

## JUSTIFIED TRUE OR FALSE - SCIENCE

Decide if each statement below is true or false and provide your reasoning.

Statement	T	F	Explain Your Reasoning
All DNA codes for protein.			
All cells in an organism contain the same genetic content.			
Each chromosome is a single, very long DNA molecule.			
Chromosomes swap sections during mitosis to create genetic variation.			

### Student Responses

Statement	T	F	Explain Your Reasoning
All DNA codes for protein.		✓	Some DNA is used for structure or to regulate processes
All cells in an organism contain the same genetic content.	✓		Every cell in an organism is a copy of the original zygote cell because cell division creates identical copies
Each chromosome is a single, very long DNA molecule.	✓		Under a strong enough microscope you can see that the DNA molecule is continuous and folded up on itself
Chromosomes swap sections during mitosis to create genetic variation.		✓	Chromosomes swap sections during <i>meiosis</i> when sex cells are replicating

### Reflection

What does this information tell you?

What could you do with this information?