

A. Answer the following:

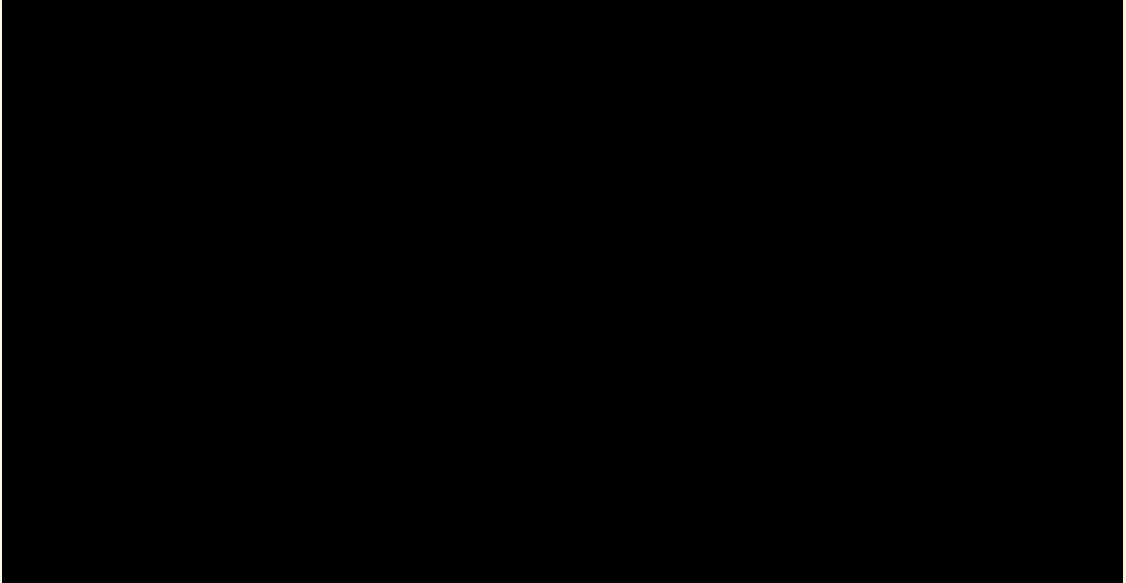
1. Discuss why ATP is important to cells.
2. Describe the structure of ATP.
3. Identify the part of an ATP molecule where energy can be stored.

B. Assemble a cardboard model of the ATP. Make your own ATP model using cardboard cutouts. It is recommended that you reuse old cardboards or box cartons. Each cardboard cutout represents a component of an ATP molecule—an adenine (a nitrogen base), a ribose (a sugar), or one of the three phosphate groups.

### MATERIALS

- cardboard
- scissors
- sticky tape
- marking pen

### PROCEDURE



4. Link the adenosine to one phosphate group. Again, you have to cut off an H or OH from either R or P to join them. Find out which resulting edge can fit the other piece like a jigsaw puzzle. Refer to the following questions:
  - a. What part of R should be cut off to join R to P?
  - b. What part of P should be cut off to join P to R?
5. Add the remaining two phosphate groups. Again, make the pieces fit by cutting off an H or an OH.
6. You have now assembled your model of an ATP molecule.
  - a. Identify the part of ATP where energy is stored.
  - b. Show how an ATP can be hydrolyzed to ADP.
7. Discuss your answers with the class.