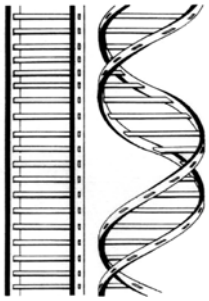
Biology

Name _____
Period _____ **Date** _____

DNA Ladder /10

Objective: to build a DNA 'ladder' and to understand how DNA is put together.

Procedure:



1. Color the pattern pieces**: D, P, G, C, T, and A**.

   Deoxyribose = purple
   Guanine = white
   Thymine = green
   Phosphate = orange
   Cytosine = brown
   Adenine = red

2. Cut out the pieces.
3. Build DNA 'ladder' – the pieces should fit together like a puzzle.
4. Tape pieces together by placing tape on the back side of the pieces.

DNA Ladder Completed

_____
Teacher's initials

Questions:

1. **C**ytosine is always joined to _____ and _____,
2. **T**hymine is always joined to _____ and _____,
3. **G**uanine is always joined to _____ and _____,
4. **A**denine is always joined to _____ and _____,
5. Sugar molecules (**D**eoxyribose) are joined to _____ & _____,

   _____, _____, _____.
6. What represents the "rungs" of the ladder? _____, _____, _____, _____
7. What represent the sides or "backbone" of the ladder? _____ and _____
8. Can you explain what you have constructed? Please include a discussion of (a) the structure of the molecule, (b) base pairing rules, and (c) the structure of a nucleotide.

