

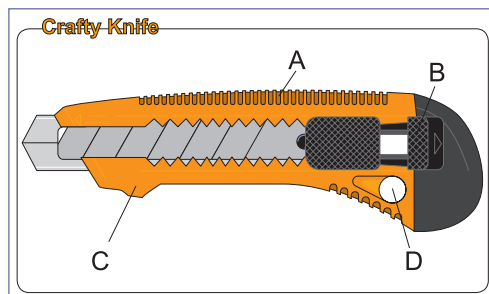
Approach: One to one

Focus: Investigating design

Resources: Craft knife, cardboard, cutting block, diagram

Year: 4 & 8

Questions / instructions:



There are all sorts of craft knives. Have a good look at this one and try to notice all of its different parts.

You can hold it and move the blade in and out. Try to cut this card. But be careful.

Hand out craft knife, cardboard, cutting block. Ensure safe handling and use of the knife. Retract the blade at end.

Look at this diagram.

Hand out diagram. Point to A. Student can still hold craft knife.

1. Why is this part designed like this?

stops the slipping

Point to B.

2. Why is this part designed like this?

locks blade and moves blade
locks blade or moves blade

texture/shape help user

% response
2008 ('04)
year 4 year 8

Point to C.

3. Why is this part designed like this?

helps to guide/control cutting action/
place to rest finger

Point to D.

4. Why is this part designed like this?

for hanging knife up

5. If you were going to use this craft knife, what safety rules would you have to follow?

keep blade length as short as needed

store with blade retracted

keep fingers out of way

don't walk around with blade out
(near other people)

don't press too hard

6. Why might someone use a craft knife instead of a pair of scissors?

cut inside shapes (like circle)

sharper than most scissors/suitable
for harder to cut materials

stays sharp/easier to keep sharp

Total score:

8-13

6-7

4-5

2-3

0-1

% response
2008 ('04)
year 4 year 8

37 (34) 56 (50)

54 (58) 73 (67)

7 (5) 14 (12)

12 (19) 38 (26)

56 (58) 50 (51)

11 (13) 18 (20)

2 (1) 2 (2)

7 (7) 29 (29)

57 (62) 52 (46)

4 (4) 6 (3)

0 (0) 11 (9)

10 (14) 39 (37)

41 (43) 36 (34)

40 (36) 13 (17)

9 (7) 2 (3)

Subgroup Analyses:

Year 4

Score Range

Boys

Girls

Pakeha

Māori

Pasifika

8-13

1 %

0 %

0 %

0 %

0 %

6-7

15 %

5 %

12 %

6 %

13 %

4-5

39 %

44 %

45 %

37 %

0 %

2-3

35 %

44 %

36 %

44 %

66 %

0-1

10 %

7 %

6 %

13 %

21 %

Year 8

Score Range

Boys

Girls

Pakeha

Māori

Pasifika

8-13

11 %

11 %

12 %

9 %

9 %

6-7

37 %

40 %

42 %

34 %

17 %

4-5

37 %

35 %

34 %

42 %

40 %

2-3

14 %

12 %

11 %

14 %

28 %

0-1

1 %

2 %

1 %

1 %

6 %

Commentary:

Although students at year 4 had some difficulty explaining the design elements of a craft knife, by year 8 students showed a fairly strong grasp of the concepts. There were negligible gender differences. Differences among Pakeha, Pasifika and Māori students were fairly strong at year 4, but diminished for the year 8 students. Results were similar to performance in 2004.