Plumbing
Lesson Four: Plumbing System Plan

Student Handouts

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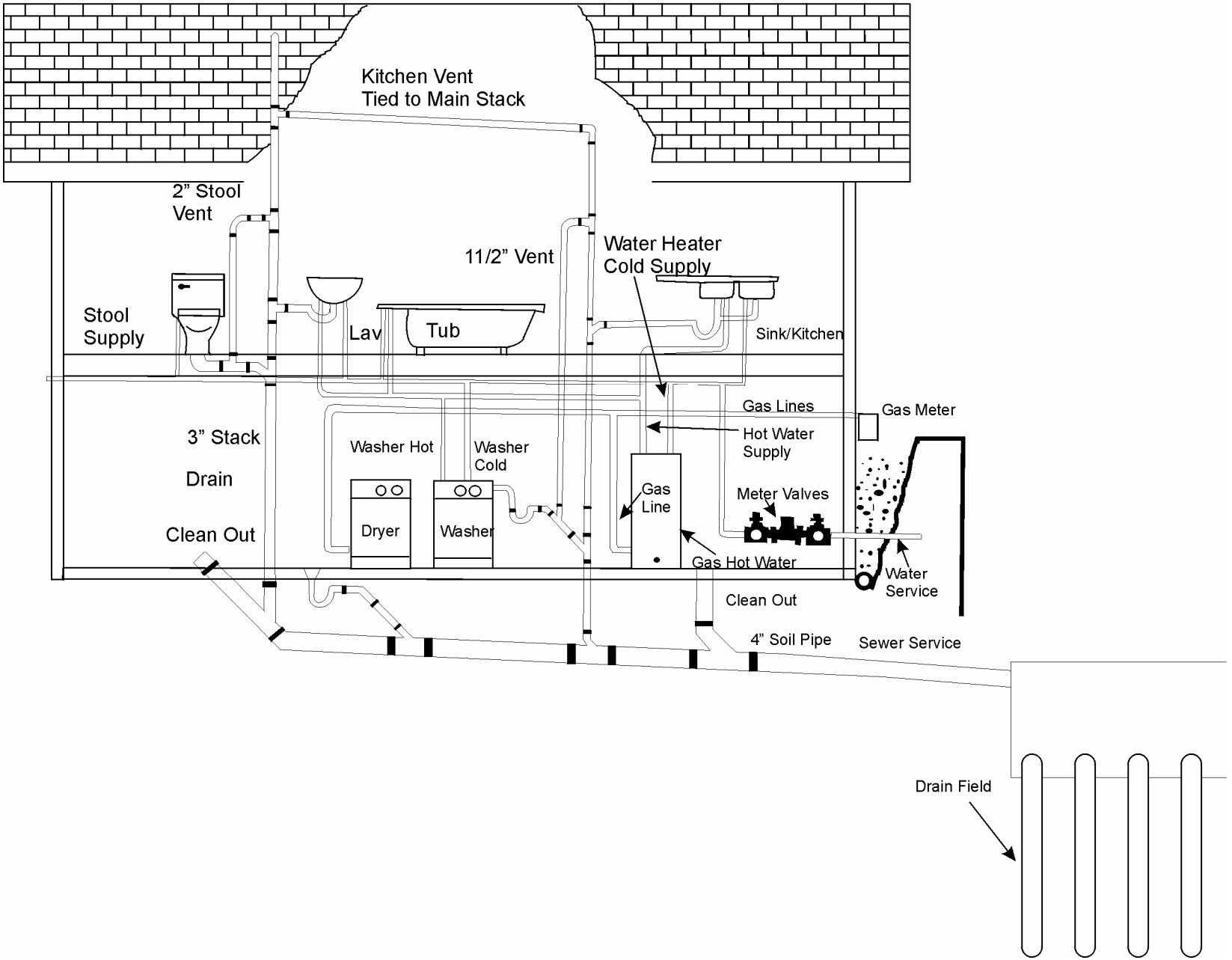
Kitchen Vent
Tied to Main Stack
2" Stool
Vent
11/2" Vent
Water Heater
Cold Supply
Stool
Supply
Lav
Tub
Sink/Kitchen
Gas Lines
Gas Meter
Hot Water
Supply
3" Stack
Drain
Washer Hot
Washer
Cold
Gas
Line
Meter Valves
Clean Out
Dryer
Washer
Gas Hot Water
Water
Service
Clean Out
4" Soil Pipe
Sewer Service
Drain Field

