel shot size chart by clicking the appropriate button on the screen.

Using Proper Ammunition

This interactive animation allows you to demonstrate the potentially dangerous scenarios of using IMPROPER ammunition (wrong gauge or shell length) for a 12 gauge shotgun with a 2 ¾ " chamber. The shotgun shell options include a **12 gauge 2 ¾ inch shell**, a **20 gauge 2 ¾ inch shell** and a **12 gauge 3 inch shell**. The object is to ask the class to tell you which of the three shot shell choices is the correct ammunition for the gun.

Select any one of the shot shells by clicking on it. This loads the selected ammunition in the chamber and then shows you an animation of the shot shell being fired. Show all three scenarios to demonstrate each situation.

- **If you choose the 20 gauge 2 ¾" shell** the shell will load and slide down about 1/3 of the barrel length. At that point the shell gets stuck and causes a barrel obstruction. The animation then prompts you to load another round of ammunition. The second round fires normally until it reaches the obstruction in the barrel, thus destroying the gun and injuring the user.
- **If you choose the 12 gauge 3" shell** the shell will load and fire, but the crimping will not open up fully due to the smaller size of the chamber area. This creates an intense amount of pressure and will certainly kick extremely hard, if not damaging the gun and/or injuring the user.
- **If you choose the 12 gauge 2 ¾" shell** the ammunition fires as intended.

Wounding Loss Demonstration

Use this demonstration to teach students not to shoot beyond 40 yards. Just click through the images of the mini-slide show for a description of the demonstration and the results. It also teaches students how to estimate distance based on the size of their muzzle in relation to the bird in flight. Some screens allow you to roll over distance buttons. It also allows you to estimate distances at specific yardages such as 10, 20 & 30 yards, etc.

Rifles

Parts of a Rifle

This section is an interactive image of the parts of a rifle. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to show all the names at once. Click the HIDE PARTS button to hide the names. To use, ask students to identify/name the common parts. Define the parts as they are identified. TIP: Start with Action, Stock, and Barrel

Rifle Action Types

Four rifle action types are shown: **PUMP, BOLT, LEVER and SEMI-AUTOMATIC**. View any of the animated sequences by clicking on the appropriate firearm from the ACTION TYPES menu. Click the mouse to advance the animation through the loading and firing sequence or the left and right arrow keys on the keyboard. You can also show the sequence quickly by clicking on the CONTINUOUS button. To return to the firearm action types, click on the ACTIONS MENU button or click on the BACK button.

Barrel Rifling

This animation is a visual aid depicting barrel rifling and the spinning of a bullet. Use the mouse to click through the animation of the barrel rifling. You can also use the left/right arrow keys to navigate.

Sights (Sight alignment and Sight picture)

This section is used ONLY to demonstrate proper sight alignment and sight picture using either an open sight, peep sight or telescope sight. You cannot fire at the targets. Choose among the three 3 sight options by clicking on the SIGHT button. Use the arrow keys (up, down, left & right) to align the front sight with the rear sight. Once aligned, demonstrate proper sight picture by aligning the gun with the target using the mouse. (Note: To demonstrate actual shooting use the rifle range as described in the rifle range section.)

Telescope Sights explained

This section defines what a 3-9x40mm telescope sight is and what the numbers mean. Use the mouse to click through the images or use the left/right arrow keys to navigate.

Rifle Range

The rifle range consists of four targets set at distances of 300, 200, 100 and 50 yards. You can use one of three sights on your rifle; an open sight, a peep sight or a telescope sight. If you choose the telescope, it does magnify the target. **NOTE:** Whenever you enter the rifle range the sights must be adjusted. Just as if you are sighting-in the gun for the first time. You can either, adjust the sights manually and use it as part of the curriculum or you can use the ADJUST button to adjust the sights.

