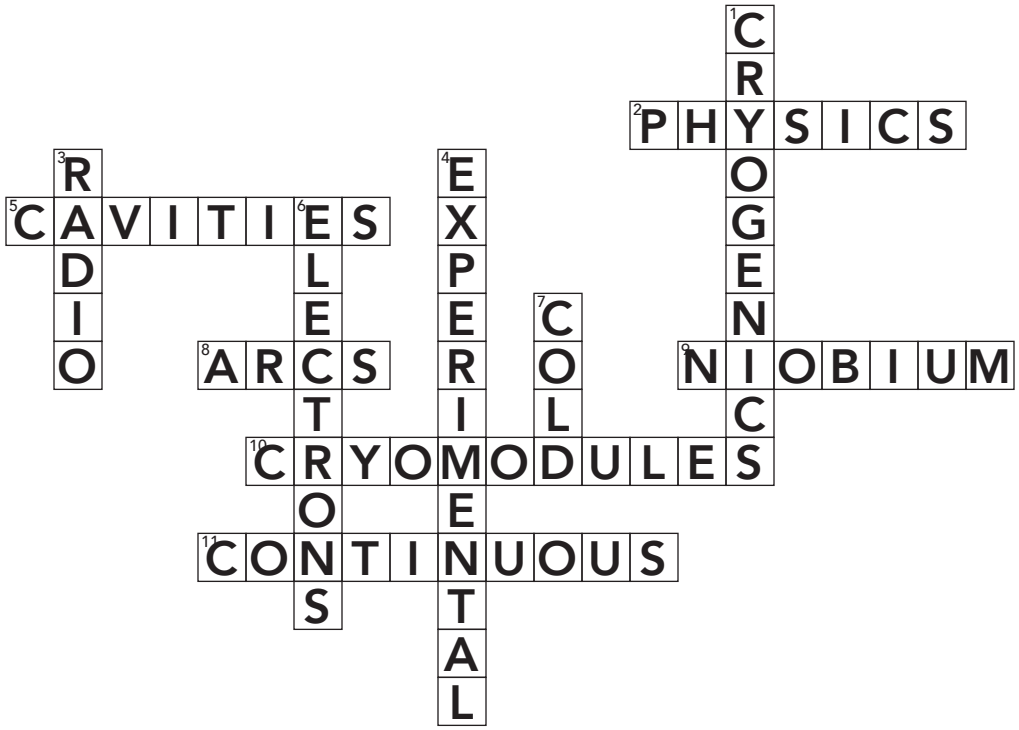
Jefferson Lab

FALL for Science

Name:_____

Jefferson Lab Crossword Puzzle



Across

2 The study of matter and energy and how they interact.

5 Made from niobium, these devices are used to accelerate electrons.

8 CEBAF's LINACs are connected by ____.

9 Element number 41.

10 Large tanks found in CEBAF's LINACs.

11 The 'C' in CEBAF.

Down

1 The science of very low temperatures.

3 The 'R' in SRF.

4 Halls A, B, C and D are _____ halls.

6 The type of particles accelerated in Jefferson Lab's accelerator.

7 Liquid helium is very ____.

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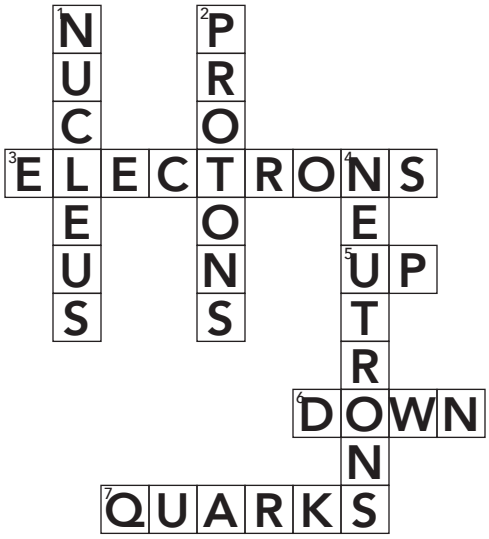
Atoms and Matter