Activity #3: Reading and Listening Practice

Handout A  Listening Practice: Student #1

Listen as your partner reads this paragraph about the pipes in a plumbing system. Then, write in the words that you hear. You can use this list of words to help you. All of these words explain the location of something.

at	through	under	to	between	into	on	below
up	above	next to	in	over	from		around

_____ the drain and waste (DW) system, waste _____ the appliances and fixtures is carried _____ the branch drains to the main house drain. From the main drain, the waste flows _____ of the house and _____ the soil pipe. Drain pipes below the basement also carry waste water _____ to the soil pipe. The soil pipe runs _____ the house to the sewer. The vent pipes carry sewer gas _____ the main vent stack. The gas is removed from the house_____ a pipe opening in the roof.

Activity #3: Reading and Listening Practice

Handout A  Reading Practice: Student #1

Read these two paragraphs to your partner. Stop after each sentence for a few seconds. Read it gain. When your partner has understood all of the missing words, check the answers.

The cold water main comes <u>into</u> the house from the water supply lines buried <u>under</u> the ground. The cold water main leads <u>to</u> the hot water heater. The cold water branches take the water <u>from</u> the main to all of the fixtures and appliances <u>in</u> the house that use water.

The hot water main starts <u>at</u> the hot water heater. The main carries hot water to the fixtures and appliances <u>through</u> its branches. It almost always runs <u>next to</u> the cold water main. Plumbers usually don't install gas pipes, but they need to be careful when working <u>around</u> the gas lines.

Activity #3: Reading and Listening Practice

Handout A  Listening Practice: Student #2

Listen as your partner reads these two paragraphs about the pipes in a plumbing system. Then write in the words that you hear. You can use this list of words to help you. All of these words explain the location of something.

at	through	under	to	between	into	on	below
up	above	next to	in	over	from	around	

The cold water main comes _____ the house from the water supply lines buried _____ the ground. The cold water main leads ____ the hot water heater. The cold water branches take the water _____ the main to all of the fixtures and appliances _____ the house that use cold water.

The hot water main starts _____ the hot water heater. The main carries hot water to the fixtures and appliances _____ its branches. It almost always runs _____ the cold water main. Plumbers usually don't install gas pipes, but they need to be careful when working _____ the gas lines.

Activity #3: Reading and Listening Practice

Handout A  Reading Practice: Student #2

Read this paragraph to your partner. Stop after each sentence for a few seconds. Read the paragraph again. When your partner has understood all of the missing words, check the answers.

In the drain and waste (DW) system, waste **from** the appliances and fixtures is carried **down** the branch drains to the main house drain. From the main drain, the waste flows **out** of the house and **into** the soil pipe. Drain pipes **below** the basement also carry waste water to the soil pipe. The soil pipe runs **under** the house to the sewer. The vent pipes carry sewer gas **up** the main vent stack. The gas is removed from the house **through** a pipe opening **in** the roof.

Handout B  Listening Practice: Student #1

Listen as your partner reads these three paragraphs about the pipes in a plumbing system. Then, write in the words that you hear.

Plumbing pipes come in different _____ and materials. Plumbers need to know three things before they decide which pipe is best. The first thing they must _____ is the temperature of the substance that will _____ through the pipe. PVC pipe can only be used in _____ _____ that carry cold or _____ water. Galvanized iron, PB, CPVC, and _____ pipe can carry both hot and cold water.

