

# COMMUNITY PLUMBING CHALLENGE INDIA 2015



**BRIEF#1 SKILL TRAINING**  
**Activities Proposal**



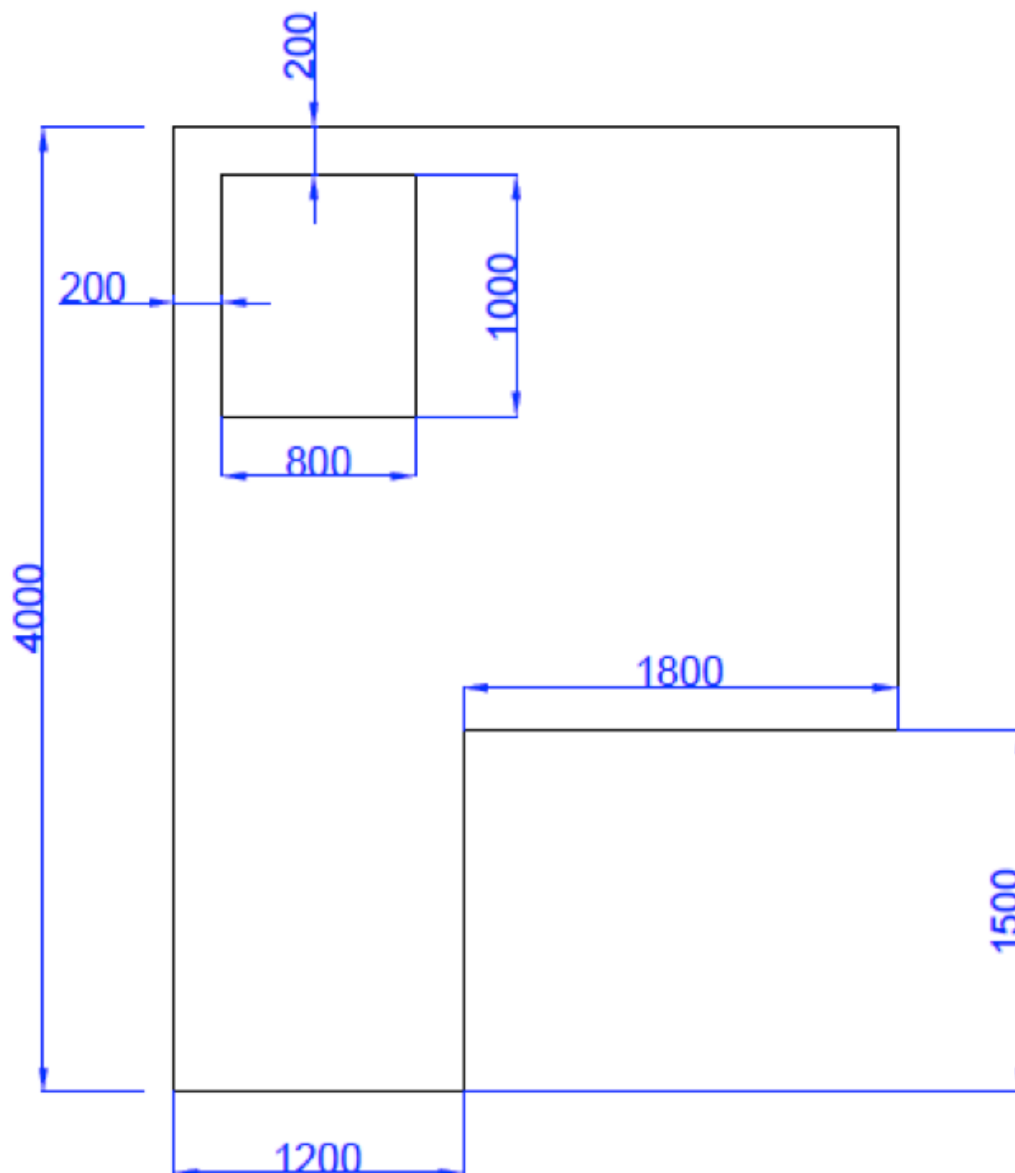
# SKILL TRAINING

## ONSITE LAYOUT

### ACTIVITY AIMS

Learning how to read a plan, understanding dimensions

Being able to reproduce the plan on the floor, understanding scala concept







# SKILL TRAINING

## ONSITE LAYOUT

### ACTIVITY AIMS

Learning how to read a plan, understanding dimensions

Being able to reproduce the plan on the floor, understanding scala concept

MATERIALS	
	Flexometer
	Carpenter's square
	Chalk Liner
	Carpenter's pencil

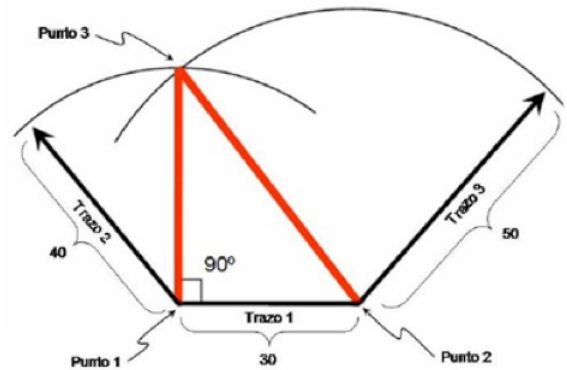