1. **ADJUSTING SIGHTS AUTOMATICALLY:** For speed or other demonstration purposes, you may want to quickly center the sights without adjusting them manually.
 - a. Use the ADJUST button. The next screen shows how the gun handler should unload the firearm and open the action before making any adjustments.
 - b. You can click the continue button to walk through these screens, or you can click on the DON'T SHOW AGAIN button to quickly bypass the screens.
 - c. You will eventually get to a screen that has a QUICK ADJUSTMENTS box. To center the current sight (whichever one is currently selected) click on one of the following buttons: CENTER @ 50 YDS, CENTER @ 100 YDS, or CENTER @ 200 YDS. To center all

sights (open, peep and telescope) select the APPLY TO ALL SIGHTS checkbox before clicking on one of the CENTER buttons. This will take you back to the shooting range where you can proceed to shoot.

2. **ADJUSTING SIGHTS MANUALLY:** These instructions are for adjusting open sights. However, sighting in a peep sight is identical. Telescope sights have similar adjustment. **NOTE:** regarding **TRAJECTORY:** When sighted in at 100 yards, the gun will shoot slightly high at 50 yards, right on at 100 yards and slightly low at 200 yards.
 - a. Align the front sight with the rear sight using the arrow keys on the keyboard (UP, DOWN, LEFT, & RIGHT). Once properly aligned, aim at the 50 yard target and fire three shots. If the sight needs adjusting, click on the ADJUST button. The next screen shows how the gun handler should unload the firearm and open the action before making any adjustments. You can click the continue button to walk through these screens, or you can click on the DON'T SHOW AGAIN button to quickly bypass the screens. You will eventually get to a screen that has the WINDAGE and ELEVATION adjustments for the sight you are using. Arrows and on-screen text will guide you to the proper adjustment controls. Adjust WINDAGE or ELEVATION or both until satisfied, then click the DONE button.
 - b. After adjustment, fire another three shots to see where you're hitting. Keep repeating this process until you get the gun sighted at 50 yards. If you need to clear your target, just move the mouse up to the close-up target and click on it or you can clear all targets by clicking on the CLR TARGET button.
 - c. Once sighted in at 50 yards, move to the 100 yard target and see where you're hitting, then the 200 yard target. Make adjustments if necessary.

The various options on the Rifle Range are:

- **Close-up Button** -The rifle range automatically shows you the close up targets when you enter the range. Seeing shot location would be difficult without it. You can turn off the close-up targets if you wish by clicking on the CLOSE-UP button, however it is not recommended unless you are trying to demonstrate a point to your students.
- **Clr Target Button** Use this button to clear all of the targets at once. To clear ONE target, click on the corresponding close-up target. Also use this button to change target types. The first time you click on this button, it will clear all the targets. If the targets are already cleared, it will cycle through 4 available target types.
- **Sight Button** - Use this button to choose among three types of sights: OPEN, PEEP or TELESCOPE.
 - **To Align the Front Sight** - (for open sights or peep sights) with the gun raised above the toolbar, use the arrow keys on the keyboard (UP, DOWN, LEFT, RIGHT).
- **Adjust Button-** Use this button to adjust the sights (see above)
- **Magnify Button (for telescope sights only)** – Use this button to change the magnification from 1X to 4X. The magnification can also be changed when adjusting sights manually. One available option is to click the magnification adjustment ring to change magnification.
- **Position Button** - Use this button to choose among five shooting positions: Bench Rest, Standing, Sitting, Kneeling and Prone. The default shooting position when you first enter the rifle range is the bench rest.

Rimfire Cartridge

This animation allows you to show the parts of the rimfire cartridge while loaded in the chamber of a firearm. (There is an EXTERNAL Parts view and an INTERNAL parts view) Ask students to identify/name the parts. Define the parts as they are identified. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to reveal all the names at once. Click the HIDE PARTS button to hide the names.

In addition, while viewing the INTERNAL parts of the cartridge you have the option to FIRE the cartridge by clicking the FIRE button. This animation shows how the firing pin strikes the primer and fires the shot.

Centerfire Cartridge

This animation allows you to show the parts of the centerfire cartridge while loaded in the chamber of a firearm. (There is an EXTERNAL Parts view and an INTERNAL parts view) Ask students to identify/name the parts. Define the parts as they are identified. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to reveal all the names at once. Click the HIDE PARTS button to hide the names.

In addition, while viewing the INTERNAL parts of the cartridge you have the option to FIRE the cartridge by clicking the FIRE button. This animation shows how the firing pin strikes the primer and fires the shot.

