

Sample My Green Lab Assessment Questions

INFRASTRUCTURE ENERGY

1. We turn off the lights when the lab is not in use. Select "This does not apply to the lab" if you have occupancy sensors that turn the lights off automatically when the lab is empty.
2. We turn off overhead lighting when ambient light is sufficient. If you have light sensors or ambient light is never sufficient, please select "This does not apply to the lab".
3. We have switched to LED lighting in the lab spaces.
4. Our organization has installed occupancy meters or use other measures to reduce air changes when the lab spaces are not occupied.
5. Thermostats are not blocked by equipment, lab coats, or other materials.

PLUG LOAD

1. We have had a group discussion about which pieces of equipment must be left on all the time and which may be turned off.
2. We turn off or unplug equipment when it is not in use or use outlet timers to turn off equipment automatically.
3. We have checked for and utilize energy saving modes (standby or sleep modes) on our equipment.

COLD STORAGE

1. We defrost and remove ice from our freezers at least once per year.
2. We check door seals on our freezers and refrigerators for cracks or tears and replace them in a timely manner.
3. We maintain a record of frozen and/or refrigerated samples (sample database, freezer map, etc.).
4. We have changed the set point on our ultra-low temperature freezers to -70 or higher.

FUME HOODS

1. We close fume hood sashes when we are not actively working in the fume hood.
2. We don't work in the fume hood with the sash pulled all the way up.
3. We don't keep chemicals or reagents inside the working area of the fume hood (not including materials, waste, or equipment required to be stored in the hood/cupboard).
4. We don't use the fume hood to evaporate chemicals or reagents instead of disposing of them in a waste container.

LARGE EQUIPMENT – COVERS COMPUTERS, GLOVEBOXES, INCUBATORS, VACUUM PUMPS

1. In our tissue/cell culture hoods or biosafety cabinets, we only use UV light sterilization if absolutely necessary.
2. When sterilizing with UV light, we don't leave the light on for more than 30 minutes.
3. We use a cold trap in line before the vacuum pump to prevent volatiles from entering the pump.
4. We turn off vacuum pumps when they are not in use.
5. We have exchanged the oil pumps with oil-free pumps.

WATER – COVERS TAP AND PURIFIED WATER, AUTOCLAVES, GLASSWARE WASHERS

1. We turn off the faucet/tap when it is not in use.
2. Our faucets/taps have low-flow aerators.
3. We have replaced water-vacuum aspirators with membrane/diaphragm/oil free pumps or we use the house vacuum.
4. We don't use single pass cooling for distillations or other procedures.
5. We put autoclaves in standby mode or turn them off when they are not in use.

PURCHASING

1. Before purchasing new equipment, consumables, or chemicals, we check with our organization's surplus inventory system.
2. Before purchasing new items, we check for sustainability labels such as ENERGY STAR and ACT.
3. We preferentially purchase products with energy, water, waste or material saving features.
4. We consolidate orders to reduce packaging waste.

RESOURCE MANAGEMENT

1. We maintain an inventory of reagents, chemicals, laboratory supplies and/or equipment.
2. We notify our colleagues when we have excess equipment, lab supplies, reagents, or chemicals to share.
3. We share equipment with colleagues rather than purchasing duplicate equipment.
4. We use HPLC-grade or other high-grade solvents only when absolutely necessary.
5. We only have gas supplies (e.g. nitrogen, helium, etc.) open when gas lines are in use.

GREEN CHEMISTRY AND GREEN BIOLOGICS

1. We have had a group discussion about the 12 Principles of Green Chemistry and how they apply to our work.
2. We use greener alternative tools or a solvent selection guide (substitution or avoidance) to identify greener chemicals.
3. We use an alternative to ethidium bromide in the lab.
4. We calculate atom economy for chemical reactions and use this to identify more efficient processes.
5. We utilize solvent-free chemistries or separations (e.g. solid-state synthesis or super critical CO₂).

WASTE REDUCTION AND RECYCLING

1. We have recycling bins for laboratory materials.
2. We know what materials can be recycled in the lab and how to sort them properly.
3. For products (not packaging) that we cannot reuse or recycle locally, we take advantage of product return programs offered by vendors (e.g. equipment buy-back or trade-in programs, water filter cartridge recycling, printer cartridge recycling, etc.).
4. We recycle gloves when feasible.
5. We have conducted a waste audit and identified the lab's 3-5 biggest waste streams and researched options to minimize them or divert them to the most environmentally friendly option.
6. We throw only biohazardous waste into the red bag/biohazardous waste bag or other biohazardous receptacle.

ANIMAL RESEARCH

1. When cleaning animal areas, we utilize pH-neutral cleaners that do not require neutralization before being washed down the drain.
2. We use individually ventilated cages instead of static cages when feasible.
3. We recycle or reuse cages whenever possible.
4. We compost animal bedding and waste whenever possible.
5. We sterilize and recirculate water for animal watering systems or reuse in cage or room washing.
6. Cage and rack washers use or have been retrofitted with a counter-current flow system to reuse the final rinse water from one cage-washing cycle in earlier rinses in the next washing cycle.

TRAVEL

1. We have posted information for the group on options to utilize biking, walking, carpools, ride shares, and public transportation in the area.
2. We use alternative transportation (Carpool, bike, public transit, etc.) to go to work.
3. We use teleconferencing or videoconferencing instead of flying to meet with other researchers.

COMMUNITY

1. We have appointed a lab member as a champion or point person for sustainability.
2. We have established roles and responsibilities for the lab's sustainability activities, and these are kept where the lab can access them.
3. We have a process to ensure sustainability protocols, signage, or other maintenance is up to date.
4. We provide training on laboratory sustainability best practices to new hires and visiting researchers.
5. I know and understand my organization's sustainability goals.