

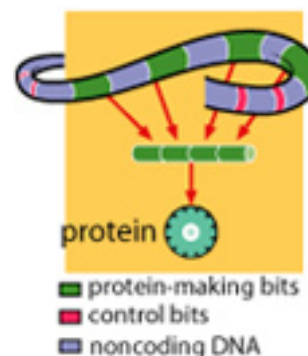
## DNA, genes and genomes - General

### Genes and 'junk'

#### What does the rest of the DNA do?

Most of the DNA sequence in our genome is not used to make protein; amazingly only 2% of it is! The rest of the DNA is made up of the same letters as coding DNA but it doesn't have the same meaning.

Quite simply, we don't know what some of our genome does. The bits of DNA we don't understand have often been called 'junk DNA'. However, the more we learn about what's in the 'junk', the more it seems better to call it 'noncoding DNA' instead.



#### Controls and repeats

Some noncoding sequences enable our cells to produce different amounts of proteins at different times. For example, control sequences contain instructions to tell the cell how to switch genes on and off. Other noncoding sequences are part of genes, but don't directly code for proteins. These are thought to help the cell to generate a number of different proteins from one gene.

More than half of the DNA in our genome is made up of repeated sequences. The result is as if a printer had made a mistake and scattered lots of copies of one page of a book throughout the story. Some of these repeated areas appear to stabilize the chromosomes; others may have a role in spacing out the coding sequences so that they can be activated independently.



We don't know all the answers yet, but stay tuned for the next update . . .