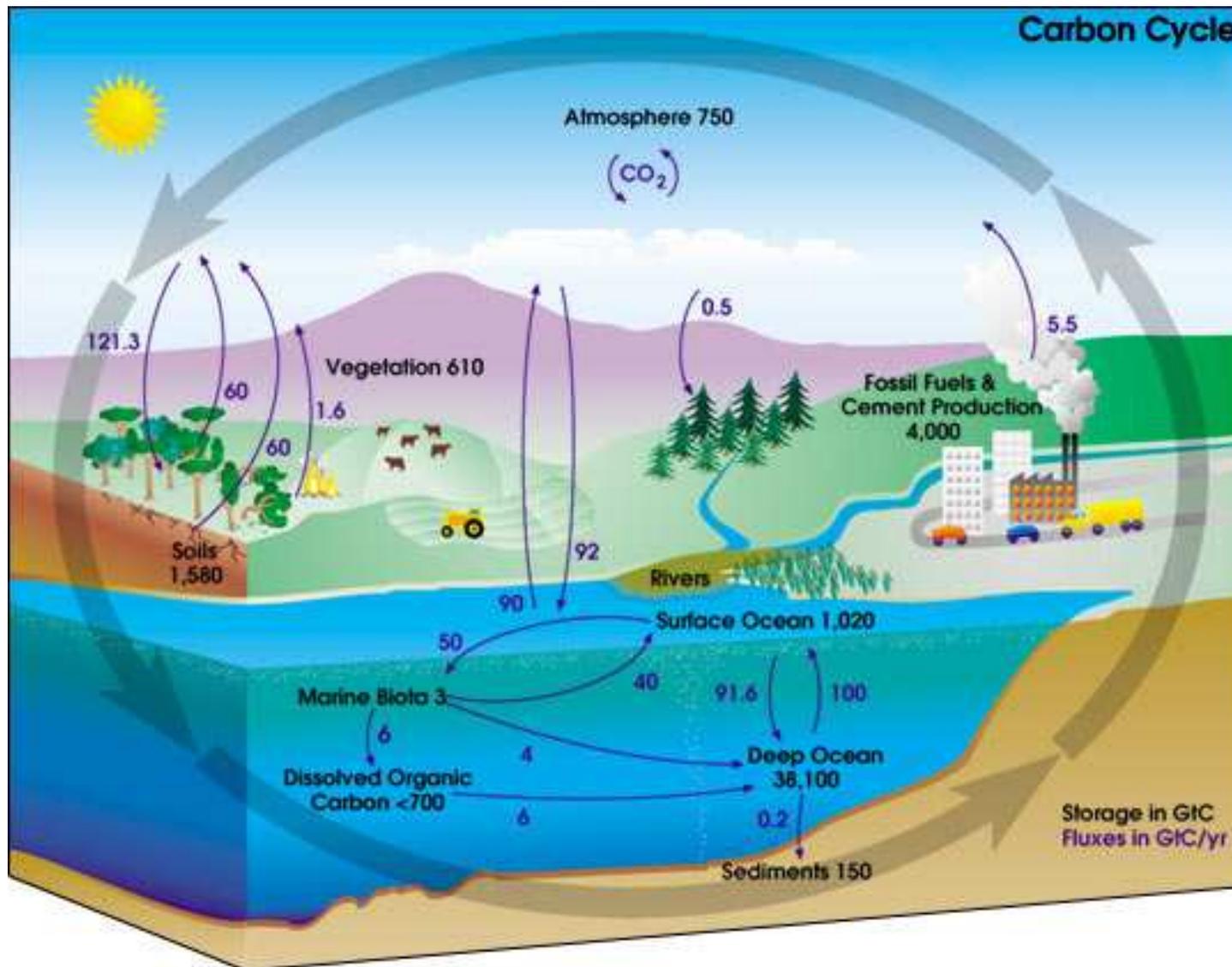