Calibers

This section is a mini slide show which first defines caliber (Caliber is the diameter of the bore. In rifled firearms it is usually the distance between the lands). It also shows several sizes of cartridge calibers. Use the mouse to click through the images or use left/right arrow keys to navigate.

Handguns

Parts of a Handgun

This section is an interactive image of the parts of a handgun. Ask students to identify/name the common parts of a handgun. Define the parts as they are identified. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to show all the names at once. Click the HIDE PARTS button to hide the names.

Handgun Action Types

The four most common handgun action types are shown here: **REVOLVER, BOLT, BREAK and SEMI-AUTOMATIC**. You can view the animated sequence of any action type by clicking on the picture of that firearm action type. The next screen will show a close up of that action type. You can cycle through the animation manually by following the on-screen instructions. This allows you to show the sequence of events that take place when using each specific firearms action. It also allows you to move through the sequence slowly so you can discuss it with the class. You can show the sequence quickly by clicking on the CONTINUOUS button. To return to the firearm action types, click on the ACTIONS MENU button or click on the BACK button.

Barrel Rifling

This animation is a visual aid depicting barrel rifling and the spinning of a bullet. Use the mouse to click through the animation of the barrel rifling. You can also use the left/right arrow keys to navigate.

Rimfire Cartridge

This animation allows you to show the parts of the rimfire cartridge while loaded in the chamber of a firearm. (There is an EXTERNAL Parts view and an INTERNAL parts view) Ask students to identify/name the parts. Define the parts as they are identified. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to reveal all the names at once. Click the HIDE PARTS button to hide the names.

In addition, while viewing the INTERNAL parts of the cartridge you have the option to FIRE the cartridge by clicking the FIRE button. This animation shows how the firing pin strikes the primer and fires the shot.

Centerfire Cartridge

This animation allows you to show the parts of the centerfire cartridge while loaded in the chamber of a firearm. (There is an EXTERNAL Parts view and an INTERNAL parts view) Ask students to identify/name the parts. Define the parts as they are identified. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to reveal all the names at once. Click the HIDE PARTS button to hide the names. In addition, while viewing the INTERNAL parts of the cartridge you have the option to FIRE the cartridge by clicking the FIRE button. This animation shows how the firing pin strikes the primer and fires the shot.

Calibers

This section is a mini slide show which first defines caliber (Caliber is the diameter of the bore. In rifled firearms it is usually the distance between the lands). It also shows several sizes of cartridge calibers. Use the mouse to click through the images or use the left/right arrow keys to navigate.

Ammunition

Rimfire Cartridge

This animation allows you to show the parts of the rimfire cartridge while loaded in the chamber of a firearm. (There is an EXTERNAL Parts view and an INTERNAL parts view) Ask students to identify/name the parts. Define the parts as they are identified. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to reveal all the names at once. Click the HIDE PARTS button to hide the names.

In addition, while viewing the INTERNAL parts of the cartridge you have the option to FIRE the cartridge by clicking the FIRE button. This animation shows how the firing pin strikes the primer and fires the shot.

Centerfire Cartridge

This animation allows you to show the parts of the centerfire cartridge while loaded in the chamber of a firearm. (There is an EXTERNAL Parts view and an INTERNAL parts view) Ask students to identify/name the parts. Define the parts as they are identified. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to reveal all the names at once. Click the HIDE PARTS button to hide the names.

In addition, while viewing the INTERNAL parts of the cartridge you have the option to FIRE the cartridge by clicking the FIRE button. This animation shows how the firing pin strikes the primer and fires the shot.

Calibers

This section is a mini slide show which first defines caliber (Caliber is the diameter of the bore. In rifled firearms it is usually the distance between the lands). It also shows several sizes of cartridge calibers. Use the mouse to click through the images or use the left/right arrow keys to navigate.

Shotgun Shell

This animation allows you to show the parts of the shotgun shell while loaded in the chamber of a firearm. (There is an EXTERNAL Parts view and an INTERNAL parts view) Ask students to identify/name the parts. Define the parts as they are identified. You can reveal the names individually by clicking on the part or click the SHOW PARTS button to reveal all the names at once. Click the HIDE PARTS button to hide the names.

