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Lab space for primary school

Posted by Anonymous on Wed, 2016-07-13 20:45

Lab space for primary school: Could you provide information regarding establishing a science area for a primary school? We've recently won a grant to refurbish the school, part of which includes the construction of a multi-purpose building.

Currently, the building is composed of 3 spaces, about 70m² each, separated by folding doors that can be opened up to create a larger space. One space will have a wet lab, which we're now thinking will be a combined wet and dry lab. Plans for the other two spaces is digital tech and Indonesian. I want to have some information to contribute at meetings regarding the functionality and safety of the lab space.

I'd like a space that engages kids in science, but also needs to be functional with workable storage and room for displays. I would definitely like to darken the room adequately for teaching Earth and Space science etc. Walls are all half walls, with glass for the top half kept clear (no displays) in order to allow other students, teachers, visitors to view lessons in progress.

Could you make comments on space efficient storage and having benches that can be wheeled back and forth, to maximise space when not in use; under-bench storage; bookshelves to display books; a bench for displaying specimens and artifacts, or things related to the current learning, a touch table set-up. Also what chemicals are allowed in a primary school? I would appreciate any advice you can give me that I can then take to future meetings.

Voting:



No votes yet

Year Level:

Foundation

1

2

3

4
5
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Laboratory Technicians:

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Lab space for primary school

Submitted by sat on 21 July 2016

It is important to have a workable space which includes adequate storage to enable hands on learning. Therefore we suggest that the following are considered:

- **Half windows:** could have block out blinds fitted to enable a dark room
- **Benches on wheels:** allow for flexibility, but they need to be ergonomically designed for ease of movement and locking wheels for safety and stability.
- **Under bench storage:** is a good idea as long as staff or students are not sitting at the bench as leg room is required.
- **A dedicated storeroom:** for science resources is recommended if at all possible for the organisation and safety/security of science resources and materials.
- **Display materials:** make for an interesting room and encourage interaction from the students. It will depend upon the layout of the room whether it is possible to have a display/touch table/bookcase. This may be more achievable if the science 'room' is at the end of this large area rather than in the middle. Pinup boards on walls are useful to display posters, student projects and learning materials
- **Plumbing services:** as required for access to water and sinks. It is important at the planning stage to ensure that there is a sufficient number of sinks installed to enable easy access by a class with a large number of students. Consideration should also be given to suitable splashbacks and water resistant materials that can be easily cleaned.
- **Floor coverings:** Heavy duty slip resistant vinyl is a suitable floor covering in wet areas.
- **Electrical Services:** consideration should be given to the provision of General Power Outlets (GPOs) and ICT resources appropriately located away from sinks. Power points may be required for electrical appliances such as hotplates or microscopes (with inbuilt lamps). Note: hotplates are better suited as a heat source rather than a Bunsen burner in a primary school setting.
- **ICT:** A data projector would be a useful installation and a high resolution document camera would be advantageous. This may be integrated in all three spaces.
- **Suitable chemicals for primary schools:** it is preferable that any substances used in junior science should be non-hazardous consumer items readily available from consumer outlets such as supermarkets. It is important prior to using any chemicals to consider any hazards involved by conducting a site specific risk assessment. We have indicated in our [List of recommended chemicals for science in Australian schools](#), those chemicals suitable for use in primary schools, with a user group code of F-12

- **Other safety considerations, Access and egress:** Ensure that there is sufficient space to allow students to work safely and for staff and students to be able to have quick egress in the event of an emergency.

It is difficult to find a single resource to address all your questions. We provide the following links to resources which contain general design information which may be helpful:

CLEAPSS. 2009. *Guide G14 Designing and Planning Laboratories*, CLEAPSS website, <https://www.ase.org.uk/documents/lab-design-designing-and-planning-laboratories/>

Motz, laMoine L; Biehle, James T and West, Sandra S. 2007. *NSTA Guide to Planning School Science Facilities*. 2nd Edition.

https://www.nsta.org/store/product_detail.aspx?id=10.2505/9781933531083 (Link updated March 2019)

Butin, Dan W; Biehle, James T, Motz, LaMoine L and West, Sandra S. 2009. *Science Facilities*, NSTA Press, Arlington VA, NSTA website, <http://www.ncef.org/pubs/science.pdf>

Barrett, P, Davies, F., Zhang, Y and Barrett, L. 2015. 'The impact of classroom design on pupils' learning: Final results of a holistic, multi-level analysis'. *Building and Environment* 89: 118–133. ScienceDirect website, [doi:10.1016/j.buildenv.2015.02.013](https://doi.org/10.1016/j.buildenv.2015.02.013)

Additional Science Design resources

This webpage has several useful resources mainly for the secondary school: 'Lab design', ASE website, <https://www.ase.org.uk/resources/lab-design/> (Accessed July 2016)

Case studies of general school design: Victorian Department of Education and Early Childhood. 2008. '2. Stages and Spaces' pp. 20–46 in *Victorian School Design*, Infrastructure Division: Melbourne. DET website, <http://www.education.vic.gov.au/Documents/school/principals/infrastructure/vsdstagespac.pdf>

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