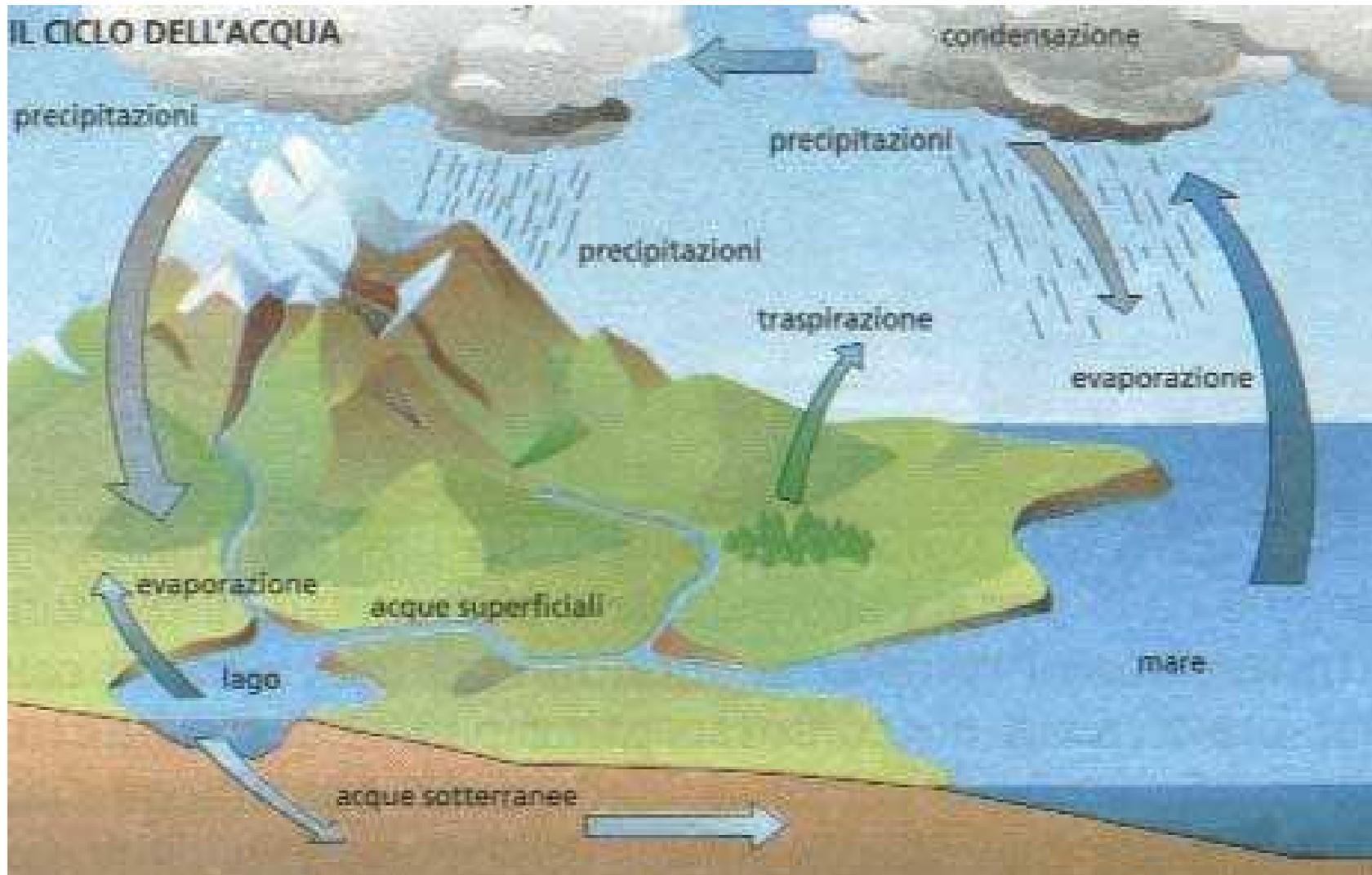