# SKILL TRAINING

## ONSITE LAYOUT

### PROCEDURE

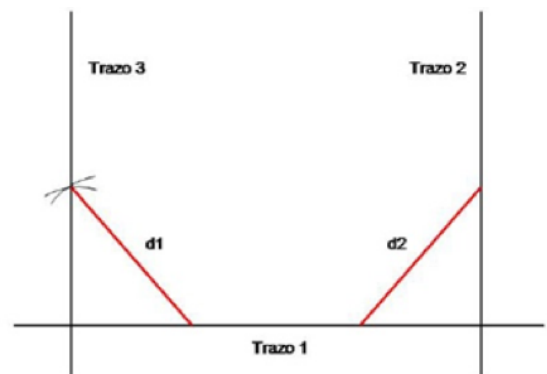
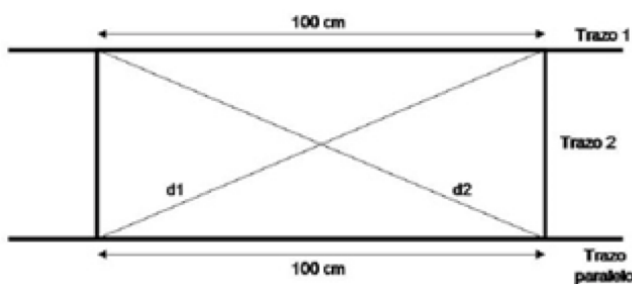
HOW TO DRAW A PERPENDICULAR LINE

1. With the carpenter's square:
  - Draw a line on the floor
  - Put the square along this line and draw the perpendicular line
2. With the flexometer and cord
  - Draw a line on the floor: Mark two points with 30 cm distance between them
  - Draw the following arcs:
    - From point 1: a 40 cm arc
    - From point 2: a 50 cm arc
  - Join point 1 and point 3 with a line



HOW TO DRAW A PARALLEL LINE

1. Draw a line on the floor:
2. Trace two perpendicular lines
3. Mark the same distance over these lines
4. Make sure that the two diagonals are identical



