

Nut Cracker

Trend task

Approach: One to one

Level: Year 4 and year 8

Focus: Describe the features of two different nutcrackers and evaluating them.

Resources: 2 nut crackers, bag of walnuts.

Questions/instructions:

In this activity you will be investigating how a nut cracker works and finding out how useful it is.

1. Try to crack open the shell of this nut using only your hands. How did your hands feel trying to crack the nut shell open?



Give student the metal nut cracker.

	% responses	
	2000 ('96)	2000 ('96)
	year 4	year 8
2. Have you ever used one of these?		
yes	32 (39)	45 (49)

3. Put the nut in the nut cracker and try to crack the shell open. How did your hands feel using this nut cracker?

4. How useful do you think the nut cracker is? Why?

Responses to 3 & 4	it cracks nut	53 (51)	54 (42)
	it's easy to use (<i>doesn't hurt hand</i>)	31 (34)	46 (37)
	it's easy to control amount of cracking	1 (0)	2 (3)

Give student the wooden nut cracker.

5. Have you ever used one of these?		
yes	6 (8)	9 (5)

6. Now try to crack the shell with this nut cracker. How do your hands feel using this nut cracker?

7. How useful do you think this nut cracker is? Why?

Responses to 6 & 7	it cracks nut	45 (41)	35 (35)
	it's easy to use (<i>doesn't hurt hand</i>)	25 (31)	27 (36)
	it's easy to control amount of cracking	4 (0)	6 (11)
	fragments are contained	4 (0)	10 (15)



	% responses		
	2000 ('96)	2000 ('96)	
	year 4	year 8	
8. Can you describe the differences between the two nut crackers and how they work?			
	different material (<i>metal vs. wood</i>)	23 (27)	21 (21)
	different visual design	14 (19)	12 (14)
	operating principle (<i>screw vs. lever</i>)	73 (69)	81 (71)
9. Do you think one of these nut crackers is better than the other? Which one?			
	Choice: wooden	58 (73)	51 (67)
	metal	29 (18)	35 (17)
	none	13 (9)	14 (15)
Why?			
	Explanation: strong justification	2 (2)	7 (5)
	moderate justification	39 (33)	51 (51)
	limited justification	53 (59)	37 (38)
	no justification	6 (6)	5 (6)
10. Why do you think we have different types of nut crackers?			
	different consumer preferences, resources	71 (64)	82 (73)
	inventors come up with new ideas	4 (2)	10 (10)
	companies, individuals competing for market share	1 (0)	4 (3)
11. What do you think people in the future might use to crack open nuts? [not marked]			

Commentary:

Slightly higher percentages of year 8 than year 4 students gave better descriptions of the key differences between the two nutcrackers, and better justifications for their choice of nutcracker. Overall there was very little change between 1996 and 2000.