Le Molecole Biologiche (1/3)

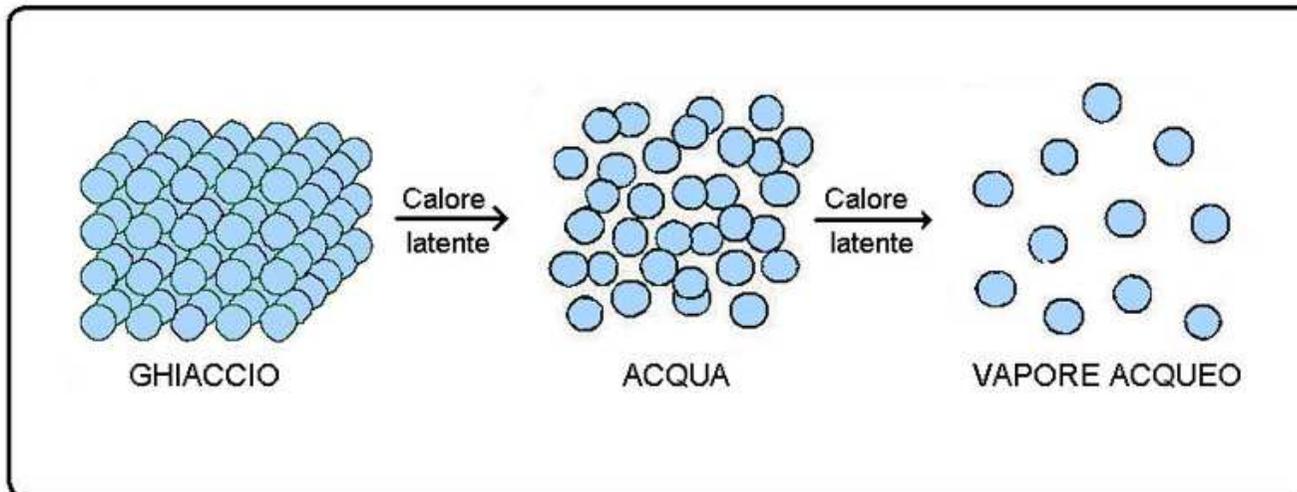
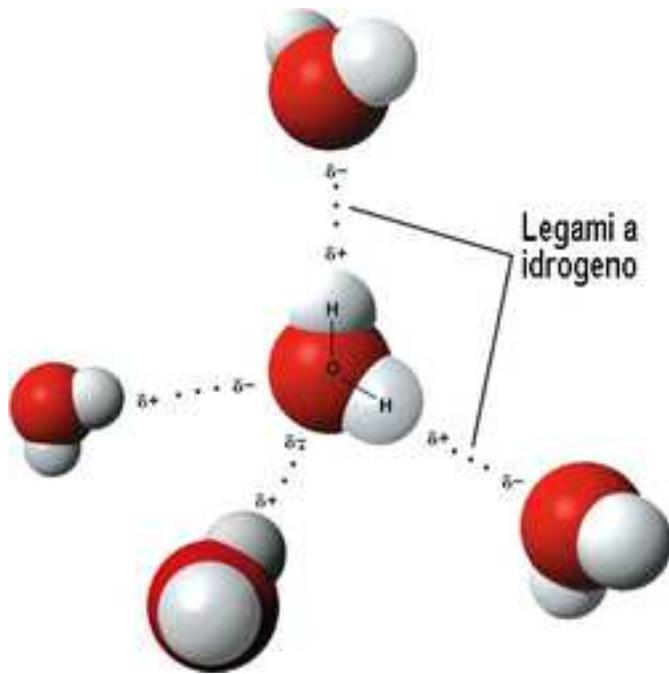
Il ciclo del Carbonio



