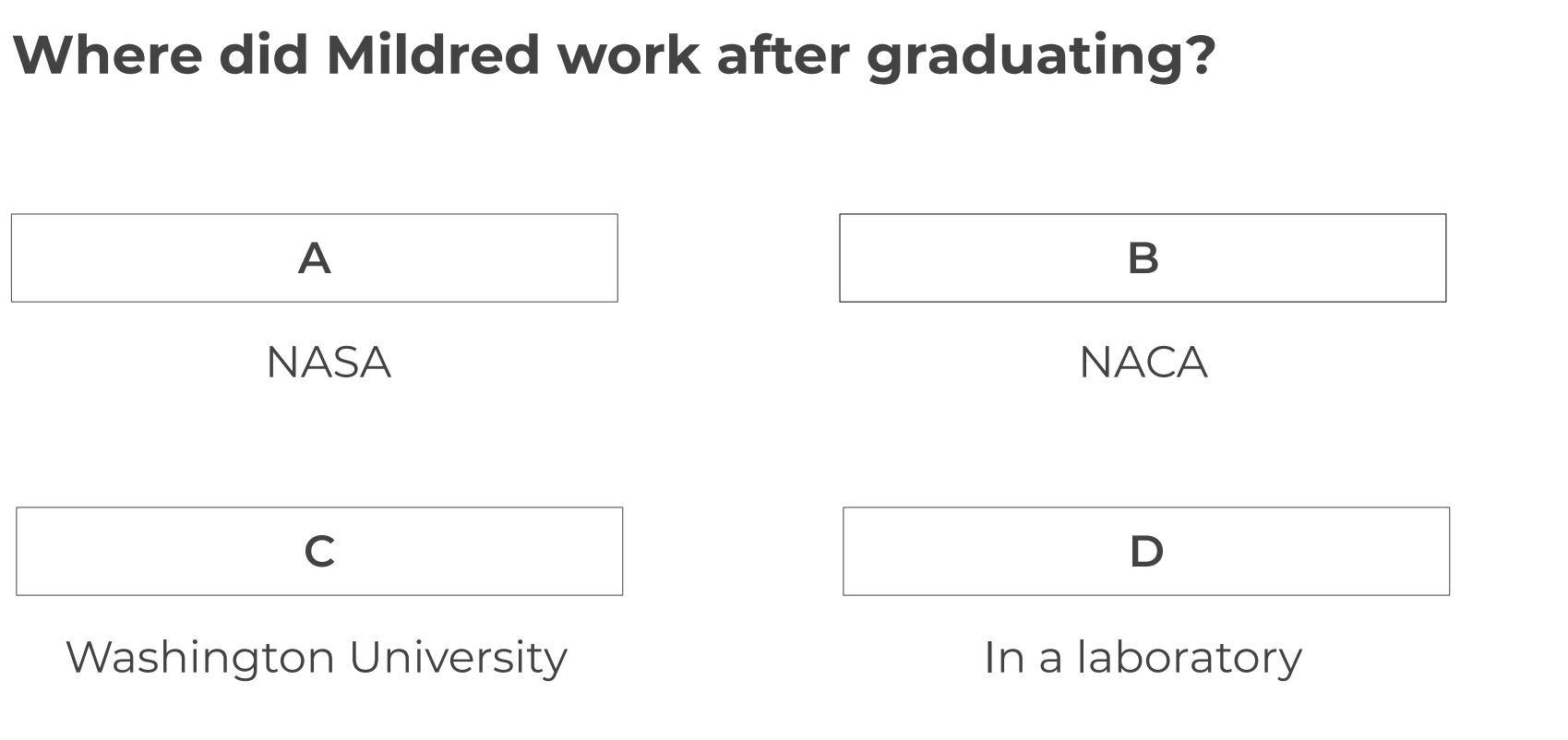
Case Study: Prof. Mildred Cohn

Chemistry - Key Stage 3

Miss Charlton







What was Mildred's PhD in?



