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Bio Lab Techniques

**Planaria:**   
These organisms are well known to be able to regenerate from tissue lost due to age or physical trauma. Early scientists described it as being immortal under a knife. They have numerous photoreceptors. They are also acoelomates, a body without a body cavity. They also have cilia in some places and secrete mucus to help get around. Some species of planaria reproduce sexually and others asexually by splitting off their tail and regenerating from both halves.   
Fun Fact: When given drugs such as cocaine, planaria will show withdrawal symptoms similar to humans.  
Possible Experiment: Give the Planaria several legal addictive substances, such as caffeine or cough syrup, and see if they exhibit withdrawal.

**Daphnia**  
These microcrustaceans are commonly known as water fleas. They reach maturity in five to ten days, can reproduce clonally. They can also be induced to reproduce sexually. Daphnia have ten pairs of appendages. They are filter feeders.  
Fun Fact: Their hearts beat at 200 times a minute at 20 degrees Celsius.  
Possible Experiment: Test the rate at which they reproduce at different concentrations of salt.

**Hydra**These cnidarians display radial symmetry and reproduction via budding. As such, they also have the ability to regenerate, and they also do not age. When they do reproduce sexually, the female releases eggs into the water and the male releases sperm. The eggs harden, allowing the egg to survive winter conditions. They use nemocysts to stun prey. Hydra are sessile, though they can stretch, contract, and bend their bodies. They may also detatch and glide to a different location by moving their tentacles.  
Fun Fact: The nemocysts of hydra can only be used once. They are usually replaced after 48 hours.  
Possible Experiment: Since hydra are sensitive to pollutants, we can give a population of hydra of common pollutants at varying concentrations to see how many survive.

Citations

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