Il ciclo dell'acqua

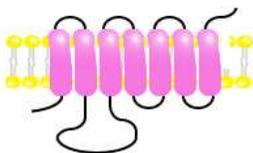
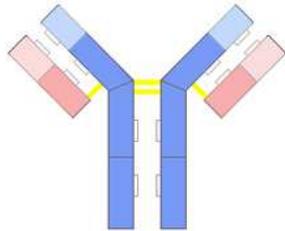
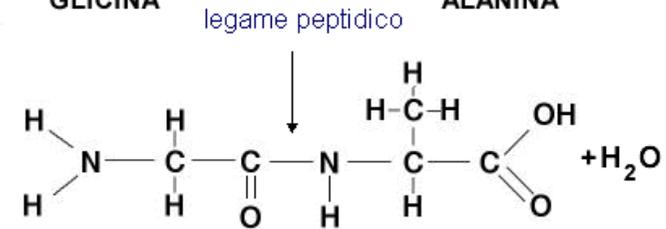
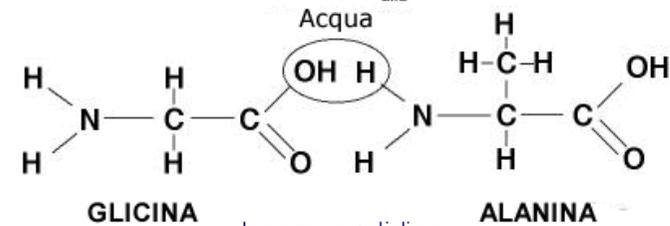
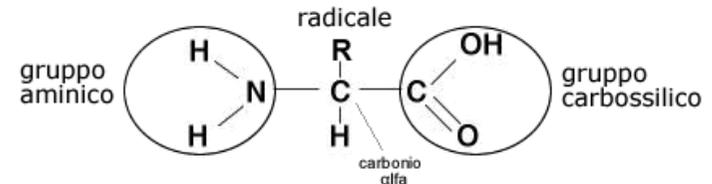
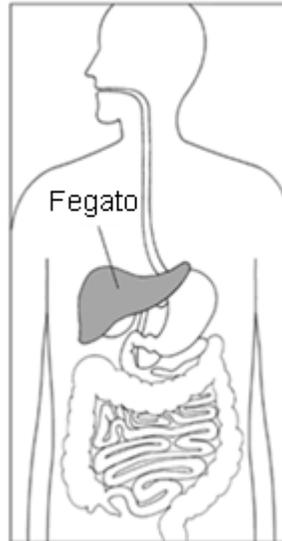


L'acqua

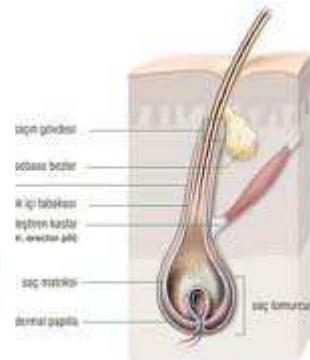


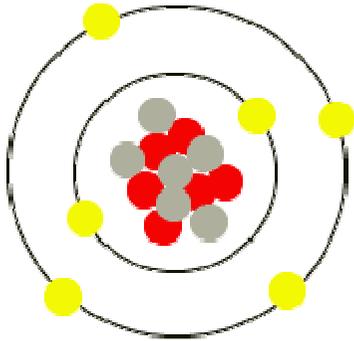
Le molecole della vita

- **Proteine**

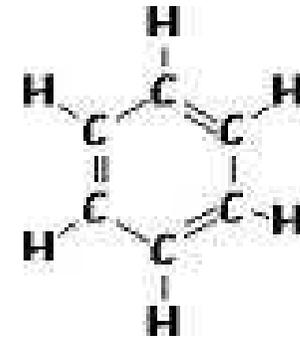


Funzioni delle proteine.
Sopra la struttura di un anticorpo, sotto un recettore di membrana.