Biomedical Science



Physical Chemistry

Β

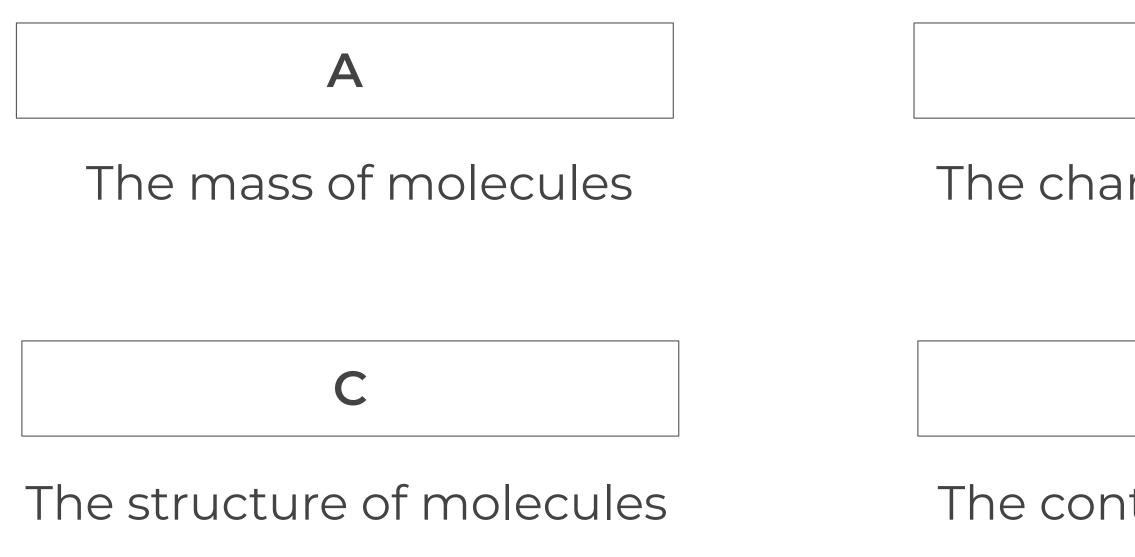
Microbiology

D

Physics



What does a Mass Spectrometer measure?





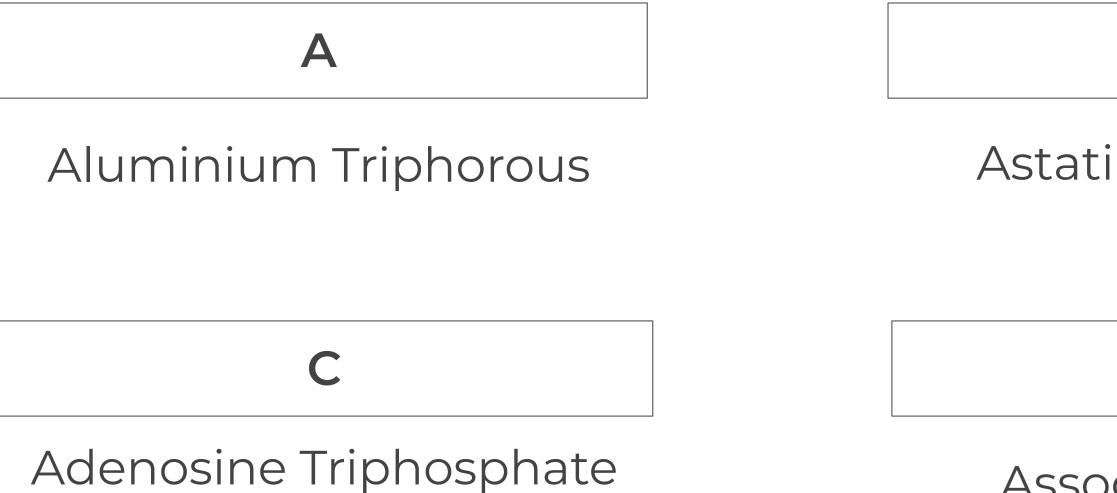
The charges of molecules



The content and purity of samples



What does ATP stand for?



Β

Astatine Trisulphate

D

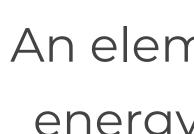
Association of Top Physicists



What is adenosine triphosphate?



A compound that transports water in and out of cells



C

A disease that kills your cells

A compound which transports energy within of cells

B

An element which moves energy around muscles

\square



Complete the sentences...

