

Te Paepae o Aotea Science Badge

WATER SCIENCE			
<i>Complete 20 stars</i>			
Rating	No	Exercises in Water Science	Sign
**	1	Create a diagram that explains the water cycle	
**	2	Water is purified using filters. Choose a range of materials that you consider suitable for filtering dirty water. Investigate their suitability and report on your findings	
*	3	Investigate the physical changes of water and show your understanding in a creative way	***
**	4	Some objects sink in water and other float. Carry out an investigation recording your method and data to show your findings. What properties govern flotation?	
***	5	How does a pump work? Some pumps pull water up from a well, while others push the water up from the well to the surface. A simple pump has few moving parts and requires someone to do the pumping. Can you make a working model?	
***	6	Watering technology – design and make a working model to allow a plant to be watered over a period of several days when no one is around to do the job	
***	7	Design and make an instrument to test the saltiness of water	
***	8	Does an egg float in water? Test further using water, salty water, sugary water and oil. Show your results in a chart. Why does the egg float in some solutions and not others?	
*	9	Scientists use a range of things to measure water quality. Investigate and report on at least four	
**	10	Investigate the temperature of boiling water. Experiment with pure distilled	

		water, tap water and salty water. Graph your results. Write a conclusion	
**	11	Explain why it is important that a farmer monitors the riparian environment of a stream in which there is a known population of invertebrates	
**	12	Why is some water 'hard' and what effect does hard water have on living organisms in the stream?	
*	13	Make a labelled model of a water molecule	
***	14	What are aquifers? Make a model to illustrate your understanding	
**	15	Water can be found in many different places. Make a collage of pictures – newspaper, magazines and internet to show water in nature. Can you group your pictures?	
*	16	Use a Venn diagram to show what Lakes and Oceans have in common and how they differ	
***	17	What is hydroponics? Give some advantages for this method of growing plants. Set up your own hydroponic system and bring this in to show your teacher or take photos of what you are doing	
**	18	Write a report about the causes and effects of acid rain. In a creative way educate the public about how they can help to minimise this	
***	19	Design and make an apparatus that could collect water in a desert	
*	20	Explain what diffusion is	
**	21	Visit a water treatment plant and present your findings	
***	22	Explain why a scientist would test the temperature, turbidity, pH, oxygen nitrate and phosphate levels in a waterway	
**	23	How would you go about reducing the	

Te Paepae o Aotea Science Badge

		turbidity of a local stream? Display this information using any media suitable to inform a local body responsible for environmental issues	
**	24	Low dissolved oxygen (DO) in a stream is a problem. List possible causes of this and the effect it has on the stream inhabitants	