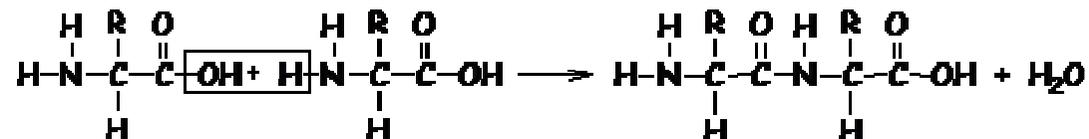




Il Carbonio

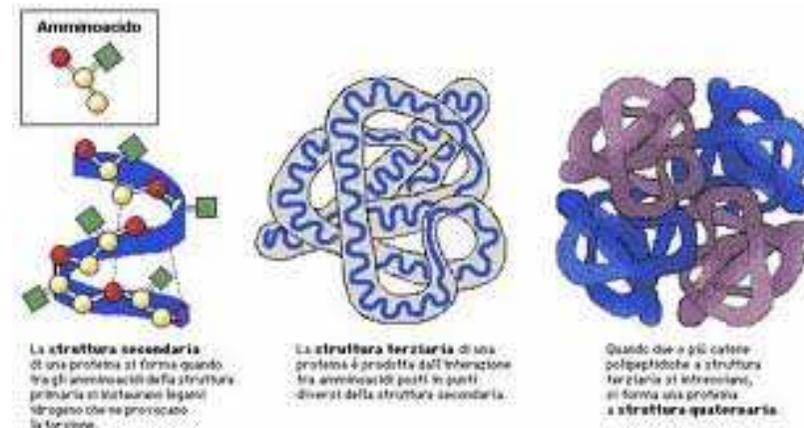


- Ha 4 legami atomici orientati che consentono di costruire strutture tridimensionali estese. Può formare molecole complesse con sé stesso ma anche con altri elementi come idrogeno, ossigeno e azoto.
- E l'unico atomo in grado di formare anelli (aromatici), facilitando la possibilità di formazione di strutture molecolari (es DNA)
- Ancora, il carbonio passa con poca energia dalla forma CO_2 alla forma CH_4 e viceversa, il che è importante nelle reazioni che danno energia alle piante (Fotosintesi)
- La chimica del carbonio è compatibile con l'acqua come solvente liquido: molte delle reazioni di condensazione e idrolisi derivano dalla dissociazione o formazione di molecole di acqua.



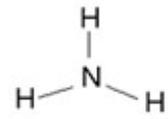
proteine

- Enzimi
- Ormoni
- Anticorpi
- Trasportatori
- Strutturali
- Contrattili
- Struttura primaria
- Struttura secondaria
- Struttura terziaria
- Struttura quaternaria

