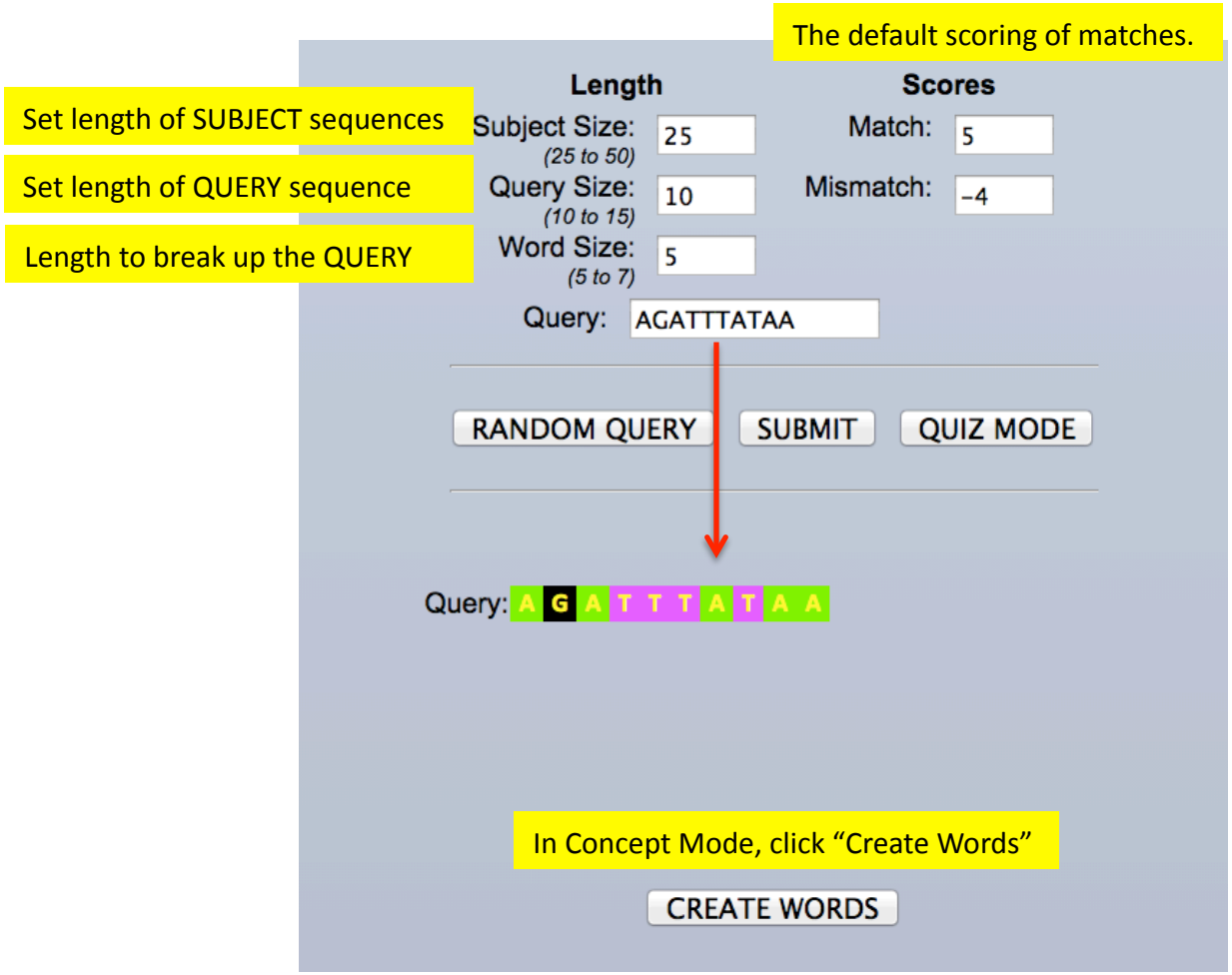
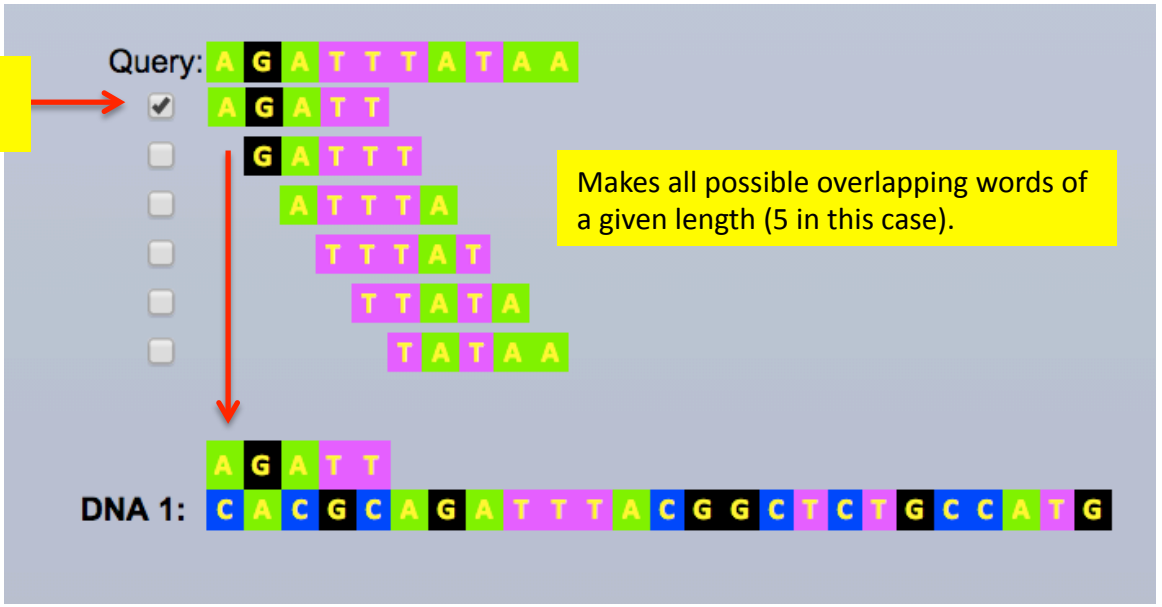
