

FORMAT

Test Items

Course Name: ACME Students Changing Tire

Prepared by: Trevor Harrigan

1. **Task Statement, ELO 1.1:** Identify tire changing terms and equipment

a. **Question :**

i. **Type:** Interactive, Matching Question

ii. **Set-up For Interactive Questions:** On the right side of the screen will be pictures of the following, labeled with a letter: A) wheel chocks, B) scissor jack, C) closeup or callout of a scissor jack's top bracket, D) closeup or callout of a scissor jack's handle. On the left side of the screen will be a list of matching terms, labeled with a number: 1) handle, 2) top bracket, 3) wheel chocks, 4) scissor jack.

iii. **Student Instructions and Question:** Can you identify all the parts and tools shown here? In the text fields provided for each picture, enter the the number of the matching term.

- **Correct Feedback:** That's right! You correctly identified the wheel chocks, scissor jack, and both the top bracket and handle on a scissor jack.
- **Incorrect First Feedback:** That's incorrect. Try again.
- **Incorrect Final Feedback:** That's incorrect. You should go back and review the lesson on tire changing terms.

b. **Question :**

i. **Type:** Interactive, Matching Question

ii. **Set-up For Interactive Questions:** On the right side of the screen will be pictures of the following, labeled with a letter: A) lug wrench, B) lug nuts, C) spindle, D) spare tire. On the left side of the screen will be a list of matching terms, labeled with a number: 1) spare tire, 2) lug wrench, 3) lug nuts, 4) spindle.

iii. **Student Instructions and Question:** Now let's see if you can identify this set of parts and tools. In the text fields provided for each picture, enter the the number of the matching term.

- **Correct Feedback:** Great job! You've correctly identified the lug wrench, lug nuts, spindle, and the spare tire.
- **Incorrect First Feedback:** That's incorrect. Try again.
- **Incorrect Final Feedback:** That's incorrect. You should go back and review the lesson on tire changing terms.

2. **Task Statement ELO 1.2:** Properly check a car

- a. **Question :**
- i. **Type:** Interactive, Click
 - ii. **Set-up For Interactive Questions:** In the center of the screen will be two pictures or diagrams. The first will be a picture or diagram of a car (or a set of four tires), and the second will be a picture or a diagram of a tire on an incline.
 - iii. **Student Instructions and Question:** Here's a car parked on an incline. The right rear tire has gone flat. Click on the tire where you think the chocks should be placed.
 - Correct Feedback: You got it! Wheel chocks should be placed on the tire diagonally opposite the flat tire.
 - Incorrect First Feedback: That's incorrect. Try again.
 - Incorrect Final Feedback: That's incorrect. You need to put the wheel chock on the tire diagonally opposite of the flat.

- b. **Question :**
- i. **Type:** Interactive, Click
 - ii. **Set-up For Interactive Questions:** In the center of the screen will be a picture or diagram of a tire on an incline sloping down to the left. There will be a hotspot on the uphill side (incorrect) and the downhill side (correct).
 - iii. **Student Instructions and Question:** Now that we've determined which of the tires needs the chock, on what side of the wheel should we place it? Click on the side of the wheel you think is the correct place for the chock.
 - Correct Feedback: Excellent! The wheel chock should always be placed on the downhill side of the tire.
 - Incorrect First Feedback: That's incorrect. Try again.
 - Incorrect Final Feedback: That's incorrect. The wheel chock needs to go on the downhill side of the tire.

3. **Task Statement ELO 1.3:** Employ a scissor jack.

- a. **Question :**
- i. **Type:** Interactive, Click
 - ii. **Set-up For Interactive Questions:** In the center of the screen will be a picture or diagram of a car. There will be one hotspot for the entire car (incorrect) and one for each visible scissor jack support point or notch (correct).
 - iii. **Student Instructions and Question:** Here we have a typical car. For each of the four tires, there's a spot on the car where a scissor jack's top bracket is meant to fit. Can you identify one of those spots? Click where you think it is.

- Correct Feedback: That's right! For every tire, a car has a nearby slot or support point for a scissor jack.
- Incorrect First Feedback: That's incorrect. Try again.
- Incorrect Final Feedback: That's incorrect. The scissor jack's top bracket should match up to a car's support point or slot.

b. **Question :**

i. **Type:** Multiple Choice

ii. **Student Instructions and Question:** Now, you've got a car that's been properly chocked and the scissor jack is in the right place. We're about to start replacing a flat tire, we need to raise the tire a bit before we can do that. How high up do you think it should go? Pick which answer you think is correct from the choices below.

- A) **Just enough to not lose ground contact**
- B) 3 to 5 inches
- C) 8 to 10 inches
- D) As high as the scissor jack can go

- Correct Feedback: Exactly! When you're first raising the tire off the ground, you want to make sure it's still touching the ground first.
- Incorrect First Feedback: That's incorrect. Try again.
- Incorrect Final Feedback: That's incorrect. When first raising the tire, it needs to be raised just high enough that it doesn't lose ground contact.

4. **Task Statement ELO 1.4:** Remove a flat tire.

a. **Question :**

i. **Type:** Multiple Choice

ii. **Student Instructions and Question:** Once the lugs are loosened and removed, we can remove the flat tire. Should we raise the scissor jack first? If so, how high do you think it should go? Pick which answer you think is correct from the choices below.

