🔋 ATP Basics

1. What does ATP stand for?
2. What type of molecule is ATP classified as?
3. What are the three components of an ATP molecule?
4. What sugar is found in ATP?
5. What base is found in ATP?

⚗️ ATP Synthesis

6. How is ATP formed from ADP?
7. What is the name of the enzyme that catalyses ATP synthesis?
8. What type of reaction forms ATP from ADP and Pi?
9. What is phosphorylation?
10. During which processes is ATP synthesized?
11. What type of energy is required for ATP synthesis?
12. In which stage of photosynthesis is ATP formed?

💥 ATP Hydrolysis

13. What happens to ATP when it is broken down?
14. What products are formed during ATP hydrolysis?
15. Which enzyme catalyses the breakdown of ATP?
16. Is energy released or required during ATP hydrolysis?

⚙️ Roles of ATP

17. How does ATP provide energy for active transport?
18. Why are carrier proteins in membranes referred to as ATP hydrolase enzymes?
19. What is the role of ATP in exocytosis?
20. What is the role of ATP in endocytosis?
21. How does ATP assist in biosynthesis?
22. Give examples of biosynthetic processes that require ATP.
23. What is ATP's role in muscle contraction?
24. What does it mean to "activate" a molecule using ATP?
25. How does ATP lower the activation energy of reactions, such as in respiration?

🔁 ATP Cycle & Energy Properties

26. Why is ATP described as the "main energy currency" of the cell?
27. Is ATP a short-term or long-term energy store? Why?
28. Why can't cells store large amounts of ATP?
29. What makes ATP unstable?
30. How long can a cell maintain its supply of ATP?
31. Describe the ATP cycle (how ATP is continuously made and used).