In addition, while viewing the INTERNAL parts of the shotgun shell you have the option to FIRE the shotgun shell by clicking the FIRE button. This animation shows how the firing pin strikes the primer and fires the shot. It also follows the shot with the wad as it exits the muzzle.

Shot Sizes

This interactive chart is a visual aid that allows you to show the differences in shot sizes. (Shotgun shells are loaded with different sizes of shot depending on your target) This interactive chart allows you to move the cursor over each of the shot sizes in the chart and see the corresponding shot size measurement next to the ruler. You will also see an internal view of a shotgun shell with the corresponding shot inside. You can also switch to the steel shot size chart by clicking the appropriate button on the screen.

Shotgun Gauges

This animation is a visual aid depicting shotgun gauges. The gauge is the size of the bore of a shotgun. It is measured by the number of lead balls equal to the diameter of the bore which weighs one pound (i.e. a ball the same width as a 12-gauge barrel would weigh one-twelfth of a pound and a corresponding ball for a 20-gauge would be one-twentieth of a pound). Instructor tip: Ask the class if they can tell you why a 20 gauge is called a 20 gauge. Then click on the 20 gauge barrel to show a lead ball drop out the diameter of the barrel and align with the other 19 lead balls at the bottom of the screen. You can click on any of the barrels for a similar demonstration. The .410 works differently because it is the actual barrel measurement.

Using Proper Ammunition

This interactive animation allows you to demonstrate the potentially dangerous scenarios of using IMPROPER ammunition (wrong gauge or shell length) for a 12 gauge shotgun with a 2 $\frac{3}{4}$ " chamber. The shotgun shell options include a **12 gauge 2 $\frac{3}{4}$ inch shell**, a **20 gauge 2 $\frac{3}{4}$ inch shell** and a **12 gauge 3 inch shell**. The object is to ask the class to tell you which of the three shot shell choices is the correct ammunition for the gun.

Select any one of the shot shells by clicking on it. This loads the selected ammunition in the chamber and then shows you an animation of the shot shell being fired. Show all three scenarios to demonstrate each situation.

- **If you choose the 20 gauge 2 $\frac{3}{4}$ " shell** the shell will load and slide down about 1/3 of the barrel length. At that point the shell gets stuck and causes a barrel obstruction. The animation then prompts you to load another round of ammunition. The second round fires normally until it reaches the obstruction in the barrel, thus destroying the gun and injuring the user.
- **If you choose the 12 gauge 3" shell** the shell will load and fire, but will not open up fully due to the smaller size of the chamber area. This creates an intense amount of pressure and will certainly kick extremely hard, if not damaging the gun and/or injuring the user.
- **If you choose the 12 gauge 2 $\frac{3}{4}$ " shell** the ammunition fires as intended.

Bullets in Slow Motion (video)

The video shows how a bullet spins as it leaves the barrel and continues to spin as it travels towards the target. The quality of the video is poor.

Buckshot in Slow Motion

The video shows how a shot and the leaves the barrel and travels down range. The quality of the video is poor.

Wounding Loss Demonstration

Use this demonstration to teach students not to shoot beyond 40 yards. Just click through the images of the mini-slide show for a description of the demonstration and the results. It also teaches students how to estimate distance based on the size of their muzzle in relation to the bird in flight. Some screens allow you to roll over distance buttons. This allows you to view the results or estimate distances at specific yardages such as 10, 20 & 30 yards, etc.

Safety and Handling

Firearm Safety Rules

This section is a mini slide show showing the ten rules of firearms safety or "10 Commandments". Use the mouse to click through the images or use the left/right arrow keys to navigate.

Zones of Fire

This animation is a visual aid depicting proper zones for two scenarios; three hunters abreast and two hunters in a boat. Roll the cursor over the box at the top of the screen to choose.

1. **Three Hunters abreast:** Click anywhere on the screen to start the animation showing the safe zones of fire. Once the animation has completed you can click on the screen again to re-start the animation. To pause the animation sequence, just click anywhere on the screen. This allows you to talk about the safe shooting zones at your own pace. Just click again to continue the animation.
2. **Two hunters In a Boat:** The interaction works the same as above.