# SKILL TRAINING

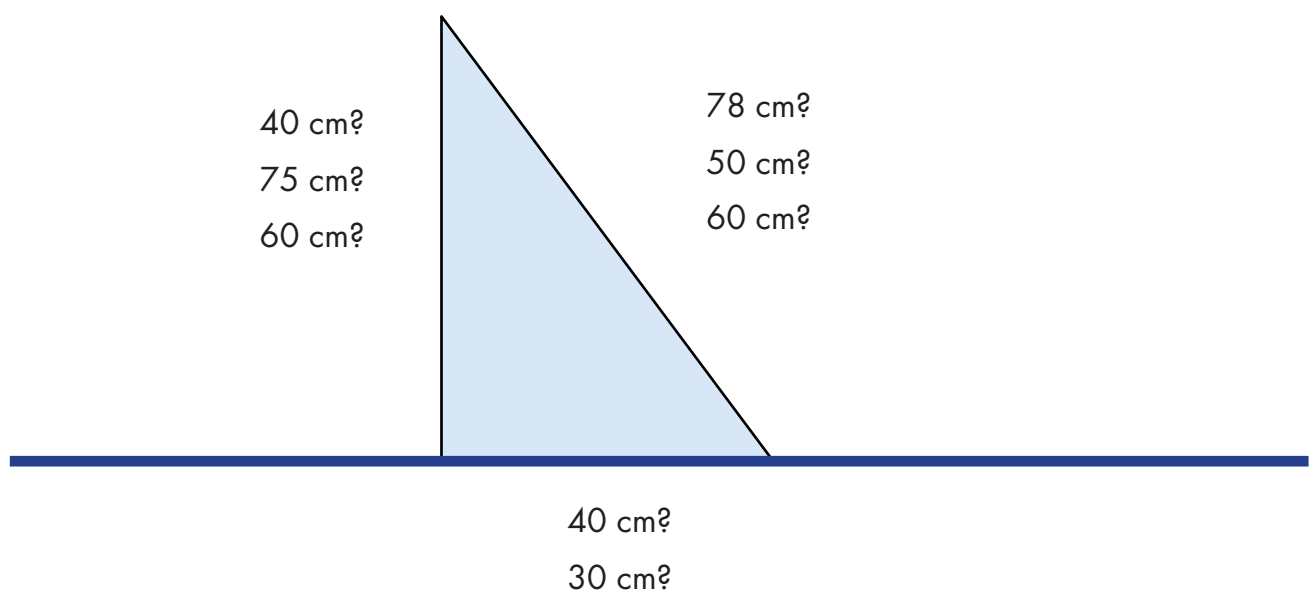
## ONSITE LAYOUT

### ASSESSMENT

1. Select the materials and tools needed for an onsite layout

- Flexometer
- Shovel
- Brick
- Carpenter's square
- Carpenter's pencil
- Level
- Chalk liner
- Cement

2. Select the correct dimensions to draw a perpendicular line



# SKILL TRAINING

## MORTAR CEMENT MIX





### ACTIVITY AIMS

Identify the required materials to make cement mortar

Identify the required tools to make cement mortar

Calculate the dosage of the required materials

Learn the mortar cement mix process

MATERIALS			
	Cement		Shovel
	Concrete sand		Water

### DOSAGE

It's necessary to mix one shovelful of cement for every three shovelfuls of concrete sand, then pour water and mix until the mortar takes the optimal consistency

**CONCRET SAND 3 / 6 / 9 ....**  
**CEMENT 1 / 2 / 3 ....**



# SKILL TRAINING

## MORTAR CEMENT MIX



### PROCEDURE

1. Put one shovelful of cement for every three shovelfuls of concrete sand on the floor or in the rubber mortar pan
2. Mix them until you get a uniform mixture
3. Make a hole in the middle
4. Pour water slowly and mix everything until you get a uniform paste

# SKILL TRAINING

## MORTAR CEMENT MIX

### ASSESSMENT

1. Select the materials and tools needed for an onsite layout

Flexometer

Carpenter's pencil

Shovel

Level

Brick

Tile adhesive

Carpenter's square

Cement

2. Select the correct possible proportions of concrete sand and cement to make mortar cement

Concret sand 4 / Cement 2

Concret sand 1 / Cement 3

Concret sand 3 / Cement 1

Concret sand 6 / Cement 3

Concret sand 2 / Cement 6

Concret sand 6 / Cement 2

3. Number the following pictures to make mortar cement mix correctly





# SKILL TRAINING

## BRICKWORK

### ACTIVITY AIMS

Identify the required materials to make brickwork

Identify the required tools to make brickwork

Learn the brickwork process and the correct collocation of bricks

Learn the use of level and lead line

Brickwork of 3 rows of bricks with an "L" shape

MATERIALS			
	Flexometer		Bricks
	Carpenter's square		Trowel
	Chalk Liner		Level
	Carpenter's pencil		Gauge rod
	Mortar cement		Strings

