Automotive Technology 6th Edition
Chapter 1 Automotive Background & Overview
Opening Your Class

KEY ELEMENT	EXAMPLES
Introduce Content	This Automotive Technology 6th text provides complete coverage of automotive components, operation, design, and troubleshooting. It correlates material to task lists specified by ASE and ASEEducation (NATEF) and emphasizes a problem-solving approach. Chapter features include Tech Tips, Frequently Asked Questions, Case Studies, Videos, Animations, and ASEEducation (NATEF) Task Sheets.
Motivate Learners	Explain how the knowledge of how something works translates into the ability to use that knowledge to figure why the engine does not work correctly and how this saves diagnosis time, which translates into more money.
State the learning objectives for the chapter or course you are about to cover and explain this is what they should be able to do as a result of attending this session or class.	Explain the chapter learning objectives to the students as listed: 1. Explain the evolution of the automobile. 2. Discuss the major components of a vehicle. 3. Describe the evolution of engines. 4. List the common components of most vehicles. 5. List the eight areas of automotive service according to ASE/ ASEEducation.
Establish the Mood or Climate	Provide a *WELCOME,* Avoid put downs and bad jokes.
Complete Essentials	Restrooms, breaks, registration, tests, etc.
Clarify and Establish Knowledge Base	Do a round robin of the class by going around the room and having each student give their backgrounds, years of experience, family, hobbies, career goals, or anything they want to share.

NOTE: This lesson plan is based on the 6th Edition Chapter Images found on Jim's web site @ www.jameshalderman.com

DOWNLOAD Chapter 1 Chapter Images: From

http://www.jameshalderman.com/automotive_principles.htmlNOTE: You can use Chapter Images or possibly Power Point files:

ICONS	CHAPTER 01 Background & Overview
	**1. SLIDE 1 TITLE: Ch1 Automotive Background & Overview**
	**Check for ADDITIONAL VIDEOS & ANIMATIONS @ http://www.jameshalderman.com/** **WEB SITE IS CONSTANTLY UPDATED**
	**http://www.youtube.com/watch?v=-O6oUEsltHU**
	**http://www.jameshalderman.com/automotive_principles.html** **DOWNLOAD** **Crossword Puzzle (Microsoft Word) (PDF)** **Word Search Puzzle (Microsoft Word) (PDF**
	**2. SLIDE 2 EXPLAIN FIGURE 1–1 shows Ford Quadricycle built by Henry Ford.**
	**Karl Benz built first actual car in 1885. Regarded as inventor of gasoline-powered car. 1st automobile entirely designed as such to generate its own power, not simply a motorized stage coach or horse carriage**
	**3. SLIDE 3 read caption FIGURE 1–2** vehicle bodies were constructed with wood framework until 1920s. Automotive bodies evolved Until in 1930s All-steel-enclosed bodies became most used type, which all depended on frame of wood or steel. **4. SLIDE 4 EXPLAIN FIGURE 1–3** chassis of 1950s era vehicle showing engine, drivetrain, frame, and suspension. Body Terms Roof supported by pillars labels A, B, C, D from front to rear **5. SLIDE 5 FIGURE 1-4 EXPLAIN** Body and terms

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	**HAVE A TEAM DISCUSSION ON BODY PARTS: MATCHES SLIDE 5 FIGURE 1–4**
	**HANDS-ON TASK: Break Students Into 2 Teams. Use Masking Tape To ID Car Body Terms On Lab Vehicle Like Those In Slide 5. Write Name Of Part On Post-it note & Place It Next To Part.**
	6. **SLIDE 6 EXPLAIN FIGURE 1–5 CAPTION** Note ribbing and the many different pieces of sheet metal used in the construction of this body. Space-Frame Construction consists of formed sheet steel used to construct framework. It is drivable without body
	**EXPLAIN TECH TIP: Treat a Vehicle Body with Respect Do not sit on vehicle. Metal can easily be distorted, which could cost a lot to repair. This includes sitting on hood, roof, & deck (trunk) lid, as well as fenders. Do not hang on any opened door as this can distort hinge area causing door not to close properly.**
	**Many expensive automakers in 1920s & 1930s had bodies built by another company. Eventually, most bodies were constructed of steel and many without the need for a frame to support drivetrain and suspension.**
	7. **SLIDE 7 FIGURE 1-6** Corvette without a body. Notice that the vehicle is complete enough to be driven. This photo was taken at the Corvette Museum in Bowling Green, Kentucky.
	8. **SLIDE 8 FIGURE 1–7 Explain**: Ford flathead V-8 engine. This engine design was used by Ford Motor Company from 1932 through 1953. In a flathead design, valves located next to cylinders.
	**DEMONSTRATION: IGNITION COMPONENTS & OPERATION. USE A TRAINER OR AN OLD DISTRIBUTOR, COIL AND ST125**

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	**HANDS-ON TASK: USE VOCABULARY SCAVENGER HUNT TASK SHEET to identify parts on vehicle related to charging system that correspond with letter on task sheet & describe purpose of each part.**
	**DISCUSS FREQUENTLY ASKED QUESTION: What Is Monroney Label? The Monroney label is the sticker on the vehicle that lists the manufacturer's suggested retail price, usually abbreviated MSRP. The law that requires this label on all vehicles is called the Monroney Law, named for congressman who sponsored bill, Almer S. Monroney (1902–1980), US farm representative from Oklahoma from 1939 to 1951 and U.S. Senator from 1951 to 1969. Before Monroney label law was passed in 1958, price of a vehicle was unknown to buyers who had to rely on the dealer for pricing. Besides all of the standard and optional equipment on the vehicle, Monroney label also includes fuel economy and exhaust emission information. SEE FIGURE 1–8.**
	9. **SLIDE 9 FIGURE 1-8** A *Monroney* label as shown on the side window of a new vehicle.
	**Many methods of powering all 4 wheels include transfer case to split engine torque to both front & rear wheels**
	**DISCUSSION: DISCUSS DIFFERENCES BETWEEN RWD & FWD POWERTRAINS. WHAT ADVANTAGES AND DISADVANTAGES OF EACH?**
	**OPTIONAL DEMO: Show Students Universal Joints & Describe Their Purpose. Show students some different types of CV Joints used on FWD vehicles.**

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	**10. SLIDE 10 FIGURE 1–9** dash control panel used by driver to control FWD system.
DEMO	**OPTIONAL DEMO: IF YOU HAVE A CRANKING SYSTEM TRAINER DEMO STARTER OPERATION:**
	**11. SLIDE 11 EXPLAIN FIGURE 1–10** Alternator is heart of electrical system
DEMO	**OPTIONAL DEMO: IF YOU HAVE A CHARGING SYSTE, TRAINER DEMO ALTERNATOR OPERATION. HOOK-UP AVR/CAB TESTER & DEMO ON VEHICLE. HAVE THIS SET-UP BEFORE CLASS.**
	**12. SLIDE 12 EXPLAIN FIGURE 1–11 Test registration booklet that includes details on all vehicle-related certification tests given by ASE.**
	**ASE will be discussed in detail at end of Chapter 5**
	ASE Tests (View) (Download)
	**COMPLETE: VEHICLE CHASSIS IDENTIFICATION (A4-A-4) TASK SHEET**
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