## Exercise: PROKARYOTES VS. EUKARYOTES

### Outline the features that distinguish prokaryotes from eukaryotes.

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|  | **PROKARYOTES** | **EUKARYOTES** |
| **TAXONOMIC GROUPS** |  |  |
| **CELL-BIOLOGY** |  |  |
| **GENOME STRUCTURE** |  |  |
| **GENE EXPRESSION** |  |  |
| **CELL CYCLE** |  |  |

#### Discussion questions:

1. Prokaryotes have coupled transcription and translation. That is, in prokaryotes, an mRNA can begin being translated even before its transcription has been completed. Why isn’t this possible in eukaryotes?

2. Why is there a potential conflict between the process of cell division and the process of gene expression?

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