

**THE CHROMOSOME CONNECTION**  
**TEACHER'S ANSWER KEY**  
**Answers to Questions With Appropriate Replies**

CHECK QUESTIONS:

1. A If reply is B or C, respond: "Studies have shown that there is a much higher level of confidence. They **MUST** be related if there are identical or very similar chromosome patterns."  
If reply is D, respond: "Read item "a" in Background info; with any identical banding patterns, the chances that this would be due to coincidence is virtually zero.
2. B If reply is A, respond: "One living species is generally not the ancestor of another living species, since they are both present now. Two living species can share a common ancestor, however.  
If reply is C or D, respond: "Better re-read the background material again, more closely! You must have missed something crucial"

PART 1: Bullet B matches #3 scratch marks.

PART 2: Human chromosome #3 is **identical** to C3 (chimpanzee chromosome #3)

PART 3: Human and chimp chromosomes #4 are identical, except for the pericentric inversion.

PART 4: When chimp chromosome 2p is attached to 2q beneath it, it is nearly identical to human chromosome #2  
The match is "B" (very similar)

PART 5:

1. in 2 sets the O chromosome is clearly different from the other 3: #3 and #11
2. in 1 set the G chromosome is clearly different from the other 3: #14
3. in NONE of the sets are the H and C chromosomes clearly different!

CHECK QUESTIONS:

3. B If reply is A, C, D or E, respond: "Not quite...look more closely"
4. B (The most reasonable interpretation)  
If reply is A, respond: "For this, the chromosomes would all have to be identical. Are they?"  
If reply is C or D, respond: "This answer is not consistent with the results of studies. Review the background information again"
5. A (yes) You have made a tough choice, breaking with "tradition", but it is certainly the most logical choice, based on the evidence. Congratulations!  
If reply is B (no), then respond: "Why not? We have already established the logic, based on the striking similarities of the chromosomes of all 4 species, that they should all be in at least the same family."