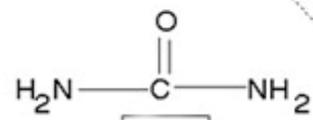




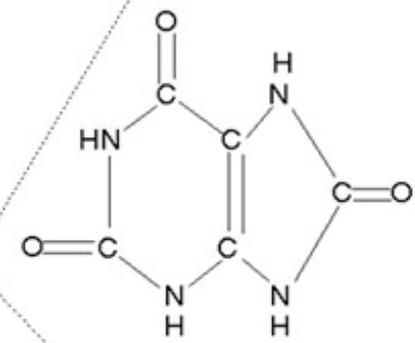
COMPOSTI AZOTATI



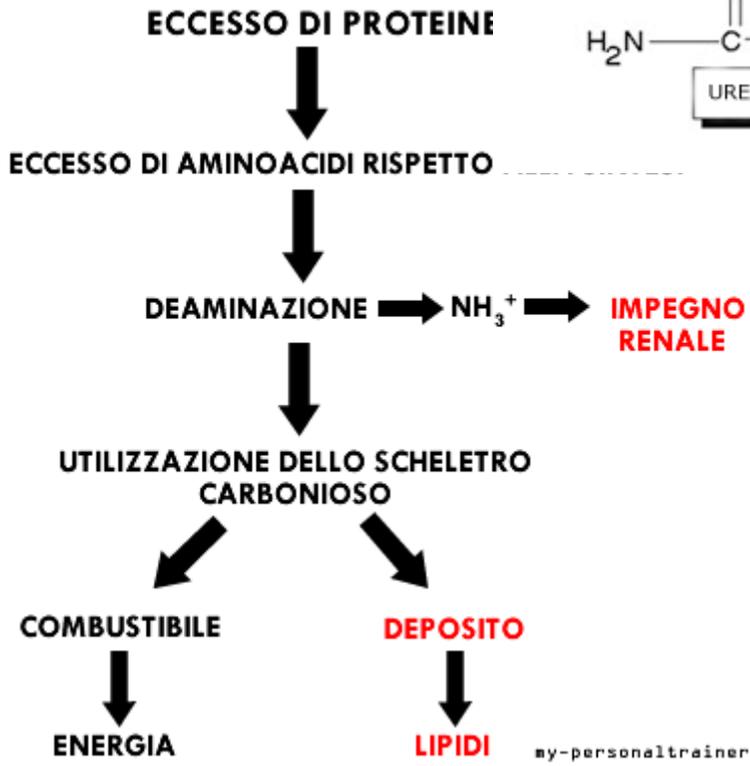
AMMONIACA



UREA



ACIDO URICO



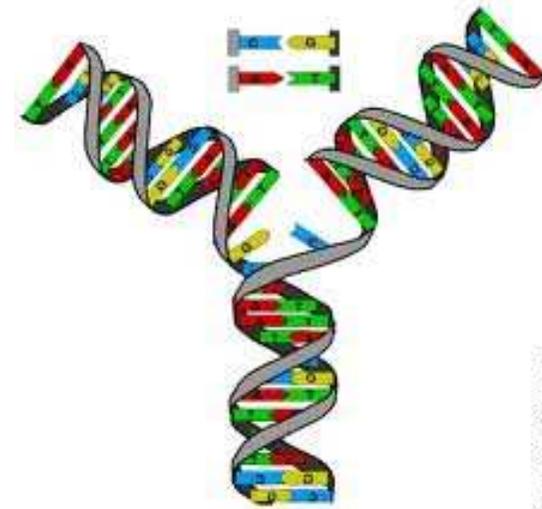
ammoniotelici
uricotelici
ureotelici

Nei pesci l' ammoniaca viene eliminata come tale (animali ammoniotelici);
negli uccelli, insetti e rettili viene trasformata ed eliminata come acido urico (animali uricotelici);
nei vertebrati terrestri viene trasformata ed eliminata come urea (animali ureotelici).

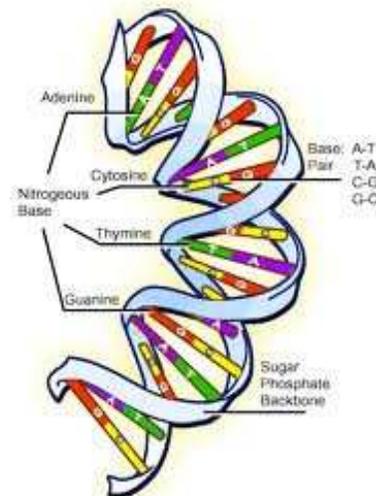
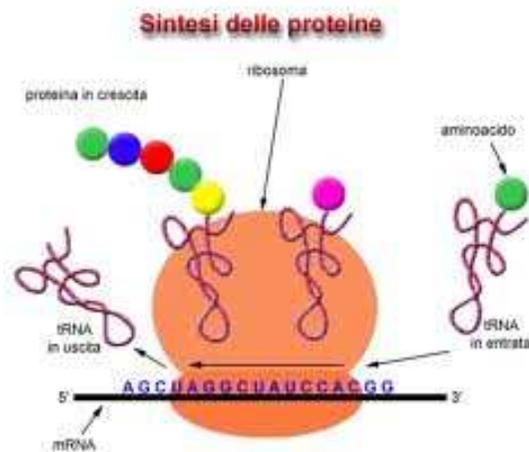
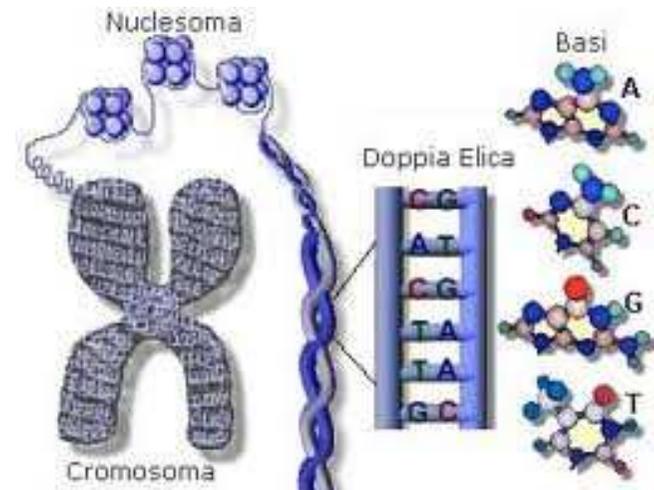
DNA - RNA

