Approach:	One to one	Year:	8
Focus:	Explaining how to solve subtraction problems, with and without counters		
Resources:	4 film canisters filled with 10 beans in each, subtraction card		

Questions / instructions:

% response 2005 ('01)

year 8

Show student subtraction card (35 take away 19).

This activity is called **Beans**. I'm going to ask you to explain how you would work out an answer. I don't need to know the answer. I need to know how you would work it out.

1. This card says 35 take away 19.

    Tell me how you could work this out.

sophisticated strategy, such as changing problem to 36–20	43 (16)
conventional subtraction problem	20 (42)
counting process, such as adding on or using counters	11 (16)
no satisfactory explanation	26 (25)

35 take away 19

Put containers of beans in front of the student.

2. Here are 4 containers, each with 10 beans. Show me, and tell me, how you would work out 35 take away 19 using the beans.

strategy made good use of fact that beans came in 10s	25 (16)
strategy in which five beans were removed, then 19, then all remaining beans were counted	29 (62)
strategy in which all beans were tipped out, then 35 counted, then 19 removed, then remaining beans counted	13 (0)
no statisfying explanation	33 (22)

Commentary:

In comparing performance in 2001 to 2005, year 8 students were clearly moving away from counting and conventional strategies toward more sophisticated strategies.