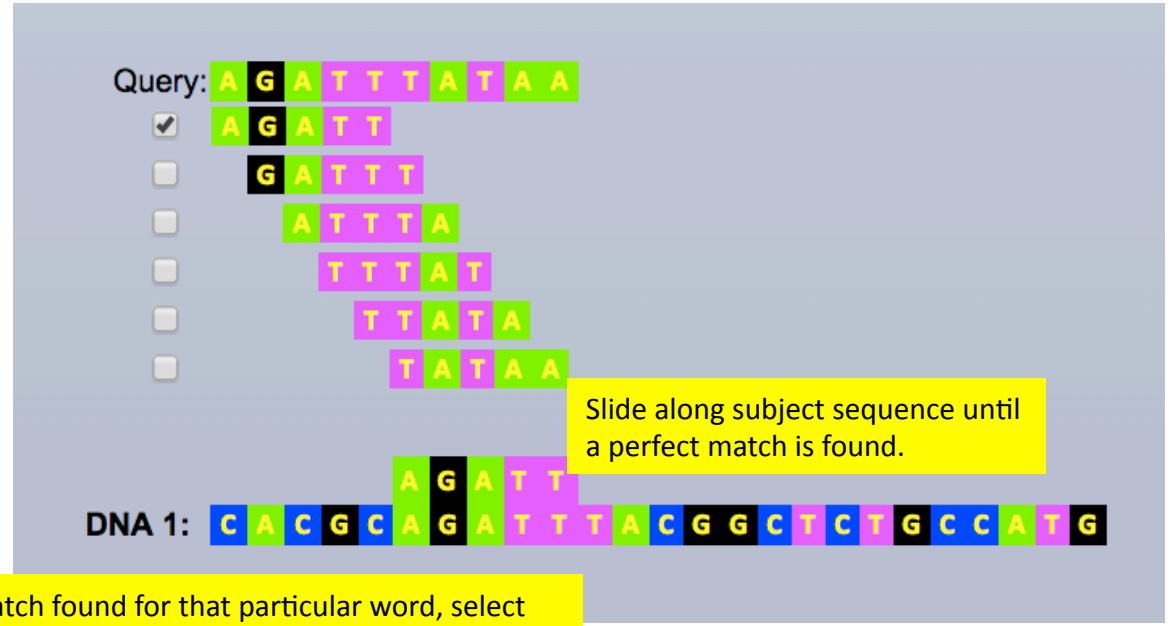
BLAST Method: Initialize Problem