# SKILL TRAINING

## BRICKWORK

### PROCEDURE

#### 1. Layout

- Using the carpenter's square and the chalk liner sketch 2 perpendicular lines on the floor

- Put the bricks over these lines and mark with the pencil the position of the bricks



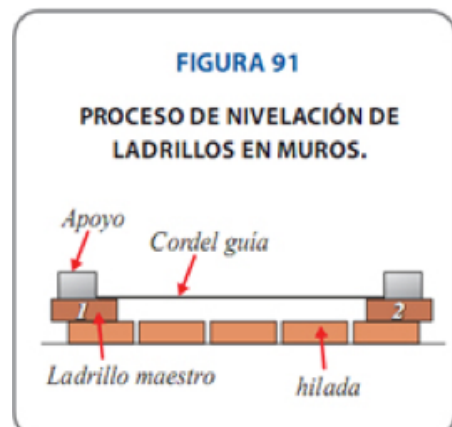
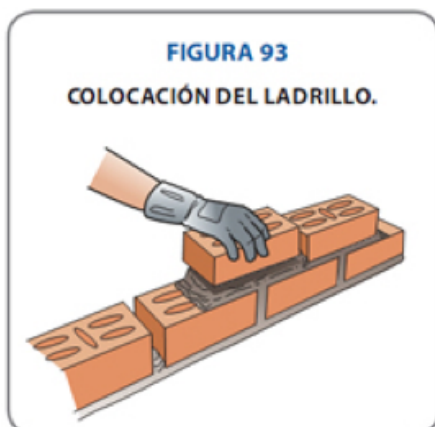
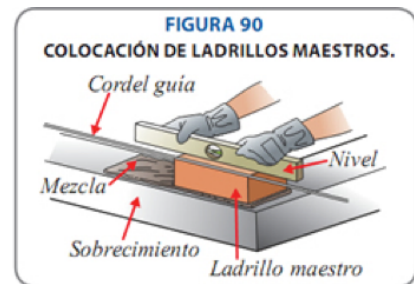
#### 2. Bricklaying.

- Place the bricks in the same position using mortar cement checking progress with the level and lead line

- Continue with the second row of bricks. Alternate the vertical mortar cement joints of this row with the row below.

- Use the strings to check the level and the collocation of the bricks

- Do the same with the third row.



# SKILL TRAINING

## BRICKWORK

### ASSESSMENT

1. Select the materials and tools needed for an onsite layout

Flexometer

Tile adhesive

Shovel

Mortar cement

Brick

Trowel

Carpenter's square

Gauge rod

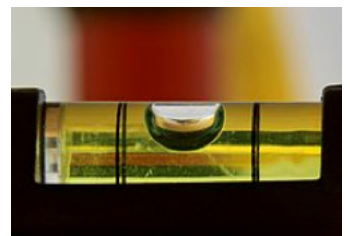
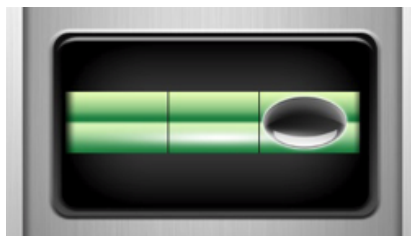
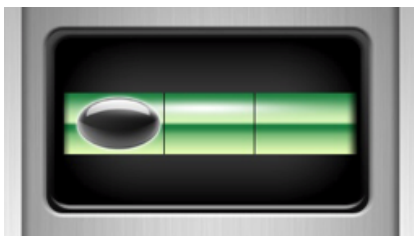
Carpenter's pencil

Strings

Level

Chalk liner

2. Select the correct position of the bubble in the level




# SKILL TRAINING

## REPARING LEAKS

### ACTIVITY AIMS

Students will learn to repair little leaks in galvanized iron pipes and accessories.