Carry Positions

This interactive section provides a visual depiction of the six common field carries including SHOULDER, SLING, TWO-HAND READY, TRAIL, ELBOW AND CRADLE. As you roll the mouse cursor over the black silhouettes on the left you will see a larger color version on the right. You can ask the class to identify the six carry positions. You can then click on the SHOW NAMES button to see which ones they got right. You can also select any carry position by clicking on a silhouette on the left. This takes you to an animation of a hunter walking while using that particular carry position and what may happen if they were to stumble and fall. The purpose of these animations is to show that the safest carry position (or the one with the most muzzle control) is the two-hand ready carry position. Use the left mouse button to start or pause the animation at any point. To get back to the carry positions menu just click on the CARRY POSITION TYPES button.

Two additional options have been added; an African style Over the Shoulder Carry and Break Action Open Carries (trail, elbow and African style)

Crossing Fences

This section has been updated with two narrated video sequences; one showing a single hunter crossing a barbed-wire fence and another sequence with two hunters crossing the same fence. Click the box at the top of the screen to choose. The videos can be manually controlled (pause, move forward, move backward, etc.) by using your mouse.

Getting In/Out of a Boat

This section has been updated with two narrated video sequences; one showing a single hunter safely entering and exiting a boat and another sequence with two hunters doing the same. Click the box at the top of the screen to choose. The videos can be manually controlled (pause, move forward, move backward, etc.) by using your mouse.

Eye & Ear Protection

This is a simple slideshow of two images showing eye and ear protection.

Marksmanship

Rifle Shooting Positions

This section shows four common rifle shooting positions and several techniques to stabilize before taking a shot including; STANDING, KNEELING, SITTING, PRONE, BIPOD, STICKS, LIMB, TRUNK AND PACK. It starts with the least stable position: Standing. You can choose among the positions by rolling the cursor over the box at the top of the screen position. You'll notice a box on the right-hand side of the screen showing a depiction of movement; an estimation of how stable the position is. Roll from the least stable to the most stable (standing, kneeling, sitting and prone) to demonstrate the amount of control.

Once a shooting position is chosen you can advance through 4 images of that position by using the mouse or the arrow keys. You can also advance through the entire slideshow by using the mouse or the arrow keys.

Sighting-In Instructions

This is an interactive animated slide show. It demonstrates, step-by- step, how to effectively sight-in a rifle out to 300 yards. By using this technique a hunter could theoretically hold the sights dead center on the vital areas of the animal and it would be a hit in the vital areas. The theory behind it is that the bullet would rise no more than 3" in the trajectory and fall no more than 3" due to gravity. This would provide a 6" range that is more than enough to provide a lethal shot to the vital areas in a deer or elk or other big game animal.

Shooting Ability

This is an interactive animated slide show. The objective of this section is to demonstrate why hunters should practice with their firearm or bow before hunting. In order to be an ethical hunter, they must be able to keep 80% of their shots within the vital areas at whatever distance they may be shooting. Hunters should know their effective range before going hunting and should not take shots beyond their shooting ability.

Bullet Trajectory

This is an interactive animated slide show. The objective of this section is to demonstrate the bullet path of shots taken from rifles sighted-in at different distances including: @50 yards, @100 yards, @200 yards, @300 yards and @400 yards. Roll the cursor over the box at the top of the screen to choose. The screen will indicate which distance was chosen. Click the screen to view the lines of sight and bullet path as it travels through all the target distances.

Shooting Up Or Down

This is a simple demonstration of how to determine the effects of shooting up or down hill.

Factors Influencing Shot Placement

This is a mini-slide show which shows advanced factors that can influence shot placement such as accuracy of the rifle, caliber, ammunition, wind, etc. It is probably much more advanced than you want to show in a basic hunter education course.

Vital Areas

The vital areas section can be used to interactively show proper shot placement on big game animals. You can select the animal using the forward and back keys at the bottom of the screen. Once you have selected the animal move the cursor (crosshairs) above the toolbar and aim at where you think is the best placement for the shot (Heart, Lung, Liver). Click the mouse to fire the gun. A marker shows you where you hit. Use the organ buttons on the bottom of the screen to show or hide the various organs. If you select another animal species the screen will reset automatically. You can select to use a gun or a bow by clicking on the button on the bottom center of the screen. NOTE: Four images are provided and only two show the animals in proper (broadside) shooting position.

