

Functional job requirements for the science operations officer

Department of Education

This document was developed for the following purposes: assisting in the development of rehabilitation programs for injured or ill employees, and providing detailed information about job demands to medical practitioners and allied health professionals undertaking medical reviews of departmental employees.

This report identifies those activities which are essential to successful performance in this role. In determining whether a work activity is a 'critical activity', the following questions are considered:

- Does the worker spend greater than 33% of designated work time performing this activity?
- Is specialised training/experience required to complete this activity? Has this been completed by only a small proportion of staff in this geographical region?
- Is this activity performed in an environment where no other workers are readily available to assist with its completion?
- Does this activity occur without prior notice and require immediate attention leaving no time to seek assistance to complete it?
- Is this activity core to the development of stakeholder relationships, which are essential to achieving successful outcomes?
- Would an inability to perform this activity result in an increased health and safety risk to co-workers, students, and/or members of the public?

The development process included: site observation of work environments, staff interviews, staff feedback on draft documents and consideration of benchmark publications for the analysis and description of work activities and job demands specific to particular positions (the *Revised Handbook for Analysing Jobs*, the *Occupational Information Network* and the *Australian Job Guide, 2006*).

This report indicates the average time spent across a working week on each work activity, and also on each physical demand of work. In order to make this information meaningful to the various users of this report, in some instances the time spent is expressed as a single word, as a percentage of total time, or as an actual amount of time (i.e. hours and minutes). The timeframes used are based on the benchmark descriptions (from the publications above) for expressing frequency of performance of work tasks.

Descriptor	Percentage of time	Amount of time based on 35 hours per week
Not present	0%	0 minutes
Rare	1% – 7%	21 minutes – 2 hours 27 minutes
Occasional	8% – 33%	2 hours 48 minutes – 11 hours 33 minutes
Frequent	34% – 66%	11 hours 54 minutes – 23 hours 6 minutes
Constant	67% - 100%	23 hours 27 minutes – 35 hours



Description of science operations officer

It is the role of a Science Operations Officer to provide assistance to teachers by setting up equipment, preparing classrooms for lessons, providing assistance to teachers and students during classes, performing maintenance and general cleaning tasks, and monitoring/ordering of stock, equipment and supplies. Science Operations Officers are generally employed in the Science department and are required to have formal qualifications and/or training in a Science related field.

Assessment details: assessment of the Science Operations Officer position was conducted at Yeronga State High School (Villa Rd, Yeronga) which had one Science Operations Officer at the time of assessment who was employed in the Science Department. Primary contact was Ms Christina Bucur, who provided most information at time of assessment. Depending on the school, Science Operations Officers may work in different departments, however information obtained at the time of the assessment relates specifically to the tasks completed in the role of a Science Operations Officer.

Hours of work and scheduled breaks

Hours of work: the ordinary work hours for a science operations officer is 36 ¼ rostered hours per week with the ordinary spread of hours of work exclusive of meal times is between 7.30am and 4.00pm, Monday to Friday. Hours of work can vary between each school and the number of contracted hours. Science operations officers do not have set uniform requirements; however, they are required to wear clothing and shoes suitable to performing practical experiments and required to ensure all utilise PPE during some tasks including vision/hearing protection, aprons, gloves, etc. and they are required to ensure all students utilise PPE and safety equipment at required times.

Meal breaks: science operations officers are entitled to a meal break of 30 minutes unpaid if in excess of 5 hours is worked on any day, to be taken between 11.30am and 2pm or such other times as may be arranged by the principal. It was further reported that organisational demands and scheduled playground supervision may inhibit taking of such breaks.

Rest pauses: science operation officers are entitled to a rest pause of 10 minutes duration to be taken mid-morning which will be considered as rostered duty time. It was reported that organisational demands may inhibit such breaks.

Bus and playground supervision: science operations officers may be required to undertake bus and playground supervision duties once per week. At time of assessment, it was reported that this was a new requirement, and operations officers perform a 30 minute supervision session, one day per week as arranged with the principal.

The activity frequencies below have been calculated based on a week of 5 days comprising 7 ¼ hours per day, as per page one of this report. Job activities have been listed as critical only where they meet criteria for critical job demands, as outlined on page one of this report.