All organisms must respire, respiration releases ____ causing...

Key words:

Temperature, constant, distributed.



Uses of ATP in Plants and Animals

<u>Plants</u>	
To continue chemical reactions	To contir
To make complex molecules from products of photosynthesis	To make from pro
For transporting substances via phloem	For regu tempera
	For muse



Animals

- nue chemical reactions
- e complex molecules oducts of **digestion**
- lating a constant body ature
- cle contractions



Complete the task

Compare the uses of ATP in plants and animals (4 marks)

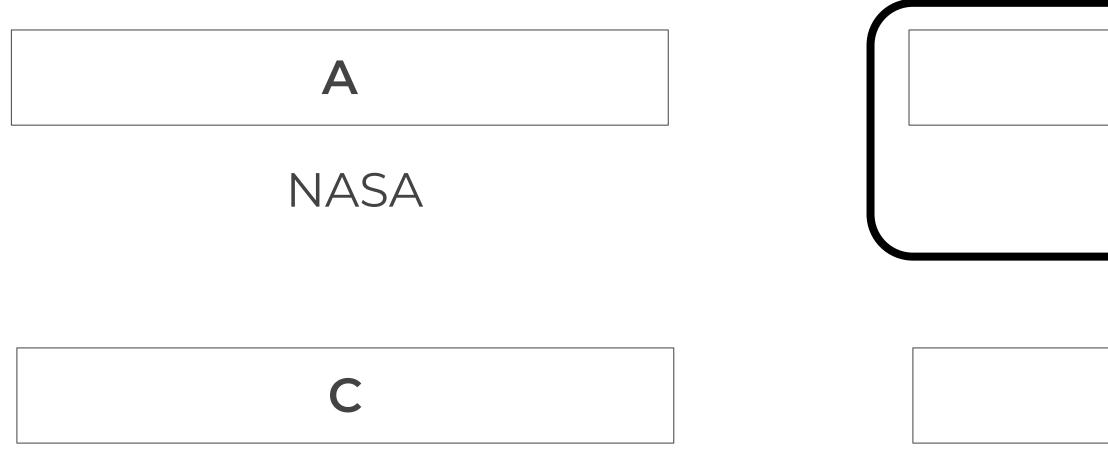
- ATP stands for a compound which transports ...
- In plants it is used to ... however in animals it is used for ...
- Similarly to animals, plants use ATP for
- On the other hand plants ... whereas animals ...
- Unlike plants, animals use ATP for ...



Answers



Where did Mildred work after graduating? Α Β NASA NACA С D



Washington University

In a laboratory



What was Mildred's PhD in?



Biomedical Science

С

Physical Chemistry

Β

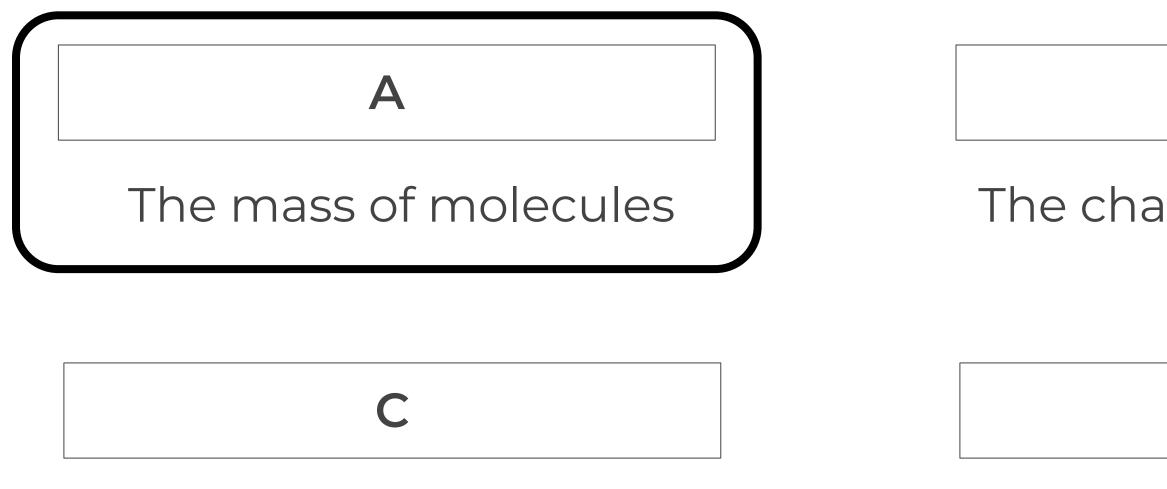
Microbiology

D

Physics



What does a Mass Spectrometer measure?



