

**CHAPTER**

**2**

**Project Recording Sheet**

***Integers and Exponents***

Complete the table to show the life spans of the subatomic particles listed without using exponents.

**Life Spans of Some Subatomic Particles**

<b>Subatomic Particle</b>	<b>Independent Life Span (s)</b>	<b>Life Span in Standard Notation (s)</b>
Electron	Stable	Stable
Proton	Stable	Stable
Neutron	920	920
Mu meson	$2.2 \times 10^{-6}$	
Pi meson	$2.6 \times 10^{-3}$	
Sigma baryon	$1.5 \times 10^{-10}$	
Tau lepton	$3.4 \times 10^{-13}$	
Upsilon meson	$1 \times 10^{-20}$	
Quark	Unknown	Unknown

1. List the atomic particles from the table in order from shortest life span to longest.

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2. Which atomic particles have independent life spans longer than a finger snap?

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3. About how many life spans of a pi meson would be as long as one finger snap? of a mu meson?

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4. Extension: Make a drawing of an atom including protons, neutrons, and electrons.