	Job activity	Average time	Critical job demand
1	Activity set-up/material preparation – Science Operations Officers are required to perform preparation tasks for teachers prior to lessons. This usually occurs by a teacher sending a written request for what they require and a timeframe for the Science Operations Officers to perform the tasks prior to the lesson. This may involve preparing equipment and materials and moving them to the classroom, preparing chemical solutions, setting up experiments / activities, or moving chairs / desks and learning equipment between classrooms.	Up to 20 hrs per week (generally up to 4 requests per day, taking 30 mins – 2 hrs to complete)	Yes
2	Assisting classes science operations officers are required to assist teachers in conducting some of their classes or practical demonstrations. Generally the teacher will request the Science Operations Officer's presence in classes that may be large in size, or when students are completing an in-depth project or experiment. The Science Operations Officer may assist the teacher by demonstrating how to perform a task, provide one-on-one assistance to students, answer questions and help the teacher to keep their students focused. The quantity of classes that the Science Operations Officer assists with can vary depending on the size of the school and the hours that the Science Operations Officer is contracted to work.	Up to 10 hrs per week	Yes
3	Stock control science operations officers are required to monitor the quantities of equipment, materials and supplies in their respective department and to arrange purchase of materials and chemicals as required. The Science Operations Officer conducts a stock take once per year of equipment, materials and chemicals and are required to enter this data into computer software. Staff may also be required to unpack deliveries of equipment and materials into appropriate storage facilities requiring repetitive lifting/carrying of items. It was also reported that Science Operations Officers may be required to drive to a shop to purchase urgent supplies.	Up to 4 hrs per week	Yes
4	Administration science operations officers are required to perform administrative tasks to assist teachers with lessons and for data entry. Administration tasks are predominantly computer based and may involve researching scientific information and experiments, entering data, ordering supplies via the internet, photocopying work sheets and lesson plans.	Up to 5 hrs per week	Dependent on the school
5	Basic cleaning/tidying operations officers are required to complete basic cleaning tasks in their department locations, including classrooms, laboratories and staffrooms. This may involve emptying bins, collecting unused materials, putting away equipment, washing out glassware i.e. test tubes/beakers and disposing of chemicals. Please note: cleaners are employed by the school to complete regular cleaning tasks including mopping of floors.	Up to 3.5 hrs per week	Yes
6	Staff meetings operations officers are required to participate in both general and department meetings as per school requirements. At the school where the assessment was conducted, the Operations Officer reported that they participated in approximately two - three meetings per semester. Length of meetings will generally be between 30 and 60 minutes, before or after normal school hours, however may be longer if a whole school meeting is required. It was also reported that the Operations Officer attends an in-service day once per semester with all Operations Officers and Scientific Assistants in the local area for Professional Development.	Up to 2 hrs per week	Yes



Frequency of physical job demands (average % of shift)

Demands	Not present	Rare (0-7%)	Occasional (8-33%)	Frequent (34-66%)	Constant (67-100%)	Demands	Not present	Rare (0-7%)	Occasional (8-33%)	Frequent (34-66%)	Constant (67-100%)
Sitting			✓			Reaching				✓	
Standing – static			✓			Handling					✓
Standing – dynamic				✓		Pushing			✓		
Walking – flat terrain				✓		Pulling			✓		
Walking – slippery/gravel terrain			✓			Lifting			✓		
Climbing – step stools/ladders		✓				Carrying				✓	
Climbing – stairs		✓				Balancing – above ground			✓		
Stooping			✓			Fine motor					✓
Kneeling		✓				Control operation			✓		
Crouching – one off			✓			Arm – hand steadiness			✓		
Crawling		✓				Driving		✓			
Auditory function					✓	Visual function					✓

Tools/equipment handled

Scientific equipment and materials: microscopes, Bunsen burners, chemical bottles, tongs, magnets, volt metres.
Students' chairs and desks – up to approximately 20kg
Computers, PDAs and data projectors.
Pens/pencils/chalk/whiteboard markers, books and activity equipment.
Phone and email – for planning/liaison with different schools and staff.
Learning aids – charts, models, posters, overhead projectors and screens