The structure of molecules



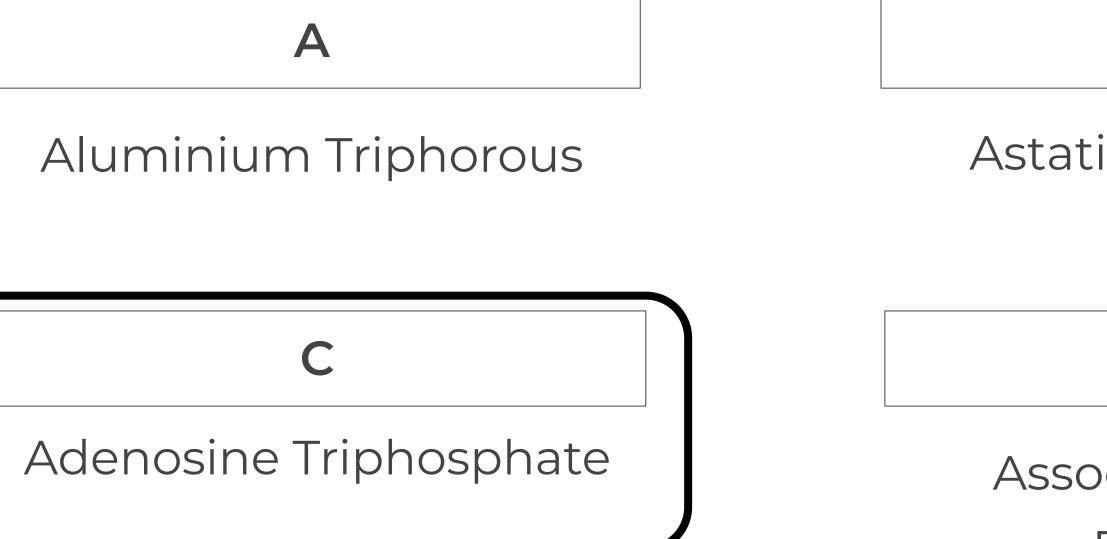
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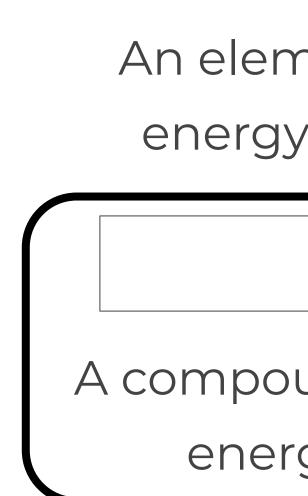
What is adenosine triphosphate?



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A disease that kills your cells



B

An element which moves

energy around muscles

D

A compound which transports energy within of cells



Complete the sentences...

All organisms must respire, respiration releases energy causing...

the <u>temperature</u> of the organism to remain <u>constant</u> as the thermal energy is <u>distributed</u>.

eases **energy** causing... in <u>constant</u> as the



Compare the uses of ATP in plants and animals (4 marks) ATP stands for adenosine triphosphate, a compound which

- ATP stands for adenosine triphosphate, a contract transports energy quickly within cells.
- In plants it is used to transport substances in the phloem to the rest of the plant **however** in animals ATP is used for muscle contractions so animals can move.
- **Similarly** to animals, plants use ATP for building complex molecules such as carbohydrates, proteins and lipids and **also** to continue chemical reactions to keep the organism alive.
- On the other hand plants build complex molecules from products of photosynthesis whereas animals build from digestive products.
 Unlike plants, animals use ATP for maintaining a constant body
- Unlike plants, animals use ATP for maintain temperature.

