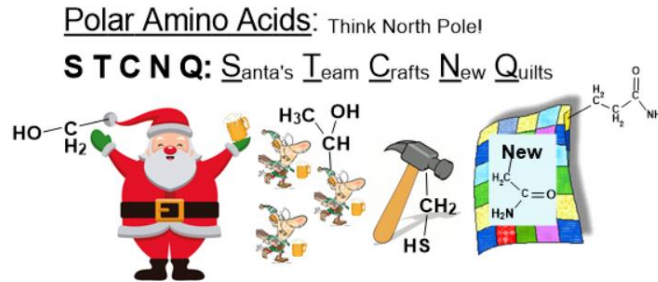


CONCEPT: POLAR AMINO ACIDS

- **Polar amino acids:** contain R-groups that are _____ due to presence of terminal electronegative atoms.
 - Polar amino acids contain _____-bonding groups.
 - Includes Ser, Thr, Cys, Asn & Gln.

EXAMPLE:

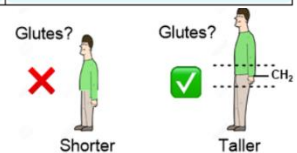


Polar Amino Acids

Serine, _____, _____	Threonine, _____, _____	Cysteine, _____, _____	Asparagine, _____, _____	Glutamine, _____, _____
Notes: -S is Ala with a _____.	Notes: -T is Ser with an extra _____. -T has ____ parts on its only C: -H -OH -CH3	Notes: -Cys: spends quiet time at the Sistine Chapel. So shhh. -C is Ala with a _____ group.	Notes: -Asn is Ala with an _____. -_____ = amide.	Notes: Q is Asn with an extra _____.

Alcohol is a **Serious Threat**.

HO-



PRACTICE: Draw in the R-groups from memory for each of the polar amino acids.

S	T	C	N	Q