



Name: _____ Date: _____

Genome Seeking

- Go to <http://www.dnai.org/c/index.html> > **Genome Mining** > **gene features**
Use the tutorial to answer the following questions.

1. During transcription, DNA is "read" in what direction?

2. To make a protein, mRNA is translated how many nucleotides at a time?

3. Most proteins begin with the amino acid _____.

4. What triplet is considered the "start" codon?

5. What are the three stop codons?

6. How many different reading frames are there for any given DNA sequence?

7. Write out each of the potential reading frames for the following sequence of RNA.
AUCAUGCACCUGAGUCAUCCGGUAA

8. How does changing the reading frame change the polypeptide that is created?

9. An open reading frame (ORF) contains what three things?

10. Skip "Promoters" – click forward button until "Exons and introns."
11. During _____, the entire gene is copied into pre-mRNA, which includes _____ & _____. During the process of RNA splicing, _____ are removed and _____ joined to form a contiguous coding sequence, which is now ready for translation.
12. FYI – Because translation only occurs between a start codon and a stop codon, the resulting protein from translation contains only exons and not introns.
13. Introns always start with _____ and end with _____.
14. After transcription, a _____ is added to the mRNA strand.

Glossary:

intergenic – the sequence of DNA between two genes

5' / 3' – a DNA strand has a sense of direction, in which each end is chemically different from the other.

nucleotide – a nitrogenous base (A, T, C, or G) and part of the sugar-phosphate backbone

Add your own words you're having trouble with...