

## Directions for Dragon Transcription and Translation

The purpose of this activity is to have fun while learning one of biology's central dogmas: how DNA is transcribed into mRNA which is then translated into an amino acid sequence that makes up a specific protein.

### Directions

1. Select a dragon folder. Each folder contains:
  - a. 4 strands of dragon DNA,
  - b. a blank picture of a dragon,
  - c. an amino acid chart, and
  - d. a trait chart. *(The amino acid charts and the trait charts remain in the folders. Please do not draw on them. Please do write on the DNA strands and the dragons.)*
2. Each person will work with two of the strands of DNA. It doesn't matter which strands you work on. (You can cut the pages in half lengthwise and divide up strands 1-4 as you like.)
  - a. Write your name on your page of DNA
  - b. Transcribe your DNA to mRNA
  - c. Group the mRNA base sequences into codons.
  - d. Write the corresponding anticodons for each mRNA codon *(Remember, the tRNA contains the anticodon and matches it to the correct amino acid.)*
  - e. Using the amino chart anticodon chart, translate the anticodon sequence into the corresponding amino acid sequence.
  - f. Using the trait key, find which proteins code for which traits.
3. Draw this traits on your blank dragon picture. Creativity is always great. For example, if you have spotted wings, make them any color you wish if not specified. If no horn shape is specified, draw them any way you like.
4. Write your dragons given name on the back of the drawing and your name on the front, bottom right.
5. Hand in your transcribed, translated DNA strands and your beautifully drawn dragon.
6. Finished work will be graded as follows:
  - a. Each strand of DNA - 10 points (20 point total)
  - b. Dragon drawing - 15 points
  - c. TOTAL 35 points.