The second thing a plumber needs to know is the volume of the water or waste that will _____ through the pipe. _____ means how much of the contents will pass _____ the pipe at one time. Hot and cold water _____ mains are usually 3/4" and their branches are _____. The vent system has a main vent _____ of pipe 3 or 4 inches in diameter. The main vent stack _____ to 1 ½ - 2 inch branch vent pipes.

The last thing that is important to know is _____ the pipe will be installed. The _____ of pipe used in the drain and _____ system are also used in the _____ system. These types of pipes have the letters, _____, on the outside of the pipe. Today, the most common DMV pipes are made of cast iron, copper tubing and _____ (ABS, PVC, and PE).

Handout B  Reading Practice: Student #1

Read these two paragraphs to your partner. Stop after each sentence for a few seconds. Read it again. When your partner has understood all of the missing words, check the answers.

The cold water main comes into the house from the **water supply lines** buried under the ground. The cold water main leads to the **hot water heater**. The cold water **branches** take the water from the **main** to all of the fixtures and **appliances** in the house that use water.

The hot water main starts at the hot water heater. The main **carries** hot water to the fixtures and appliances **through** its branches. It almost always runs next to the cold water main. In the **drain** and waste (DW) system, **waste** from the appliances and **fixtures** is carried down the branch **drains** to the main house drain. From the main drain, the waste **flows** out of the house and into the **soil pipe**. Drain pipes **below** the basement also carry waste water to the soil pipe. The soil pipe runs **under** the house to the **sewer**. The vent pipes carry sewer **gas** up the main vent **stack**. The gas is removed from the house by a **vent** pipe that runs **through** an opening in the roof.

Handout B  Listening Practice: Student #2

Listen as your partner reads these two paragraphs about the pipes in a plumbing system. Then, write in the words that you hear.

The cold water main comes into the house from the _____ _____ lines buried under the ground. The cold water main leads to the _____ _____ _____. The cold water _____ take the water from the _____ to all of the fixtures and _____ in the house that use water.

The hot water main starts at the hot water heater. The main _____ hot water to the fixtures and appliances _____ its branches. It almost always runs next to the cold water main. In the _____ and waste (DW) system, _____ from the appliances and _____ is carried down the branch _____ to the main house drain. From the main drain, the waste _____ out of the house and into the _____ _____. Drain pipes _____ the basement also carry waste water to the soil pipe. The soil pipe runs _____ the house to the _____. The vent pipes carry sewer _____ up the main vent _____. The gas is removed from the house by a _____ pipe that runs _____ an opening in the roof.

Handout B  Reading Practice: Student #2

Read these three paragraphs to your partner. Stop after each sentence for a few seconds. Read the paragraph again. When your partner has understood all of the missing words, check the answers.

Plumbing pipes come in different **sizes** and materials. Plumbers need to know three things before they decide which pipe is best. The first thing they must **know** is the temperature of the substance that will **flow** through the pipe. PVC pipe can only be used in **pipe lines** that carry cold or **warm** water. Galvanized iron, PB, CPVC, and **copper** pipe can carry both hot and cold water.

The second thing a plumber needs to know is the volume of the water or waste that will **run** through the pipe. **Volume** means how much of the contents will pass **through** the pipe at one time. Hot and cold water **supply** mains are usually 3/4 " and their branches are **1/2"**. The vent system has a main vent **stack** of pipe 3 or 4 inches in diameter. The main vent stack **connects** to 1 ½ - 2 inch branch vent pipes.

The last thing that is important to know is **where** the pipe will be installed. The **types** of pipe used in the drain and **waste** system are also used in the **vent** system. These types of pipes have the letters, **DWV**, on the outside of the pipe. Today, the most common DWV pipes are made of cast iron, copper tubing and **plastic** (ABS, PVC, and PE).