

# HOME PHYSICS

## SCIENCE BADGE ACTIVITY SHEET

This is a sample Home Physics Activity Sheet only. Its main purpose is to show you some of the interesting activities that you can do when you choose this badge. Also, you can use this sample sheet to start doing the badge activities, while your teacher is sending away for the full activity sheet and badge. If you have completed some of these activities before your full sheet arrives, your teacher can mark this sheet, then transfer the marks to the full activity sheet.

Rating	Exercises in Home Physics	Teacher's initials and date
2*	Support a table tennis ball on an air jet produced by a vacuum cleaner. Why does the ball stay in the air jet? Now tilt the air jet and find out at what angle the ball will fall out.	
3**	Design and carry out an experiment to find the bounciest part of a tennis racquet (the sweet spot). Report your findings and your method.	
5**	Make an ice lens. Fill a small bowl with hot water and then tip the water out. Immediately cover the top of the bowl with glad-wrap and allow the bowl to cool. As the bowl cools, the glad-wrap will be pulled down. Place the bowl in a freezer and fill the space on top of the glad-wrap with water. After the water has frozen, you will have an ice lens. Write a brief report on what you see when you look at writing on a page through your ice lens.	
7*	Make a paper glider from a piece of A4 paper. Time its flight when thrown from two metres above the floor (the height of a door). Alter the design to make it stay in the air longer. Record all your changes and results.	
13*	Put a balloon over the neck of a plastic bottle. Place it in the sun and observe what happens. Paint the bottle black or a dark colour and try the experiment again. Suggest reason/s for any differences you observe.	
17**	Build a car or boat which is powered only by a balloon. Modify your design so that it will go further than your first attempts.	

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