Loads lifted and carried

	Not present	Rare (0-7%)	Occasional (8-33%)	Frequent (34-66%)	Constant (67-100%)
0-5kg				Floor to waist to shoulder e.g. glassware, chemicals	
6-10kg			Floor to waist to shoulder e.g. microscopes		
11-15kg					
16-20kg		Floor to waist e.g. moving tables, bags of sand			



Risk based physical environmental considerations

- There may be clutter in the work area, increasing the risk of trip hazards, awkward bending and lifting, and poor storage practices.
- Items, furniture and fixtures may be poorly positioned or designed by staff members, requiring the adoption of awkward postures.
- There may be limited/confined space for movement during performance of some activities.
- There may be constant low-level ambient noise (from students, traffic, school activities e.g. music practice, etc.)
- There may be limited lighting and ventilation in some facilities.
- Some work may be performed outdoors or in an area exposed to the elements (e.g. experiments on school ovals or on excursions).
- Terrain during community outings is variable e.g. parks, rivers for study of ecosystems.
- Work may be performed in temperatures above 24 degrees (occasionally in summer).
- Work areas may be slippery or wet.
- There is exposure to chemicals.

Psychosocial risks to be considered	Social/interpersonal demands
Time pressure/high workload – while deadlines exist for many tasks, the level of demand is dependent upon school environment and staffing level. The science operations officer workload can be high due to multiple demands and a large number of unplanned interruptions occurring throughout the day.	<ul style="list-style-type: none"> • Performing for or working directly with the public. • Communicating with persons outside organisation. • Establishing and maintaining interpersonal relationships. • Resolving conflicts and negotiating with others. • Communicating with supervisors, peers or subordinates. • Guiding, directing and motivating students. • Training and teaching others. • Coordinating or leading others. • Coaching and developing others. • Coordinating the work of others – aides and students. • Interpreting the meaning of information for others. • Dealing with unpleasant or angry people. • Dealing with physically aggressive people. • Assisting and caring for others (may include first aid).
Responsible for others' health and safety – provide appropriate instruction and supervision of students when using equipment/materials and ensure appropriate PPE is worn and safety procedures are followed along with regular first aid treatment for major or minor accidents/injuries.	
Environmental stress – constant low-level ambient noise from students, PA announcements, school bells etc. requiring considerable projection of voice to be heard. Some temperature variation during winter and summer, constant environmental monitoring of student location during outdoor experiments.	
Insufficient work breaks – shortened breaks may be taken on a voluntary basis due to high workload and time constraints. Breaks may be limited by meal and playground supervision duties, particularly if there is insufficient planning e.g. unplanned wet weather duties.	
Investigations – participate in reporting, investigation and resolution processes, including mandatory reporting of suspected child abuse or neglect and participation as a witness or party to performance, discipline, grievance, WorkCover or other processes.	
Policies – comply with departmental policies, procedures, guidelines and the code of conduct, including undertaking risk management processes to ensure the health and safety of students and others under their supervision or direction.	



Considerations for assessment of physical job fitness

- Assessment of sustained standing capacity of 30 minutes including sufficient flexibility to allow adoption of awkward postures when working with students.
- Ability to sustain constant dynamic standing throughout the day with minimal sitting breaks.
- Capacity for grip patterns required for repetitive handling of various equipment.
- Assessment of fine motor dexterity or actual keyboard operation for typing activities (for non-contact duties).
- Ability to lift and carry heavy and/or awkward loads with no assistance (up to 20kg).
- Symmetry, range and discomfort with movements of the spinal and peripheral joints, including hips, knees, ankles, shoulders and wrists.
- Able to ascend and descend 2 x flights of stairs.
- Sufficient visual and auditory function to enable interaction and response to students.

Other considerations

- History of neck/shoulder discomfort associated with static and sustained repetitive neck flexion postures.
- History of upper limb, lower limb or spinal pain with repetitious or static tasks.
- History of lower back pain with sustained sitting.
- Knowledge of individual allergies and ability to work with a wide range of chemicals.
- Knowledge of ergonomic principles for clerical workstations and knowledge of/ability to learn safe crouching/stooping posture (with flexion occurring at the hips rather than in the lumbar spine).
- Knowledge of correct manual handling techniques i.e. ability to bend at hips, bend knees and squat with a straight back.
- Knowledge of vocal health and techniques to enable safe projection of voice.



Photographs of selected work activities and work environments