Vital Areas 3D

The new vital areas 3D section allows you to rotate an animated whitetail deer at any angle by dragging the **rotation** control at the bottom of the screen. You can also simulate hunting from a treestand or shooting uphill from below by dragging the **view** control on the right. This section works very much like the other vital areas section when it comes to showing/hiding the vital areas. You can also zoom in on the animal by dragging the **zoom** control on the upper right.

Bowhunting

Bow Types

This section provides a visual depiction of four types of bows including; **Long Bow, Recurve, Compound and Crossbow**. As you roll the cursor over the black silhouettes on the left you will see a larger color version on the right. You may choose to hide or show the names of the bows. For a closer view of the bow, click on the silhouette on the left. This takes you to a new screen showing the bow and the names of the common parts of the bow. Define the parts shown. Click the HIDE PARTS button to hide the names. Click the NEXT button to advance to the next bow type.

Arrows

This screen shows a typical arrow with a field point attached. In addition, other types of points are shown. The corresponding names are not shown so you can get the class members involved. See if they can name any of the parts or any of the tips, then click on the SHOW PARTS button to see if they were correct.

Shooting Up or Down

This is a simple demonstration of how to determine the effects of shooting up or down hill.

Archery Range

The archery range is primarily used to show students how to properly align the sights on a compound bow for various distances. The pins on a typical compound bow are set at 10, 20, 30 and 40 yards. The targets on the range are also set at these same distances.

ALIGNING THE BOW - First align the top pin (the 10 yard pin) in the center of the peep using the arrow keys on the keyboard (UP, DOWN, LEFT, RIGHT). Once the pin is centered in the peep, use the mouse to aim at the center of the 10 yard target. Click the mouse to release the shot. You will see an arrow hit the target. Do the same with the 20 yard pin and aim the 20 yard target, and continue with the 30 and 40 yard targets. When shooting at targets beyond 20 yards you may want to show the close-up view of the targets. (Use the Clear button)

DEMONSTRATING THE EFFECTS OF IMPROPER SIGHT ALIGNMENT – The archery range can also be use as a visual aid to demonstration IMPROPER sight alignment. For example; Center the 10 yard pin in the peep and shoot at the 10 yard target. It should hit dead center. Now center it over the 20 yard target (still using the 10 yard pin). Fire the shot and see that you are hitting low. Do the same with the 30 and 40 yard targets. You can try different variations to help the students understand why arrows hit the target high or low depending on your pin alignment. You can also show the effects of a pin that is not properly centered within the peep.

The various options on the Archery Range are:

- **Close-Up Button** – Use this button to show or hide a close up view of targets.
- **Clear Button** – Use this button to clear all of the targets at once. Also use this button to change target types. The first time you click on this button, it will clear all the targets. If the targets are already cleared, it will cycle through 3 available target types.
- **Bow Type Button** - Use this button to choose between compound and crossbow

Wildlife Management

Elements of Habitat

This section consists of a mini-slide show. Advance through the images by using your mouse or the arrow keys. Several images showing the 5 components of habitat are shown: FOOD, WATER, SPACE, COVER AND ARRANGEMENT. The last slide shows all five elements

Carrying Capacity

This is an interactive mini slide show which offers content and a demonstration of a habitat's carrying capacity. Carrying Capacity is the number of animals a habitat can support. Hunting is identified as a management tool to control animal numbers when necessary. Use the mouse or the arrow keys to advance

Tools of the Wildlife Manager

This is a mini slide show which offers content and images regarding Habitat management. It is a simplified description of how various tools are used by wildlife managers to enhance habitat and manage animal populations.

