1 | Types of micro (point) mutations

1.1 | insert/remove

1.1.1 | frameshift mutation

1. deletion/insertion that nets a non-multiple of 3, so the codons don't line up anymore
2. everything downstream is "corrupted"

1.2 | substitute

1.2.1 | missense mutation

1. changes an amino acid to another amino acid

1.2.2 | nonsense mutation

1. changes an amino acid to a stop codon

1.2.3 | silent mutation

1. does not change an amino acid

2 | macro mutations

2.1 | deletion of a large chunk

2.2 | duplication of a large chunk

2.3 | inversion of a large chunk (reverses it)

2.4 | substitution (move a chunk elsewhere)

2.5 | translation?

3 | comparison

3.1 | micro mutations tend to happen and then cause macro mutations, both can cause cancer