- A) The tire doesn't need to be raised any farther.
- B) 8 to 10 inches
- C) **3 to 5 inches**
- D) As high as the scissor jack can go

- Correct Feedback: Excellent! After loosening and removing the lugs, the tire should be raised 3 to 5 inches off the ground.
- Incorrect First Feedback: That's incorrect. Try again.
- Incorrect Final Feedback: That's incorrect. After loosening and removing the lugs, the tire should be raised 3 to 5 inches off the ground.

b. **Question :**

i. **Type:** Multiple Choice

ii. **Student Instructions and Question:** There's a certain method to safely handling a tire. Here we've overlaid a picture of one with the face of a clock. From the choices below, where would we place our hands on the tire for safe handling?

- A) 3 and 9 o'clock
- B) **8 and 2 o'clock or 10 and 4 o'clock**
- C) 12 and 6 o'clock
- D) None of these, holding the tire by its rim is safest

- Correct Feedback: Great job! Placing your hands on a tire in the 8 and 2 o'clock (or 10 and 4 o'clock) positions is the safest way to handle it.
- Incorrect First Feedback: That's incorrect. Try again.
- Incorrect Final Feedback: That's incorrect. Either the 8 and 2 o'clock or 10 and 4 o'clock positions are the ideal places to handle a tire.

5. **Task Statement ELO 1.5:** Install a spare tire.

a. **Question :**

i. **Type:** Multiple Choice

ii. **Student Instructions and Question:** Now we're ready to put the spare tire on the spindle. We've already raised the scissor jack twice, but should we raise it a third time? If so, how high should it go? Pick which answer you think is correct from the choices below.

- A) 8 to 10 inches
- B) As high as the scissor jack can go
- C) The tire doesn't need to be raised any farther.
- D) **3 to 5 inches**

- Correct Feedback: You got it! After the spare tire has been pulled off, the tire should be raised another 3 to 5 inches off the ground.
- Incorrect First Feedback: That's incorrect. Try again.
- Incorrect Final Feedback: That's incorrect. After the spare tire has been pulled off, the tire should be raised another 3 to 5 inches off the ground.

b. **Question :**

i. **Type:** Multiple Choice

ii. **Student Instructions and Question:** While we're at it, what do you think is the most efficient and safest way to move a tire? From the answers below, pick which one you think is correct.

- A) Carry it by the 8 and 2 o'clock or 10 and 4 o'clock positions
- B) Carry it by the 3 and 9 o'clock positions
- C) **Placing the tire on the ground and rolling it alongside you**
- D) Carry it by the 8 and 4 o'clock positions

- Correct Feedback: Exactly! Rolling a tire on the ground as you walk is the most efficient and safest way to move a tire.
- Incorrect First Feedback: That's incorrect. Try again.
- Incorrect Final Feedback: That's incorrect. Rolling a tire on the ground as you walk is the most efficient and safest way to move a tire.

6. **Task Statement ELO 1.6:** Secure the new tire.

a. **Question :**

i. **Type:** Multiple Choice

ii. **Student Instructions and Question:** The spare tire is on the spindle and we're ready to put the lugs back on. What about the scissor jack, though? Should we lower it now, and by how much? Pick which answer you think is correct from the choices below.

- A) **Lower the jack to ground contact.**
- B) 8 to 10 inches
- C) Leave the jack at its current height.
- D) 3 to 5 inches

- Correct Feedback: Great job! The new tire needs to be lowered until it touches the ground to safely tighten the lugs.
- Incorrect First Feedback: That's incorrect. Try again.
- Incorrect Final Feedback: That's incorrect. The new tire needs to be lowered until it touches the ground to safely tighten the lugs.

b. **Question :**

i. **Type:** Interactive, Matching Question

ii. **Set-up For Interactive Questions:** On the right side of the screen will be a picture of the following: a tire spindle with locations for each of the five lugs clearly marked, starting from the top and continuing in clockwise order: A, B, C, D, and E. The student will be given five corresponding text fields from which they must type in a number from 1 to 5.

iii. **Student Instructions and Question:** There's a specific order to tightening the lugs on a wheel that we call the STAR method. Can you show how it's done? Starting with the lug labeled "A," type in the order in which the lugs should be tightened, with "1" as the first lug and "5" as the last.

- Correct Feedback: Exactly! The STAR method would, in this example, involve screwing in A, C, E, B, D.
- Incorrect First Feedback: That's incorrect. Try again.
- Incorrect Final Feedback: That's incorrect. The STAR method would, in this example, involve screwing in A, C, E, B, D.

c. **Question :**

i. **Type:** Multiple Choice

ii. **Student Instructions and Question:** How many times should the STAR method be repeated on the lugs? From the choices below, click which answer you think is correct.

A) Two time

B) Five times

C) **Until the lugs are fully tightened.**

D) None, tightening until you feel pressure is good enough.

- Correct Feedback: Great job! You should repeat the STAR method until the lugs are fully tightened.
- Incorrect First Feedback: That's incorrect. Try again.
- Incorrect Final Feedback: That's incorrect. You should repeat the STAR method until the lugs are fully tightened.