Wildlife Identification

The wildlife identification section provides various images of different species. They are classified into five main categories: BIG GAME, SMALL GAME, PREDATORS, UPLAND BIRDS AND WATERFOWL. The menu on the left provides the species names of all images in any chosen category. There are several ways to use the wildlife identification section as follows:

- **REGULAR MODE** -In regular mode, select a category at the top of the screen by using your mouse and simply select a species from the menu on the left. Once selected, both the image and the species name appear on the screen. You can also navigate to any image by using the left/right arrow keys.
- **HIDE & SHOW NAMES MODE** –Toggle between "Hide Names" and "Show Names" by clicking the button. In the Show Names mode, when you advance through the images in the menu the name is not shown immediately. This allows you time to ask the students to name the species. If you click again, the name is revealed. If you click again, it advances to the next image. We think this is a better approach because you are involving the class.

- **HIDDEN MENU MODE** -To make it more difficult for students, click on the "Hide Menu" button. This will hide all possible names listed on the left side of the screen. Not being able to see the names will be more challenging to students.
- **TOTALLY HIDDEN MODE** -Click on both the "Hide Menu" and "Hide Names" buttons. Neither the list of possible species nor their names will be displayed as you advance through the images.
- **Note:** You will notice that as you get to the last image of a category, the next image will be the first image of the next category (i.e. at the end of BIG GAME, the next image will be the first image of SMALL GAME). In other words, you can go through every image in every category just by clicking the mouse button, or using the left/right arrow keys.

Wildlife Comparisons

Use this section to show ANY two species in a side-by-side arrangement.

First select the two species – Choose the category at the top of the screen. Then you can click on the species name at the bottom of the screen or you can type the corresponding letter on the keyboard. (For example: Click on the "Waterfowl" button at the top of the screen, then press the "B" key and then the "H" key. This displays the Canvasback and Redhead). You can either show or hide the species names by clicking the appropriate button at the bottom of the screen. You can also click on the "Hide Names" or "Hide Menu" button to make it more challenging.

There is also a Zoom feature to examine images more closely. Once you have zoomed in on an image, you can drag the image within the frame. Simply select a section of the image to zoom in. For example, you could zoom in on the head of the canvasback duck and the redhead duck side-by-side. To zoom out to normal size and reset the images, just click on the magnifying glass within the image window or click the Zoom-out all icon. You can also advance the images with left/right arrow keys: Place the cursor over the left or right image, advance to the next image by clicking the mouse or using the arrow keys.

Wildlife I.D. Quiz

Use the Wildlife I.D. Quiz to assess the student's knowledge. There is a separate quiz for each of the five categories: Big Game, Small Game, Predators, Upland Birds or Waterfowl. To begin, select the category and follow the prompts. The quiz will randomly display an image of a species from that category and list the possible choices on the left side of the screen. Ask the class to identify the species as they are shown. Click the corresponding name on the left as each species is shown. You will be notified if the answer is correct or incorrect. After you have provided an answer to all the species within the category you will be presented with a final score. The quiz is a good way to involve the class and teach them identification skills.

Ethics & Responsibility

Ethics & Responsibility

This section displays various images pertaining to hunting and the outdoors. The images vary widely from trash on the ground to shooting at a quail on the ground to shooting at geese with a rifle. The purpose of this section is to make students think about each situation and ask themselves, "Is this ethical?" or "Is this being responsible?" As you advance through the images, ask students what they think about each image and discuss it openly among the class so that everyone can begin to understand the meaning of ethics and responsibility as a hunter.

As you go through the images you will notice that some scenes have an animated image of a rifle with a scope or a shotgun as the cursor. This is intended to raise questions. For instance, the first image is of two mule deer in a field and you control a rifle scope with the mouse. There are many things you can discuss (i.e. What if you have a buck-only deer tag. Is this a safe and ethical shot? Is the doe too close to the buck? Now let's say that you have an either sex permit, or a doe permit. Now is this a safe and ethical shot? Some are still images. For instance, it may be a fence with a no trespassing sign. You can discuss private property issues with the class.

There are many images in this section that help you to discuss things such as littering, shooting non-game species, hunting with an illegal firearm (shooting geese with a rifle), damaged fences, shooting at signs, shooting at game within a private area, shooting at an unclear target, display of bagged game, shooting at water, shooting

endangered species, alcohol and guns, flock shooting, shooting before or after hours, shooting from an ORV, damaging trees & nature, shooting at birds on the ground (fair chase), shooting around buildings, and shooting at deer in a herd. There are right and wrong answers with many of these images, depending upon many factors. Use the MOUSE, or the RIGHT /LEFT ARROW KEYS to advance/move through the sequence of images.