MATERIALS			
	Galvanized Iron pipes and accessories		Key parrot beak
	Stilsons (pipe wrench)		TEFLON TAPE (PTFE TAPE)
	Adjustable wrench		HEMP FOR PLUMBING



### PROCEDURE

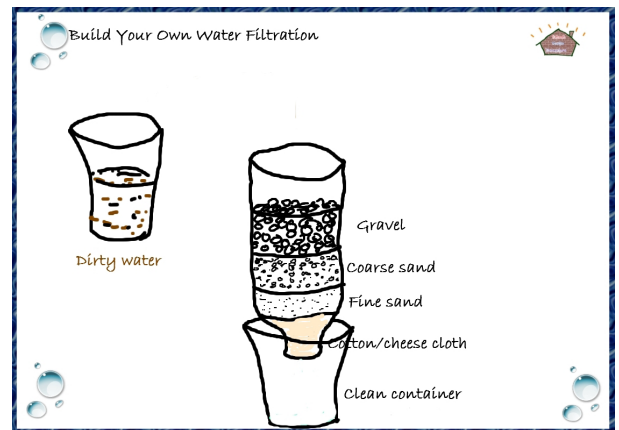
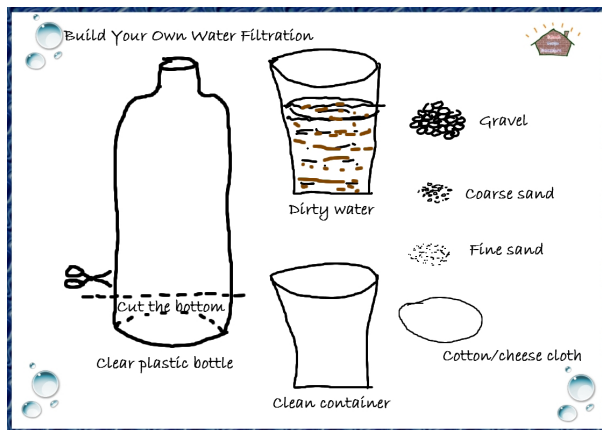
1. Locate the leak
2. Isolate the pipeline section by closing the appropriate shut-off valves.
3. Unscrew the pipe from the accessories
4. Apply teflon tape or hemp on the thread
5. Thread the pipe and accessories
6. Tighten the union
7. Shut-off valves.

# SKILL TRAINING

## WATER FILTER

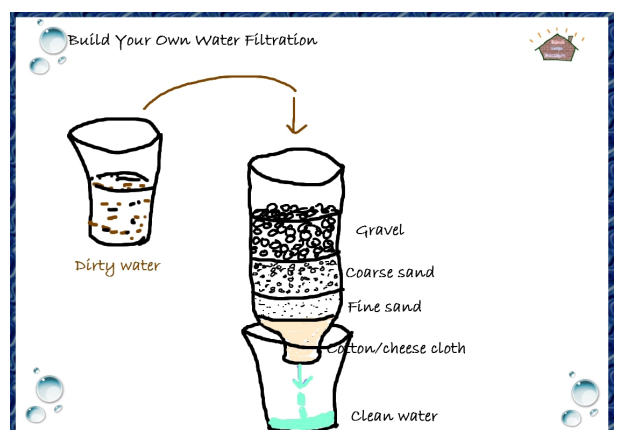
### MATERIALS

- . 2 liter plastic water bottle
- . Scissors / Cutter
- . Cotton batting
- . Fine and large gravel
- . Stones
- . Optionally activated charcoal granules can be used for the filtration system.



### PROCEDURE

1. Wash your pop bottle, remove the label and then carefully cut it in half so the top with the lid is separated from the base .
2. Take the cap off and secure the cotton batting to the top of the bottle .You now have a filter ready to be filled! Place it inside the bottom half of your pop bottle (with the cotton batting end facing down).
3. Pour a layer of fine sand into the top of the pop bottle, followed by a layer of gravel, and then the stones.
4. Mix the dirt with the water and then pour over the top of the rocks.
5. See the difference!!



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