

MASS CLEAN ENERGY CENTER **AUTHENTIC MATERIAL ACTIVITY · COMPLETING A PREVENTIVE MAINTENANCE CHECKLIST**

Performing Preventative Maintenance

Contextualized ESOL Support Activity

ACTIVITY

Oral Communication, Collaboration

45

minutes

AUTHENTIC MATERIAL ACTIVITY – PERFORMING PREVENTATIVE MAINTENANCE

ACTIVITY OVERVIEW

Objective	Students will learn the steps to perform quarterly preventative maintenance on equipment.
Durable Skill	Oral Communication, Collaboration
When to Use	Students need experience with basic operation of a heat pump and an understanding of its components.
Student Interacts With Hypothetical	Customers
Activity Type	Pairs work, Large group discussion
Time Needed	45 minutes

STUDENT MATERIALS

- Handout 1: Authentic Materials - Vocabulary Definitions
- [Handout 2: HVAC Preventative Maintenance \(PM\) Checklist](#) (Created by H.V.A.C. Service Corp.)

Instructor Preparation**Activity Location**

- Space with access to trainer or heat pump

Material Preparation

- Review the student handouts. Make one copy of Handout 2 for each student. If students already have a copy of Handout 1 from a previous Authentic Material Activity, have them use it. Otherwise, make one copy per student.
- Each pair of students will need access to a heat pump or trainer for this activity.
- For background information, review the Equipment Agnostic Toolkit, Lab 16.4, Perform a Preventative Maintenance Inspection.
- **Best Practice**
 - Identify any key vocabulary terms from Handout 1: Authentic Materials - Vocabulary Definitions that students should be referencing as part of the activity. Be prepared to reference these during the activity.

VIDEO RESOURCES

Video Title	Time	Description
What HVAC Pros Check Every Season: Free AC Maintenance Checklist PDF & Excel	1:44 min.	A quick, clear guide that can provide a guide for how to discuss preventative maintenance with a homeowner.
Complete HVAC System Maintenance Step by Step Guide for Homeowners & Technicians	13:46 min.	From HVAC Bee, this video walks through a complete HVAC system maintenance from start to finish — everything to check, clean, and test to keep a heating and cooling system running at peak performance.
How to Prevent HVAC Callbacks Maintenance Service Checklist Explained - Part 1	29:51 min.	From HVAC School, this video shows how to prevent HVAC callbacks with their comprehensive 21-point maintenance service checklist explained in detail. It covers essential HVAC maintenance procedures needed to deliver quality service and avoid costly callbacks.

ACTIVITY DIRECTIONS

1. Ask students, “What happens if you have a car but do not check the air in the tires, the oil level, or change the oil filter?” Ask what other items in their household need to be inspected on a regular basis? Examples might include smoke alarms, the dryer (changing the filter), and flashlights.
2. Note that checking the functioning of these items before there is a problem is called preventative maintenance. HVAC equipment also needs preventative maintenance to ensure any minor or major problems are identified early and to keep the equipment running smoothly for the life of the equipment.

3. Distribute and review Handout 2: HVAC Preventative Maintenance (PM) Checklist. Note that on the front of the handout, the four seasons are listed across the top. The “X’s” in each column indicate the preventative maintenance work that is typically performed in that season. On the back of the handout, the columns are blank.
4. Explain that each pair will perform preventative maintenance on their equipment for the current season. Note that as a service technician, they can suggest to customers that if this is not performed quarterly, then at a minimum it should be performed in the fall and in the spring. They can encourage homeowners to change their filters quarterly.
5. Student pairs are to perform the work items listed, then on the back of Handout 2, they will mark each item completed for the current season. If a problem is found, they should record it next to the work item and write what they did to fix it. (Note: The instructor can also use the handout as an instructor led walk-through of how to perform each task.)
6. Allow 20 minutes for participants to complete work items on the checklist.
7. As a class, debrief the activity using these guiding questions:
 - Which work items were the easiest to perform? Why?
 - Which work items were most challenging to perform? Why? Is there anything you could do differently when performing preventative maintenance to make it less challenging?
 - Was there anything you were not sure how to check? How did you figure out how to do it?
8. Wrap-up by encouraging students to learn more about performing preventative maintenance by watching any of the videos from the Video Resources.

ESOL Strategy Note

Before distributing Handout 2 in step 3, point out the “X’s” on the front of the handout and model reading one row aloud, connecting the season header to the task listed — this gives multilingual learners a clear example of how to navigate the checklist’s format before they need to use it independently.

During the pairs’ work in step 5, encourage partners to narrate each step aloud to each other as they perform it (e.g., “I’m checking the filter now”) — this pairs the hands-on task with the vocabulary in real time, reinforcing new terms through immediate, low-pressure repetition.