Virtual Walk-Through

Many states have adopted the use of a virtual walk-through where you take the class outside and show them real-life or simulated real-life situations to help them better understand ethics, responsibility, wildlife identification and more. This virtual walk-through section was designed to assist in much the same way. If the weather doesn't cooperate with your outdoor walk-through then you can always use this as your backup plan. The virtual walk-through is similar in ways to the ethics & responsibility section above. However, the virtual walk through enhances some points more effectively.

Not every situation is a no-shoot situation. Several scenes are perfectly safe and legal. For instance, there is a sequence where a mule deer buck walks out from behind some brush. This is a perfectly legal shot in most areas. However, several scenes later you come back to the same background location and you see the mule deer's rear end sticking out of the brush. Or at least you think it's the mule deer's rear end because you just saw it a few scenes ago. However, if you wait you will see that the mule deer is in fact a cow.

You can use the MOUSE to choose Next or Previous images or use the RIGHT /LEFT ARROW KEY. Use the UP ARROW KEY to replay the current scene. You can fire the gun on each scene by clicking the LEFT MOUSE BUTTON. When you fire the gun the scene pauses so that you can discuss the details of the situation. You may choose to allow a student or several students to actively participate in these shoot/don't shoot scenarios.

Sunrise/Sunset Tables

Each state and province has different rules and regulations regarding shooting hours. Here we show some examples of some sunrise/sunset tables from various states. These are nothing more than visual aides to allow you to discuss how to read a sunrise/sunset table.

Game Care and Cleaning

Opening the Carcass (Field Dressing)

This is an animated interactive demonstration providing content and moving images of how to field dress a deer. Use the mouse and follow the prompts to advance through the instructions. You can also use the left/right arrow keys to advance the moving images frame by frame.

Trophy cutting (Skinning for Taxidermy)

This section has two animated interactive demonstrations providing content and moving images of how make the proper cuts for taxidermy for a shoulder mount or for a full body mount. Roll the cursor over the box at the top of the screen to choose. Use the mouse and follow the prompts to advance through the instructions. You can also use the left/right arrow keys to advance the moving images frame by frame.

Safe Handling of Meat

This is a mini slide show providing content and still images on the safe handling of meat. Use the mouse or the left/right arrow keys to navigate.

Treestand Safety

Treestand Safety

The treestand safety section is based on current TMA (Treestand Manufacturers Association) standards. This section is narrated. You can click through the entire program with the mouse screen-by-screen or you can go directly to different sections from the menu. You can also use the left/right arrow keys to navigation. The treestand safety course is provided online for free at www.hunterexam.com.

Firearm Cleaning and Storage

Cleaning a Firearm

This is an animated interactive demonstration providing content and moving images of how to clean a bolt-action rifle. Use the mouse and follow the prompts to advance through the instructions on how to clean the firearm. You can also use the left/right arrow keys to advance the moving images frame by frame.

Using a Bore Guide

This is a short narrated video of how to clean a bolt-action rifle using a bore guide to prevent debris from getting into the chamber area. The video can be manually controlled (pause, move forward, move backward, etc.) by using your mouse.

Firearm Storage

This is a mini slide show providing content and still images of various types of gun locks and safes. Use the mouse or the left/right arrow keys to navigate.

Outdoor Preparedness

Using a Map & Compass

This is an animated interactive demonstration providing content and moving images of how to use a map and compass. Use the mouse and follow the prompts to advance through the instructions. Content includes how to get from point A to point B using a map and compass and the importance of understanding declination. You can also use the left/right arrow keys to advance the moving images frame by frame.

GPS Basics

This is a mini slide show providing content and still images on Basics of GPS Technology and how to use it. Use the mouse or the left/right arrow keys to navigate.

Hypothermia

This is a mini slide show providing content and still images on the definition, symptoms, and treatment of hypothermia. Use the mouse or the left/right arrow keys to navigate.

Hyperthermia

This is a mini slide show providing content and still images on the definition, symptoms, and treatment of hyperthermia. Use the mouse or the left/right arrow keys to navigate.