

AEC STANDARD OPERATING PROCEDURES

SOP No:	13	
SOP	Fish	
Scientific Name:	<i>Varies in relation to species kept – native or exotic, cold or tropical, fresh or marine.</i>	
Category:	2 & 4 only	
Approved activities:	Activity	Category
	a. The appropriate care of classroom pet fish	2
	b. Observation of a particular fish behaviour	2
Approval Level:	c. Aquaculture	4 (see SOP #14)
Authority:	<p>For fish used in Aquaculture programs see SOP 14 Aquaculture Where an activity is not listed in this SOP, approval must be sought from the Animal Ethics Committee and confirmed before it can be undertaken.</p> <p>Government Schools – Department for Education and Childhood Development Animal Ethics Committee Independent and Catholic Schools - Non Government Schools Animal Ethics Committee (NGSAEC)</p>	
Authority Approval Date:	1 August 2010	
Last update	21 April 2020	
Disclaimer:	<i>This document may be updated at any time. You should check the web site regularly to ensure that you are meeting the most recent recommendations. If you note any concerns with the information provided (inadequate, incorrect) please contact the relevant AEC</i>	
Licensing Requirement:	Not applicable	
Compliance Requirement:	The keeping of this species for observation requires the approval of the School Principal. For Aquaculture programs approval is required from the AEC It is recommended that this Standard Operating Procedure be followed as a minimum in the provision of appropriate care and housing for this species.	

General Information:

Information on individual species can be found from aquarium outlets, literature, museums, fisheries departments, veterinarians and the web. Fish belong to three categories: jawless, bony and cartilaginous.

Species	Information
Goldfish (<i>Carassius auratus</i>)	<p>One of the most common species kept for observation purposes. They are colourful, peaceful, and have a long lifespan. The ancestors of this species originated in China and were of dull brown colouration. They have been selectively bred by the Chinese over the centuries to develop into different colour, scale and body shapes.</p> <p>The Comets, Shubunkins, Fantails, Veil tails, Telescope Moors, Bubble Eye and Celestials are only a few of the breeds of this single species available.</p> <p>Depending on breed, goldfish can attain a length of between 10 - 20cm, with a lifespan of 20 years.</p>

When selecting individual fish they should;

- Be clear and bright, fins held erect
- Be alert and swim without undue effort
- Not be sinking or bobbing to the surface, have lumps, bumps, wounds or clamped fins.
- Not have a trail of excreta from their vent
- Not be 'sulking' in the corner.

If you have any doubts don't select them.

Physical Attributes:

- **Size (adult):** Varies with species and can vary in relation to the size of the aquarium, feeding levels and the number of fish present in the aquarium.

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- **Weight (adult):** Varies with species from 2 – 250gms.
- **Life span:** Varies with species.
- **Sexual maturity:** Varies with species.

Behaviour:

Normal: Species dependant

Socialisation: Species dependant. Where different species are kept together or where fish of the same species are different sizes conflicts can occur.

Activity levels: Species dependant.

Environment:

Space: You will need a large aquarium that provides sufficient area for the species and number of fish being kept. Set up your aquarium with an aerator, filters, pondweed, plants, smooth pebbles (up to 7cm) and rocks/tubing for hiding under or in. You should attempt to replicate a natural environment. As a guide a 1.5cm fish needs 4.5 litres of water.

Movement: Requirements vary with species; some are slow movers others swim about rapidly. Fish should have ample room to swim around.

Water: Water environments should be stabilised before fish are added. Tap water should be allowed to stand for 2-5 days before adding plants and fish to allow the chlorine to evaporate. Use commercial preparations to keep the pH level between 6.5 and 8.0. Saltwater tanks require prior experience and knowledge to maintain.

Temperature: Tank water temperatures are critical to the survival of the fish so a thermometer should be used. If using an indoor aquarium, the water should be kept at room temperature and not be exposed to direct sunlight, as this will encourage unwanted growth of algae. Temperature range should be between 20-25°C. Tropical aquariums will require more heated controlled temperature ranges.

Filtration: Filtration is essential for providing the correct environment for the health of the fish. Mechanical filtration systems are the easiest to use.

Lighting: No artificial lighting is required unless there are plants or it is a tropical tank. Avoid direct sunlight on the tank as the water heats up and algae grows. If using lights, set them to a timer and avoid frequently switching them on and off as this can upset the fish. Plants require light for up to 12 hours so set timers to provide this.

Covering: Use a glass or mesh cover where the fish are at risk from children attempting to interact with the fish or where the water is closer than 10cm from the top of the aquarium. A solid cover will assist with ensuring dust and toxins do not enter the aquarium. DO NOT spray chemicals near the aquarium.

Shelter: The aquarium should provide an area for refuge from lights, noise and other fish. This can be created with plants, rocks and rocky overhangs.

Cleaning: It is recommended that conditioned water of the same temperature be used to replace approx. 25% of the water each week. Cleaning of the aquarium should occur every 3 months. To clean the whole tank remove the fish and place them in a covered container with 25% of their tank water and 75% new freshwater. Clean the sides of the glass and clean the gravel and other items. Do not use chemicals. Rinse the tank carefully and fill again with conditioned water. Allow the water to stand for half a day in the tank before returning the fish. The wastewater from tank cleaning must not be discarded into the stormwater drains or septic tank systems. It can be placed on gardens or it must be treated with 1:5 ratio of bleach to water and then can be poured down the toilet.

Feeding:

Diet: Manufactured fish foods – flakes and granules, can be fed to tropical or temperate fish.

Daily requirements: As per the instructions. Only feed food quantities that can be eaten within a few minutes. Excess food leads to overfeeding and soiling of the water.

