

## Recombinant DNA Technology / worksheet

- Two names for organisms that contain foreign DNA are \_\_\_\_\_  
\_\_\_\_\_ and \_\_\_\_\_.
- The “special scissors” used to cut DNA in certain spots are called \_\_\_\_\_.
- Using options 1-4 at the bottom of the page, complete the table below:

Cutting Pattern of Enzyme	DNA Sequence this Enzyme will Cut (choose from 1-4 below)
<pre> -G A A T T C -            -C T T A A G -           </pre>	
<pre> -G G A T C C -            -C C T A G G -           </pre>	
<pre> -A A G C T T -            -T T C G A A -           </pre>	
<pre> -G G T A C C -            -C C A T G G -           </pre>	

①

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-C A G G A T C C A T G -
 | | | | |
-G T C C T A G G T A C -
  
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③

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-G C A G A A T T C G A T C -
 | | | | |
-C G T C T T A A G C T A G -
  
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②

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-G A C T A G G T A C C A A -
 | | | | |
-C T G A T C C A T G G T T -
  
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④

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-A A G C T T G A C T A -
 | | | | |
-T T C G A A C T G A T -
  
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- On DNA segments 1-4 above, draw lines showing where each of the restriction enzymes cleaves them.

5. In order to form recombinant DNA, scientists have found a way to cut a DNA segment using an enzyme called *EcoRI*. This enzyme cuts DNA wherever the sequence C-T-T-A-A-G occurs between the A and the G base. Which of these would result if *EcoRI* were used on the DNA in the diagram below? Circle your answer.

G-G-T-A-C-A-G-A-T-C-T-T-A-A-G-C-A-A

A G-G-T-A-C-A-G A-T-C-T-T-A-A G-C-A-A

B G-G-T-A-C-A G-A-T-C-T-T-A-A-G-C-A-A

C G-G-T-A-C-A-G-A-T-C-T-T-A-A G-C-A-A

D G-G-T-A-C-A-G A-T-C-T-T-A-A-G-C-A-A

6. What are 3 negative aspects of cloning?

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

7. What are 3 positive aspects of cloning?

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_