   _____

   _____

   _____

   _____

   _____

   _____

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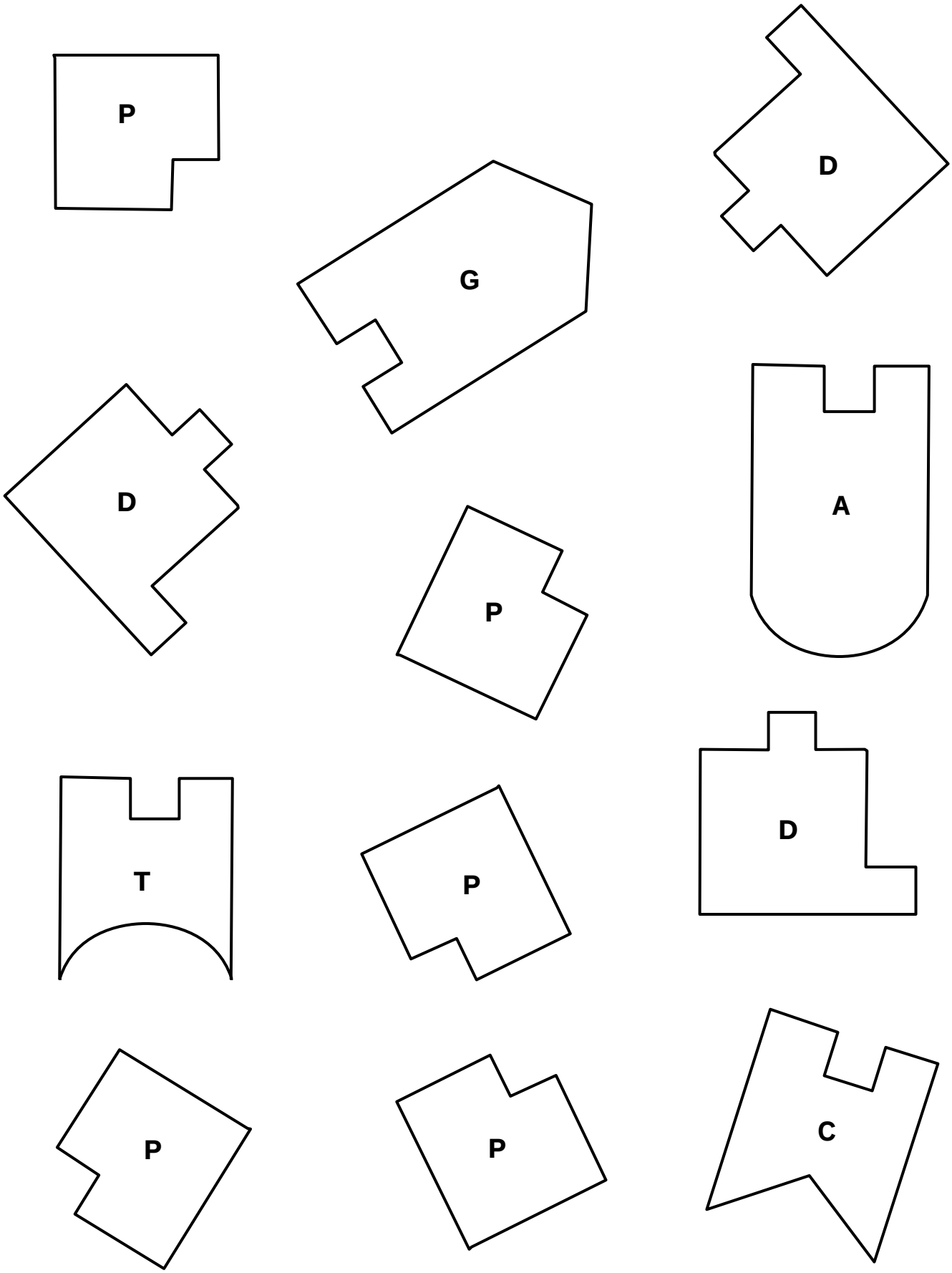
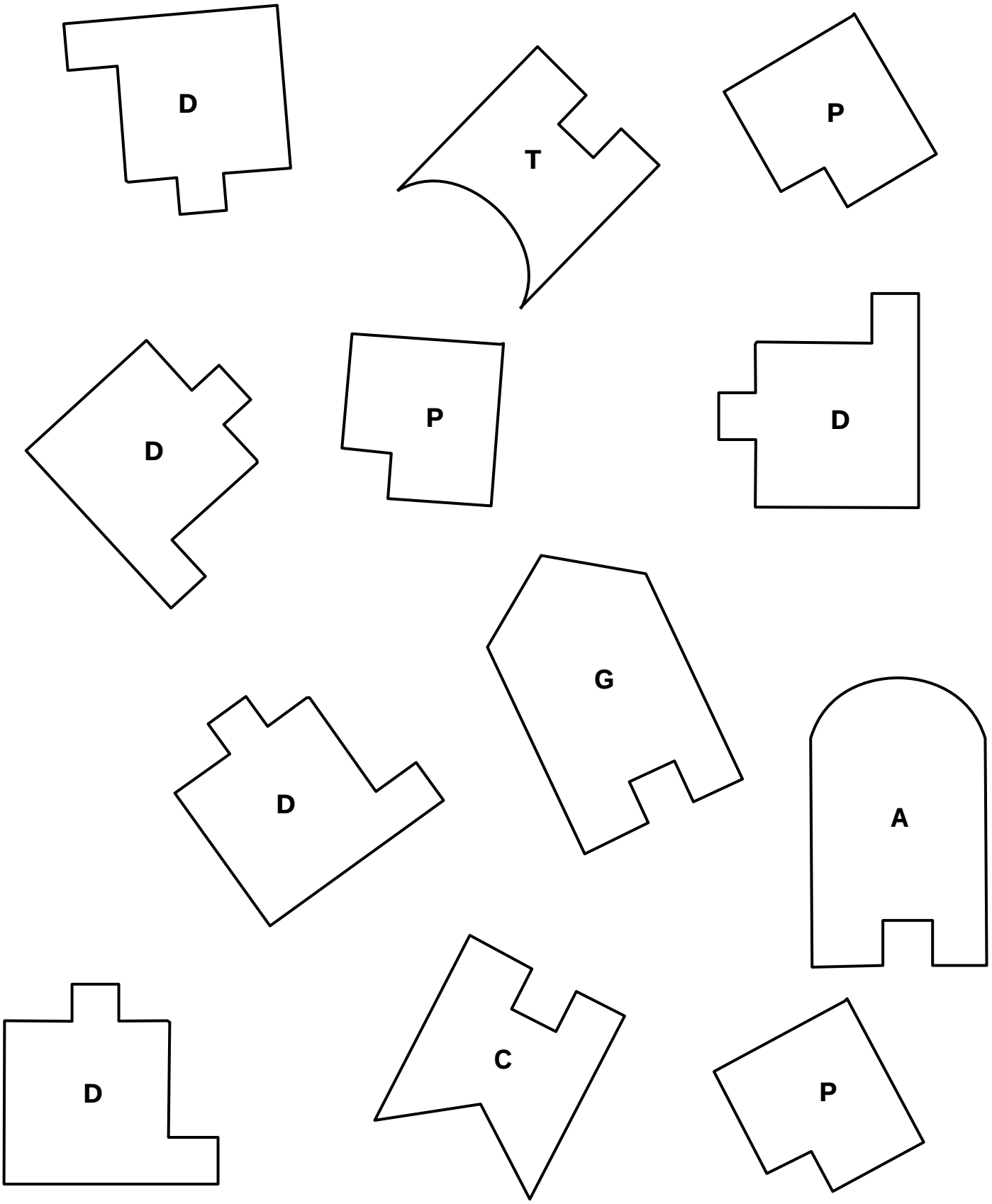
Pieces for DNA ‘Ladder’ – Sheet A



Pieces for DNA ‘Ladder’– Sheet B