



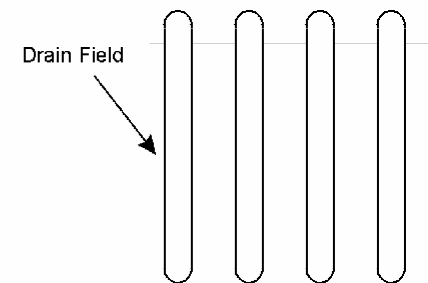
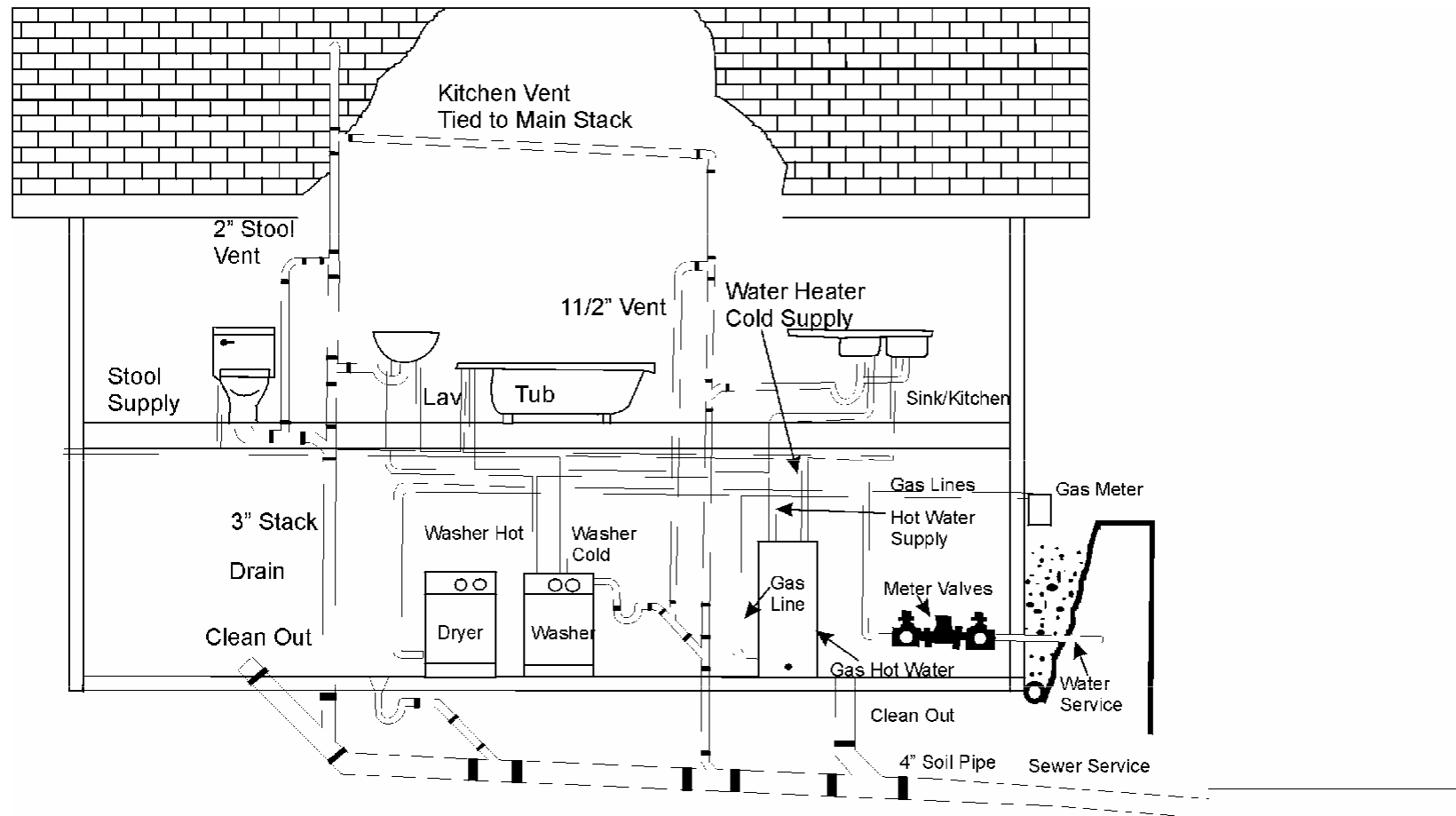
THE VIRGINIA
ADULT LEARNING
RESOURCE CENTER

Virginia Commonwealth University

Plumbing
Lesson Four: Plumbing System Plan

Student Handouts

Building Basics was paid for under an EL Civics grant from the U. S. Department of Education administered by the Virginia Department of Education. It was paid for under the Adult Education and Family Literacy Act of 1998; however, the opinions expressed herein do not necessarily represent the position or policy of the U. S. Department of Education, and no official endorsement by the U. S. Department of Education should be inferred. This document was designed and created by the Virginia Adult Learning Resource Center at Virginia Commonwealth University, 817 West Franklin Street, Suite 221, P.O. Box 842037, Richmond, VA 23284-2020. It may be reproduced for nonprofit, educational purposes only.



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 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. Plumbers usually don't install gas pipes, but they need to be careful when working around 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.

Activity #3: Reading and Listening Practice

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 1/2 - 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).

Activity #3: Reading and Listening Practice

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.

Activity #3: Reading and Listening Practice

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.

Activity #3: Reading and Listening Practice

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 1/2 - 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).