

## Gel electrophoresis: sort and see the DNA

### Pre-class activity

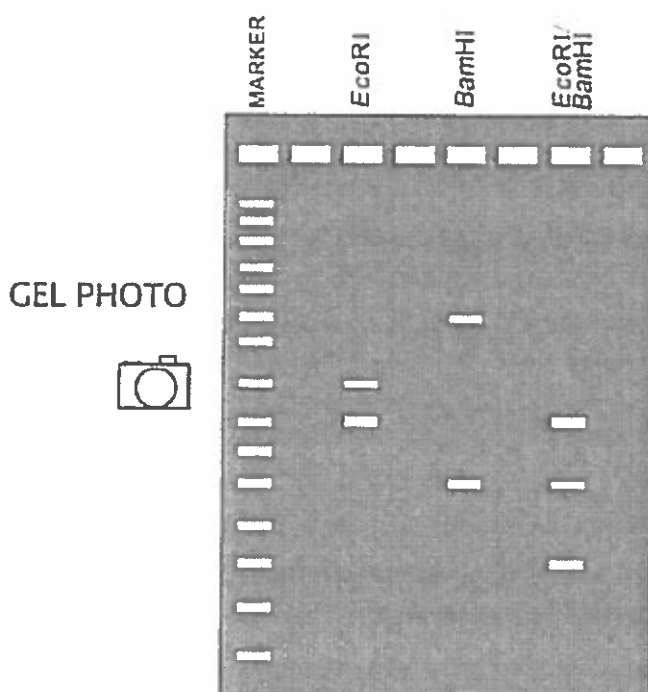
#### Directions:

1. Go to the DNAi website [www.dnai.org](http://www.dnai.org) > Manipulation > Techniques > sorting and sequencing.
2. View the *Gel Electrophoresis 2-D* animation, and answer the following questions.

#### Questions:

1. How does the process of gel electrophoresis separate DNA fragments?
2. What is the purpose of the agarose gel?
3. What is the purpose of adding blue "tracking" dye to the DNA samples?
4. Explain why DNA has an overall negative charge.
5. Why is the fact that DNA has a negative charge so important in the gel electrophoresis process?
6. Explain how an agarose gel can separate DNA fragments of different lengths.
7. What is the purpose of ethidium bromide in gel electrophoresis?

8. Why is a marker used when running the fragments through the gel?
  
9. What is a restriction map?
  
10. On the gel picture below,
  - (a) circle the smallest fragment produced by a restriction enzyme and label it "smallest."
  - (b) circle the largest fragment produced by a restriction enzyme and label it "largest."



11. In one or two sentences, summarize the technique of gel electrophoresis.