

Approach: One to one

Focus: Investigating and evaluating design

Resources: Jar opener, jar with lid firmly screwed on

Year: 4 & 8

Questions / instructions:

Give student opener and jar.

This is an opener for helping to get the lids off jars.

You can pick it up and have a good look at it.

You can also try using it on this jar.

Allow time.



	% response 2004 ('00)			% response 2004 ('00)	
	year 4	year 8		year 4	year 8
1. What is special about the design of the opener that helps open jars?					
2. Tell me why it could be easier to open a jar using this tool rather than using your hands.					
Teeth - to grip lid, hold it tightly:					
feature and use	50 (36)	64 (70)			
feature <u>or</u> use	28 (27)	22 (18)			
Its materials - to make it strong:					
feature and use	3 (4)	3 (3)			
feature <u>or</u> use	4 (7)	3 (4)			
Includes provision for a wide range of lid sizes:					
feature and use	19 (20)	34 (58)			
feature <u>or</u> use	10 (11)	13 (6)			
Leverage action gives opening power:					
feature and use	1 (1)	6 (6)			
feature <u>or</u> use	5 (6)	8 (13)			
Padded handles - aid comfort/strength of grip:					
feature and use	2 (3)	4 (7)			
feature <u>or</u> use	9 (10)	15 (14)			
Hook for levering off lids: (e.g. AG lids)	2 (4)	6 (11)			
3. The jar opener is a special type of tool called a lever.					
Can you think of another tool at home that works like a lever?					
Appropriate lever given:					
yes – can opener (only)	43 (42)	41 (42)			
yes – same type as jar opener (pair of levers hinged at fulcrum)	18 (18)	28 (27)			
yes – other type of lever	13 (17)	15 (20)			
no	26 (23)	16 (11)			
Total score:	5–9	6 (4)	15 (27)		
	4	12 (14)	22 (27)		
	3	13 (12)	14 (15)		
	2	35 (25)	32 (19)		
	1	19 (30)	11 (10)		
	0	15 (15)	6 (2)		
Commentary:					
While most students identified the importance of the teeth, less than half identified the provision to handle a range of lid sizes, and relatively few identified the padded handle, gripping power from the lever action, or strength of the materials. About 20 percent more year 8 than year 4 students scored four or more. There was little change between 2000 and 2004 for year 4 students, but a small decrease in performance for year 8 students.					