SHA-256 Hash Space: Incomprehensibly Large

2^{256}

= 115,792,089,237,316,195,423,570,985,008,687,907,853,269,984,665,640,564,039,457,584,007,913,129,639,936

Atoms in Universe	Grains of Sand on Earth	Seconds Since Big Bang
~10^80	**~10^23**	**~10^17**
Hash space is 10^77 times larger!	Hash space is 10^54 times larger!	Hash space is 10^60 times larger!

Probability of collision: Winning the lottery every day for a billion years

This massive space makes brute-force attacks computationally infeasible