

## Science Time

### Program Content for May 18, 2016

Read the article “Creation of human genomes considered” on page A1 of the Saturday, May 14, 2016 edition of The Seattle Times.

**Pre-reading and Vocabulary:** Define each term and then use it in a sentence to demonstrate your understanding.

1. genome
2. synthetic
3. chromosome
4. ethics

### **Comprehension Questions**

1. If scientists were to fabricate the human genome what would that mean?
2. Why is the fabrication of the human genome creating intrigue and concern in the life sciences community?
3. What did the original Human Genome Project accomplish?
4. How would the new synthetic Genome Project be different from the original Human Genome Project?
5. What is the primary goal of a potential synthetic genome project?
6. How do scientists currently change the DNA inside cells?
7. What are some reasons that scientists change the DNA inside of cells?
8. What difficulties do scientists that are currently trying to synthesize DNA face?
9. How has the cost of synthesizing genes changed over time?
10. Which two types of organisms are in the process of being created with synthetic genomes today?

### **Prompts and Extensions**

1. Learn more about the original Human Genome Project by exploring the links provided at this NIH [website](#). This [PBS Nova video](#) also provides in depth information on the project
2. While there are benefits to creating a synthetic genome, some scientists also feel the project should not be pursued. Read about this disagreement [here](#). When finished reading summarize the opinions of the two scientists who authored the article and then provide your position; do you think a synthetic human genome should be pursued? If yes, in what form/with what limitations? If no, why not?
3. Current techniques of genetic modification (GMOs) have been underway for years, check out this [website](#) to learn about the current ways that DNA is modified in organisms.
4. Read about the announcement of the first ‘synthetic cell’ created by Craig Venter 5-years ago [here](#).

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