

## THINK ABOUT IT:

1. Explain what happens to eukaryotic mRNA before it leaves the nucleus and is translated into a protein.
2. What problem does this create for scientists using human genes to create recombinant plasmids that make human products like insulin in bacteria?
3. What "trick" have scientists borrowed from retroviruses that gets around this problem?

## TRADE & GRADE:

1. Post transcriptional processing-
  - introns cut out- 1 point
  - exons spliced together-1 point
  - Poly A tail added- 1 point
  - 5' GTP cap added-1 point
2. ~ Bacteria don't edit introns (no processing)-1 point  
~ Can't use human DNA directly-1 point
3. ~ Reverse transcriptase can go RNA → DNA-1 point  
~ isolate mRNA for gene first instead of DNA -1 point  
~ use reverse transcriptase to make segment of DNA from mRNA  
~ reverse transcriptase can make DNA that has introns already cut out – 1 point