

Rna def

RNA is made up of strands of four different bases that match up in specific ways. The bases are elements of the set $B = \{\mathbf{A}, \mathbf{C}, \mathbf{G}, \mathbf{U}\}$.

Definition The set of RNA strands S is defined (recursively) by:

| | |
|-----------------|--|
| Basis Step: | $\mathbf{A} \in S, \mathbf{C} \in S, \mathbf{U} \in S, \mathbf{G} \in S$ |
| Recursive Step: | If $s \in S$ and $b \in B$, then $sb \in S$ |

where sb is string concatenation.

Examples:

To define a set we can use the **roster method**, the **set builder notation**, and also ...

New! Recursive Definitions of Sets: The set S (pick a name) is defined by:

| | |
|-----------------|---|
| Basis Step: | Specify finitely many elements of S |
| Recursive Step: | Give a rule for creating a new element of S from known values existing in S , and potentially other values. |

The set S then consists of all and only elements that are put in S by finitely many (a nonnegative integer number) of applications of the recursive step after the basis step.