

### 1. Grow algal culture

A starter culture and enrichment media are supplied with the kit. This needs to be cultured for around 4 weeks prior to conducting the experiment to ensure there are sufficient algal cells.

#### Equipment

*Supplied:*

- Algae starter culture
- 0.7 g growth media

*Also required*

- 1000 ml of unchlorinated tap water (or let chlorinated water sit for a few days)
- A two litre container (such as a clear plastic soft-drink bottle)
- Aquarium pump with tubing and airstone (or other diffuser)
- Foam or cotton wool for closing the bottle top to prevent contamination. Ideally this is non-porous material, nylon pillow stuffing works well.
- One low temperature light source (LED or energy saving bulb).

#### Method

1. Ensure all culture equipment is clean and detergent free.
2. In culture vessel mix the growth media and water. It may not all dissolve.
3. Pour in the starter culture to inoculate.
4. Insert the airline tubing with diffuser attached. The air flow will provide additional CO<sub>2</sub> for algal growth and also keep the cells suspended for faster growth.
5. Stopper the bottle with the foam/cotton wool to prevent contaminants entering but allow gas to escape.
6. For fastest growth illuminate the culture at around 18–20°C. The algae can be also be grown on a south facing windowsill out of direct light, but growth will be slower.
7. Culture is ready for use once it is a deep green colour, usually 3–4 weeks.
8. Remove the air hose to allow the algae to sediment out of the solution, best results are achieved after 48–72 hours, but 24 hours should give you enough cells. Pour off the clear(ish) liquid leaving the dark green sediment.
9. Each group requires 3 ml of this concentrated cell mixture.