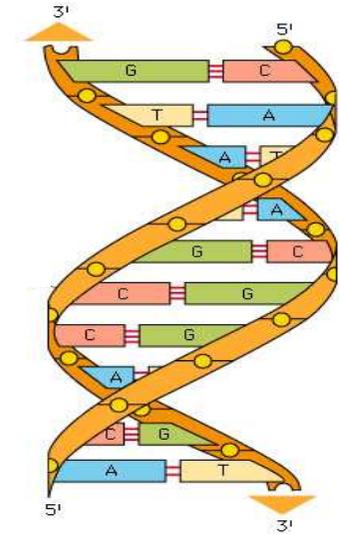
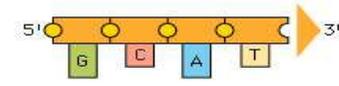
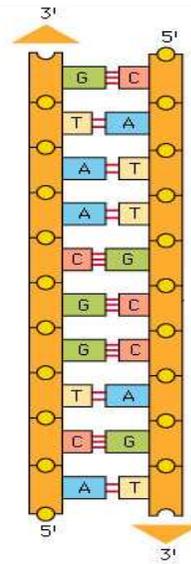
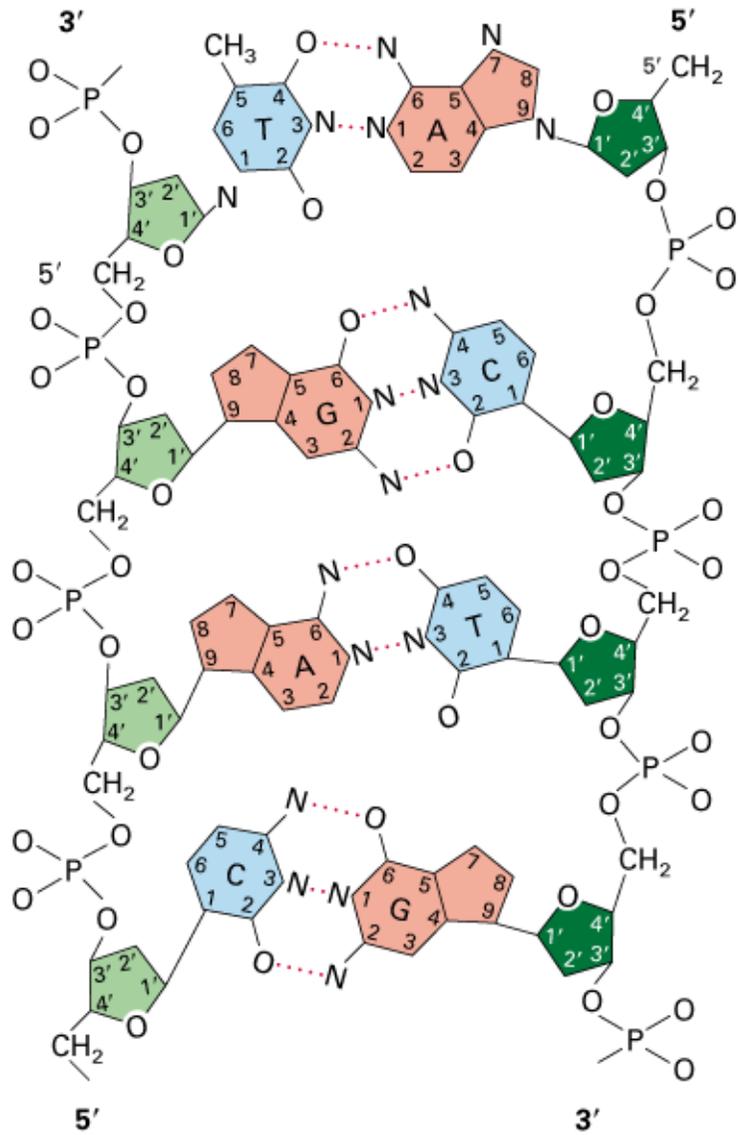
DNA (acido deossiribonucleico)