PURPOSE: This Interactive teaches how the BLAST method determines which sequences are the best match to an input sequence. The unknown input sequence is call the QUERY. The BLAST method breaks up the QUERY into little bits, called "Words", and then matches the little bits against other sequences, called the SUBJECTS.



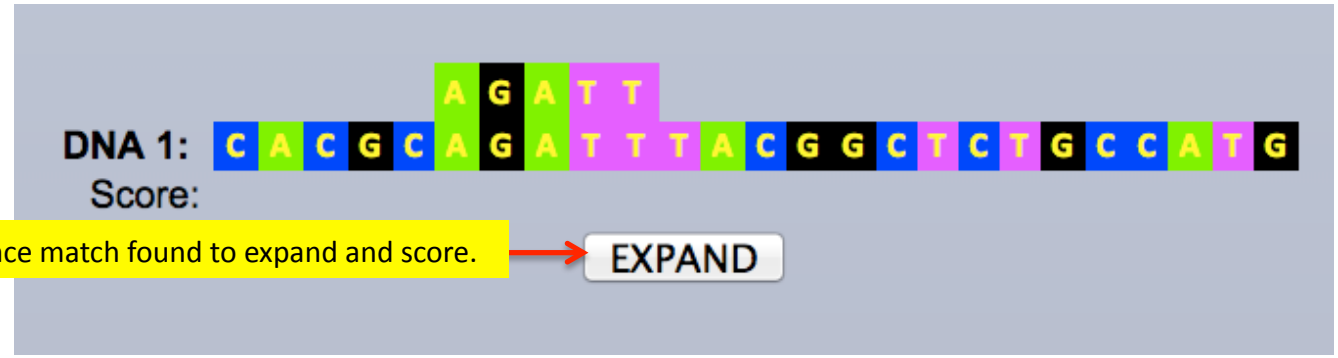
BLAST Method: Create “Words” and Search





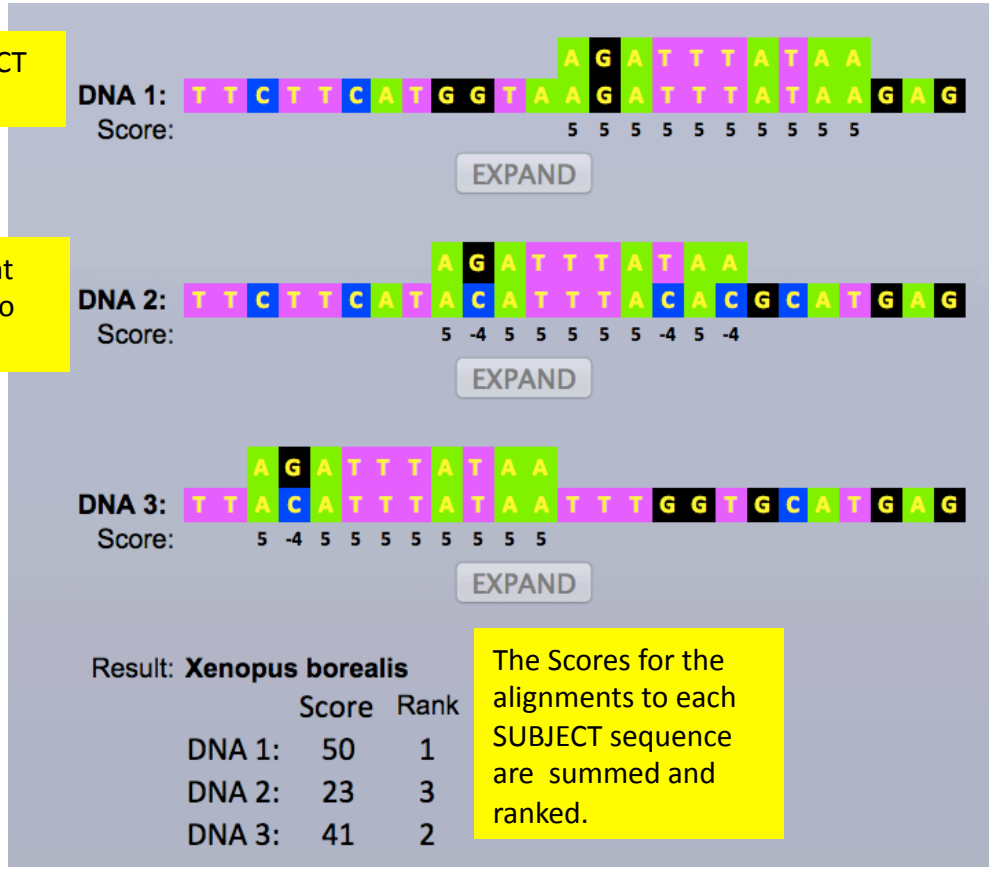
If no perfect match found for that particular word, select the next word. Repeat until a perfect match is found.