Supplementary feeding: Some fish may need frozen food mixtures, shrimp and larvae. Do not feed these unless directions are received from a reputable source (e.g. pet shop)

Equipment: Small net to remove food waste from tank.

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- Breeding:**
- **Gestation period:** Once an adult fish they can continue spawning.
 - **Number of offspring:** Varies with species
- For aquarium and pond fish, healthy breeding stock must be of spawning age. Schools should research the needs (e.g. environmental) of the particular fish species they want to breed. These conditions are almost as varied as the number of fish species. Schools will need to consider proper substrate, cover, temperature, pH, live foods, lighting, and the number of fish.
- Mating:** Fish are sexually mature when adults.
- Pregnancy:** Females expel eggs that are fertilised. There is no parental care. Be aware some fish may eat their eggs and young. Use a separate breeding tank where necessary.
- Handling:**
- Humans:** Fish should not be handled or kept out of the water at all. This damages their skin and exposes them to increased risk of bacterial or fungal infections. They are for observation only. People should not knock on the tanks.
- Equipment:** An aquarium net should be used for capturing or moving fish.
- Transport:** Fish should be transported in watertight clear plastic bags, half water and half air. Transport quickly and do not leave unattended or allow the fish to overheat.
- Hygiene:**
- Thoroughly wash hands with soap and running water for at least 15 seconds after working with or handling fish. Dry hands with clean paper towel or air dryer. Turn off the tap with the paper towel if possible.
- Signs of illness:**
- Indicators:**
- loss of appetite,
 - listlessness and lethargic
 - skin lesions,
 - floating upside down or on their side,
 - poor swimming balance,
 - spots or ulcers
 - growths particularly growths that appear like cotton wool,
 - failure to thrive and grow
 - gasping at the tank surface,
 - rubbing against objects in the tank,
 - changing colour or
 - damaged fins.
- Treatments:**
- Schools are encouraged to develop relationships with a Veterinarian and Animal industry representatives familiar with fish. These contacts can be used for disease diagnoses, treatment options and dietary, husbandry and welfare advice. Veterinarians can also assist with advice for emergencies particularly when euthanasia is needed. Treatments must be documented in the appropriate records. Not all aquarium treatments are not suitable for fish and may cause further distress or death.
- It is not recommended to mix fish that have been donated due to the disease risk. They should be quarantined by being kept separately for several weeks until you can be assured they are disease-free. Adding them straight to the aquarium may compromise the health of your current fish stock.
- Euthanasia:**
- Where an injury or illness is such that recovery is unlikely then fish must be euthanised by a Veterinarian. Schools should contact their local Veterinarian to discuss emergency treatment options prior to an event occurring. Any adverse event including death must be reported to the AEC using the ADVERSE EVENTS form. Forms must be returned to the AEC within 7 days of the event occurring. **Schools should refer to the Resources section for more information on fish euthanasia.**
- Disposal/fate planning:**
- When no longer required fish must be rehomed. They must NEVER be released into the environment and waterways. Sick or dead fish MUST NOT be flushed down the toilet. Bodies must be disposed of correctly in accordance

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with local council regulations.

Holiday and weekend care:

Fish can be taken home on weekend or holiday care with students providing consent is received from the school Principal and the parents and on advice from a Veterinarian. Staff should provide carers with animal care and record-keeping instructions, emergency contacts and provide appropriate equipment and food. Fish must be checked daily, records kept and any problems reported to the school immediately whether kept onsite or taken offsite.

Approved activities:

Where an activity is not listed in this SOP, approval must be sought from the Animal Ethics Committee and confirmed before it can be undertaken.

Activity:

a. THE APPROPRIATE CARE OF CLASSROOM PET FISH

Category:

Category 2

Objective

To instruct students on the appropriate care of classroom pet fish

Students must be supervised when feeding the fish or uncovering the tank for any reason. A roster should be constructed to ensure overfeeding doesn't occur. Students can assist with partial or full tank cleaning. Records should show feeding and cleaning regimes and include school holiday periods.

Activity:

b. OBSERVATION OF A PARTICULAR FISH BEHAVIOUR

Category:

Category 2

Objective

To instruct students on the observation of a particular behaviour of fish.

Observation does not involve capture so these activities must be done by simply observing the fish within a tank. Children must not knock on the tank during observation. Behaviours for observation can include feeding and interactions with other fish when new fish are introduced.

Activity:

c. AQUACULTURE - See SOP 14 Aquaculture for more information

Category:

Category 4

Objective

To demonstrate the methods used for undertaking fish farming as an aquaculture enterprise.

Resources:

Fish euthanasia

- West Australian Schools Animal Ethics Committee
det.wa.edu.au/curriculumsupport/animalethics/detcms/school-support-programs/animal-ethics/fish-euthanasia.en

Keeping and Care for Goldfish - RSPCA Knowledge base

kb.rspca.org.au/knowledge-base/how-should-i-keep-and-care-for-my-goldfish/

Fish breeding and reproduction – MSD Veterinary Manual

www.msdvetermanual.com/all-other-pets/fish/breeding-and-reproduction-of-fish

Approved aquarium chemicals, treatments and antibiotics – Department of Agriculture

www.agriculture.gov.au/import/goods/live-animals/importing-live-fish-aus/approved-treatments

Fish – Aquariums, NSW Schools Use of Animals

nswschoolanimals.com/fish-aquariums/fish-aquariums-food/

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Aquatic animal activities – Queensland Schools Use of Animals
education.qld.gov.au/curriculum/school-curriculum/animals-in-education/QSAEC/forms-and-publications