

Pipe Activity

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This Best Practice is helpful in developing practical math strategies. By working in small groups, learners use problem-solving skills to achieve a goal.

A plumbing project is presented to the learners and each group of three to four must complete the project. The project is to run a temporary cold water pipe from the nearest water fountain along the base of the wall to the instructor's desk. The learners need to determine the number of 10-foot sections of 3/4-inch pipe, 3/4-inch connectors and 90-degree elbow joints that are needed to complete the project.

All of the information the learners need to complete the project is included in a project description and price list. The expectation is that the learners problem-solve together with minimal help from the instructor. There are often several acceptable routes to run the pipe and each group must discover and agree on one. The catalog page used to develop the project cost estimate has several types of pipes and connections advertised and groups must choose the correct products for the job.

The groups present their drawings and cost estimates to the instructor away from the other groups. Each member must be prepared to answer any questions asked to the group. The learners typically discover that all the directions were not followed carefully and they must continue to modify and present their work until they have a plan that is workable and economical.

The completion of a project always brings with it a sense of satisfaction and can bring a team together out of pride in a job well done. Learners discover the advantages of developing problem-solving skills and the importance of accuracy when planning a project. After the project is completed, a discussion is held about the advantages and disadvantages of working as a team. Learners also discuss what they would do differently on any future projects. Through their answers, they discover the need for teamwork and accuracy.

The materials required are a tape measure, graph paper and a copy of a plumbing catalog. A few pieces of PVC pipe and various connectors are good to have on hand to help with the visualization of the materials needed. The project could be modified to fit any common household project such as hanging blinds, laying floor tiles or wallpapering a room.