BLAST Method: Expand match and score it



Do same for the other SUBJECT sequences.

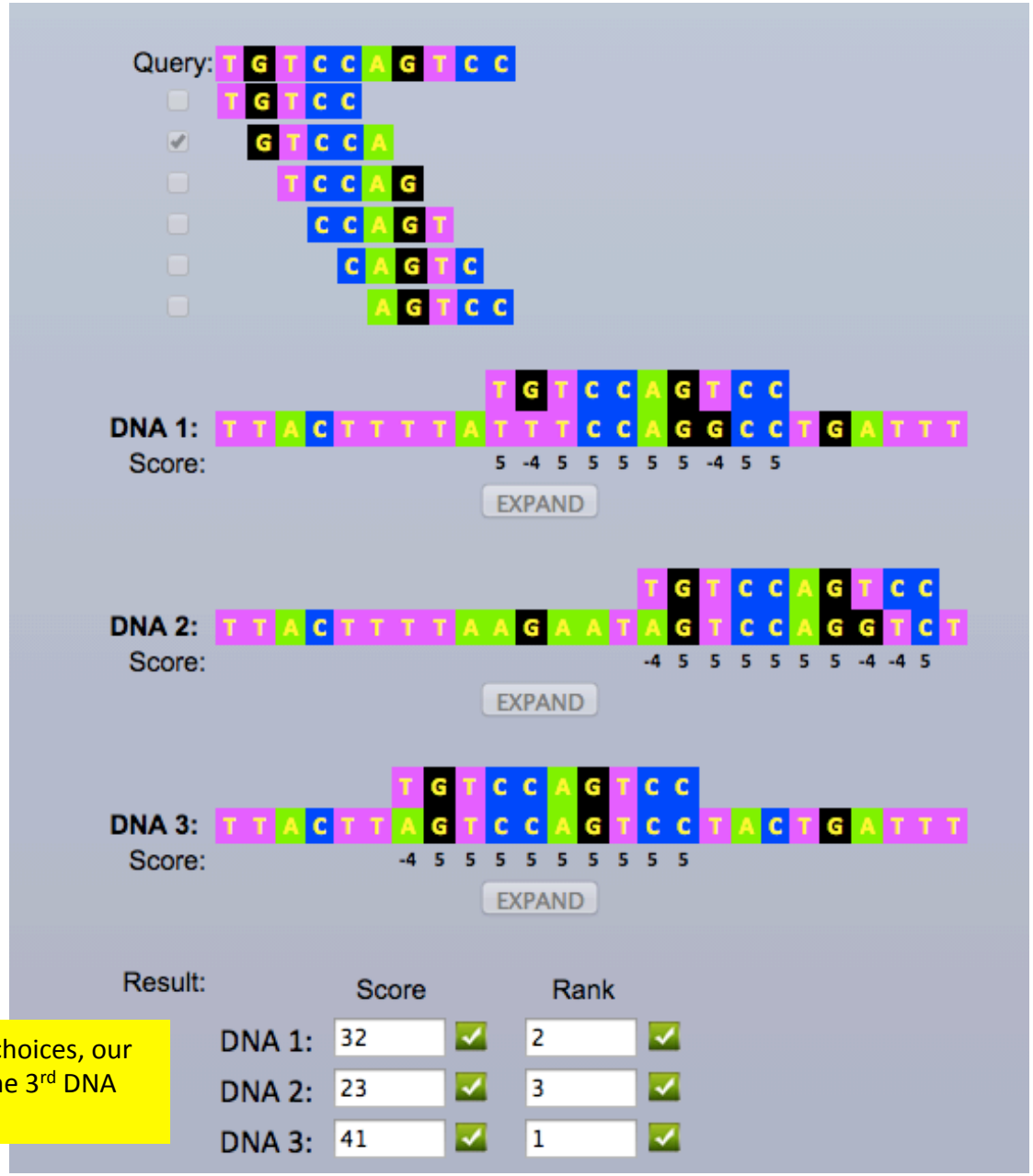
NOTE: In the example, different words make perfect matches to DNA 2 and 3.



The Scores for the alignments to each SUBJECT sequence are summed and ranked.

BLAST Method: Quiz Mode

Follow the same protocol as the Concept Mode, but determine the scores for each match and the relative rank of each match at the end.



Of the 3 SUBJECT choices, our QUERY matched the 3rd DNA the best.