



## HOW MUCH DO YOU KNOW ABOUT EPIGENETICS?

Take this TRUE or FALSE quiz and find out

	1. A parent's experiences, in the form of epigenetic tags, can be passed down to future generations.
	2. In a pregnant mother, three generations are directly exposed to the same environmental conditions at the same time.
	3. Identical twins are genetic carbon copies, yet physically they become increasingly different over time.
	4. An epigenetic change that was triggered by environmental conditions may be reversed when environmental conditions change again.
	5. Epigenetic changes can happen in many individuals at once.
	6. The effects of smoking on health can also be passed to grandchildren, as evidenced from studies where grandmothers but not mothers smoked.
	7. The amount and quality of food a grandfather had between the ages of 9-12 can be especially important in how faithfully the epigenome is copied for future generations.
	8. Rat pups who receive high or low nurturing from their mothers develop epigenetic differences that affect their response to stress later in life.
	9. Stress, diet, behavior, toxins and other factors activate chemical switches that regulate gene expression.
	10. Your mother's diet during pregnancy and what you're fed as an infant can cause critical changes that stick with you into adulthood.
	11. Unlike behavior or stress, diet is one the more easily studied, and therefore better understood, environmental factors in epigenetic change.
	12. When researchers fed pregnant yellow mice a methyl-rich diet, most of the resulting pups were brown and healthy and stayed that way for life.
	13. Our diets and lifestyles can change the expression of our genes.
	14. Epigenomes can change in function of what we eat, of what we breathe, or of what we drink.
	15. You can impact your genes and health as well as your future children and grandchildren's genes and health.
	16. The ability of environmental conditions to cause epigenetic changes varies with time during our life, and also with the amount of exposure at these vulnerable periods of time.
	17. Researchers have found that it takes only the addition of a methyl group to change an epigenome and the gene's expression.
	18. Epigenetics isn't evolution and doesn't change DNA. It represents a biological response to an environmental stressor that can be inherited via epigenetic marks.

Which of the following can change your epigenome? (Circle all that apply)

- |              |          |                    |         |                    |
|--------------|----------|--------------------|---------|--------------------|
| broccoli     | smoking  | sleep              | obesity | malnutrition       |
| strawberries | spinach  | pollution          | viruses | prenatal nutrition |
| anxiety      | exercise | social interaction | stress  | Parents            |