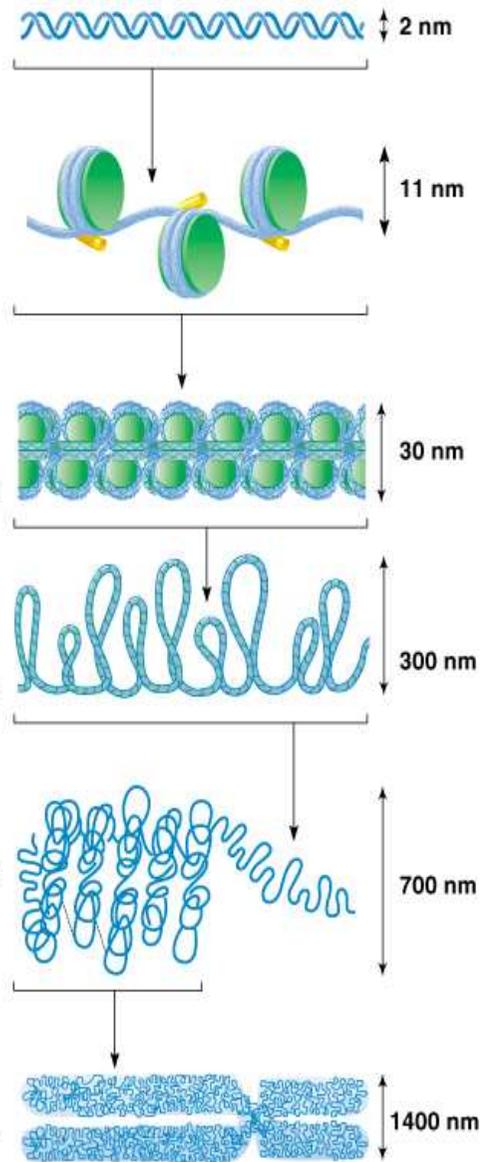
- 1) Acido fosforico
- 2) Deossiribosio
- 3) Basi azotate
 - a) Adenina
 - b) Guanina
 - c) Citosina
 - d) Timina



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| PRIMA LETTERA | SECONDA LETTERA | | | | TERZA LETTERA |
|---------------|-------------------|----------|------------------|------------|---------------|
| | U | C | A | G | |
| U | Fenilalanina | Serina | Tirosina | Cisteina | U |
| | Fenilalanina | Serina | Tirosina | Cisteina | C |
| | Leucina | Serina | Stop | Stop | A |
| | Leucina | Serina | Stop | Triptofano | G |
| C | Leucina | Prolina | Istidina | Arginina | U |
| | Leucina | Prolina | Istidina | Arginina | C |
| | Leucina | Prolina | Glutammina | Arginina | A |
| | Leucina | Prolina | Glutammina | Arginina | G |
| A | Isoleucina | Treonina | Asparagina | Serina | U |
| | Isoleucina | Treonina | Asparagina | Serina | C |
| | Isoleucina | Treonina | Lisina | Arginina | A |
| | Metionina (Start) | Treonina | Lisina | Arginina | G |
| G | Valina | Alanina | Acido aspartico | Glicina | U |
| | Valina | Alanina | Acido aspartico | Glicina | C |
| | Valina | Alanina | Acido glutammico | Glicina | A |
| | Valina | Alanina | Acido glutammico | Glicina | G |

RNA: 5'-UGCGCGCGCUAUUAC-3'

↓ Translation

Peptide: N-Cys-Ala-Arg-Tyr-Tyr-C

