

47 Questions and Tips to Define Your Lab Needs

1. Will the laboratory have a fume hood? Fume hoods are required for chemistry and all other labs where hazardous or vaporous chemicals are used. Will the fume hood have gas, electricity, water, and a sink? Where will the fume hood be located in the laboratory?
2. What ventilation needs will you have? If the laboratory is mainly for chemistry, then you should have adequate ventilation to turn over the air four (4) times every hour to clear any fumes or smoke that may occur in the area. Controls should be manual because the unit does not need to run continuously. A fume hood does NOT provide adequate room ventilation.
3. What variety of table and counter surface tops do you need, e.g., plastic laminate/chemarmor/epoxy resin?
4. What type of floor surface should you have, vinyl/epoxy/ceramic?
5. Are you considering a handicapped-accessible lab station? Is it mandated by code?
6. Will you have LAN, Cat5, and computer cables running to the lab station for use with computers, probeware, or interfaces?
7. Do you have adequate electrical service with ground-fault interruption in all areas in the lab?
8. Will you need storage for personal protective equipment? And will this storage need to have sanitizing capabilities?
9. Will the laboratory be a single-purpose or multiple-purpose area, e.g., chemistry/biology or physics/earth science?
10. Do you have ample storage for apparatus and other equipment? Is it lockable?
11. Do you need a combination of mobile and stationary storage?
12. What type of demonstration area will you need? Will it be mobile or stationary? Are electrical, water, and gas needed?
13. Are sinks a usable size? Do you want hot and cold water at each lab station?

14. Do you need location placards/signs to mark all safety equipment?
15. Do you need nonreactive waste receptacles? Fireproof waste cans?
16. Where will spill control materials be stored in the chemistry lab?
17. Do you want laboratory stools or chairs, and are they the correct height for your furniture?
18. Do you want dry erase or chalkboards in the lab? Where do you want them located?
19. Does your state require two (2) exits? If so, where will they be located? Do exit doors have adequate locks and self-closing return hardware?
20. Does the laboratory have ample lighting of 75 to 100 foot-candles at work surface level?
21. Does the demonstration area have good line-of-sight for the instructor? Can the instructor see most of the activity from one vantage point? Can the instructor move easily from one lab station to another without being hindered by students, desks, and chairs?
22. Are master utility cut-off valves for gas and electricity available, easily accessible in case of emergency, with location placards/signs?
23. Where will the fire blanket/fire extinguisher (ABC type), eyewash, and a shower or body drench (with drain) be located in the laboratory? Do you need multiple stations depending on where the teacher's demonstration table and prep area are located in relationship to the general lab?
24. Is the preparation area designated for one laboratory area, or is it a combinations/multiple lab area?
25. Does the preparation area have full utilities? Gas, electrical, and water?
26. Does the preparation area require separate fire blankets, extinguisher, eyewash, and body drench stations?
27. Does the preparation area have storage for spill containment materials?
28. Will you need approved acid/corrosive storage cabinets in the area and can they be vented to the outside?
29. Will you have approved flammable storage cabinets?

30. Does the preparation area have ventilation capable of cycling the air four (4) times per hour?
31. Are smoke detectors in the preparation area?
32. What type of flooring is in the preparation area, e.g., vinyl, concrete, epoxy, coating?
33. Is the storage area lockable with self-closing hardware?
34. Is there proper signage and markers, e.g., "Authorized Personnel Only?"
35. Are all chemicals stored below the height of six (6) feet?
36. Does the preparation area have water distillation or de-ionizing capability?
37. Will the preparation area have a commercial dishwasher for clearing and sterilizing lab ware?
38. Does the area have enough counter space for preparation?
39. How much mobile and stationary storage is needed for apparatus and hardware? Mobile storage is easier to work with but has limitations on the amount that can be stored in any one unit.
40. Will you use laboratory carts? If so, will there be adequate area for storage of the carts in the preparation area?
41. Will a stepladder be available to access materials stored off the floor?
42. Are drying racks planned, and will there be adequate drainage?
43. Are communication systems in place, and are they easily accessible in case of an emergency?
44. For safety considerations, is it possible to store chemicals in a separate, continuously ventilated area that is adjacent to the preparation area?
45. Does the area have automatic emergency lighting in case of a power outage?
46. Are first-aid materials present and easily accessible in the prep and lab areas?
47. Does state law require the installation of an acid dilution trap in the area, and if so, how will it be maintained?