QIS Key Concept							
A **quantum state** is a mathematical representation of a physical system, such as an atom, and provides the basis for processing quantum information	Quantum applications are designed to carefully manipulate fragile quantum systems without observation to increase the probability that the final **measurement** will provide the intended result.	The **quantum bit,** or qubit, is the fundamental unit of quantum information, and is encoded in a physical system, such as polarization states of light, energy states of an atom, or spin states of an electron	**Entanglement,** an inseparable relationship between multiple qubits, is a key property of quantum systems necessary for obtaining a quantum advantage in most QIS applications.	For quantum information applications to be successfully completed, fragile quantum states must be preserved, or kept **coherent**.	**Quantum computers,** which use qubits and quantum operations, will solve certain complex computational problems more efficiently than classical computers.	**Quantum communication** uses entanglement or a transmission channel, such as optical fiber, to transfer quantum information between different locations.	**Quantum sensing** uses quantum states to detect and measure physical properties with the highest precision allowed by quantum mechanics.
CakeByte	Cupcake box designs represent quantum state	Opening the cupcake box to show the cupcake flavor represents measurment	Cupcake boxes represent qubits			Cooking tools represent quantum gates and operations		
Qonnect4	Color of token represents quantum state	How and when token color is decided represents measurement	Tokens represent qubits in superposition		Measured tokens remaining the same represents coherence			
Tangeled Circuits						Gate patterns represent operations		
Twin Mazes			Each twin represents one qubit in a pair of entangled qubits	Twins' connected movement represents entanglement			Twins' positions are communicated through entanglement	
Buried Treasure		Bat making sounds provides information through measurement						Bat makes multiple measurements to ensure precision