Across

3 Negatively charged particles that orbit the nucleus of an atom.

5 The name of one of the types of quarks found in protons and neutrons.

6 The name of one of the types of quarks found in protons and neutrons.

7 Protons and neutrons are made up of these particles.

Down

1 The central part of an atom.

2 Positively charged particles found in the nucleus of an atom.

4 Neutral particles found in the nuclei of most atoms.

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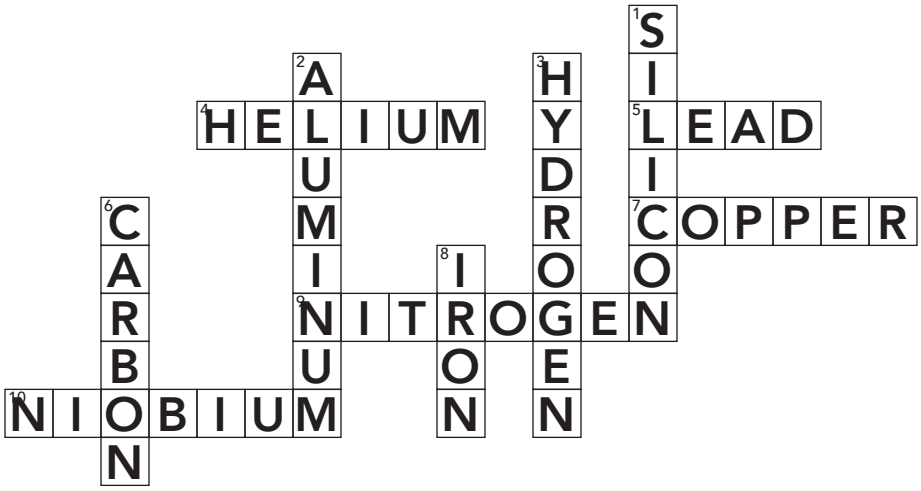
Elements at Jefferson Lab



Across

4 In its liquid form, this element is used to cool Jefferson Lab's acceleration cavities.

5 Sheets of this dense material are used in some of our detectors to help measure how much energy particles have.

7 Drawn into wire, this element is wrapped around the cores of our electromagnets.

9 With a boiling point of 77 K, this element is often used to freeze flowers and shatter racquetballs when students come to visit.

10 Becoming superconductive near absolute zero, we make our acceleration cavities from this element.

Down

1 This element forms the chips inside our computers - and yours!

2 A surprising amount of this element, in the form of foil, is wrapped around unassembled accelerator components in order to keep them free from dust.

3 The simplest element, it is cooled to its liquid state and used as a target for experiments in Experimental Hall D.

6 This element, in the form of a diamond, produces high energy photons from CEBAF's electron beam for experiments conducted in Experimental Hall D.

8 This common element forms the cores of our electromagnets.

Hint: Visit education.jlab.org/itselemental/ if you need to do additional research.

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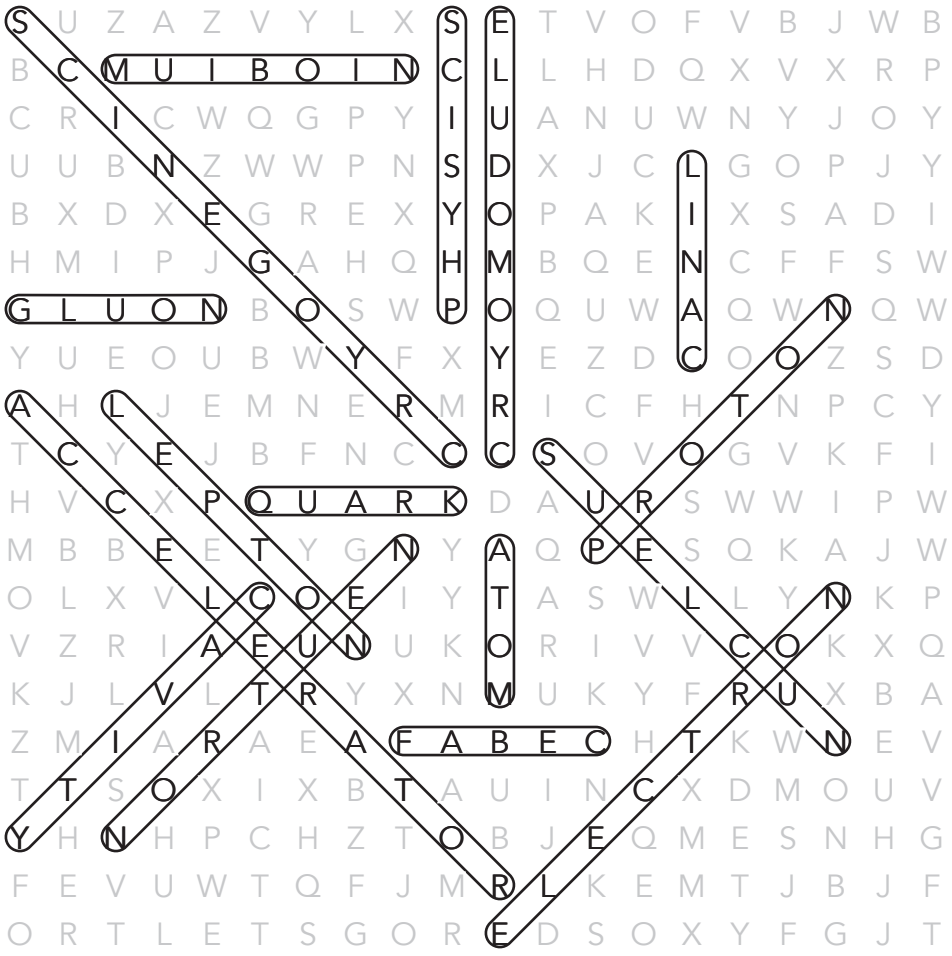
Jefferson Lab Word Search



Can you find these words hidden in the puzzle above? The words can go in any direction.

accelerator	cryogenics	lepton	nucleus
atom	cryomodule	LINAC	physics
cavity	electron	neutron	proton
CEBAF	gluon	niobium	quark

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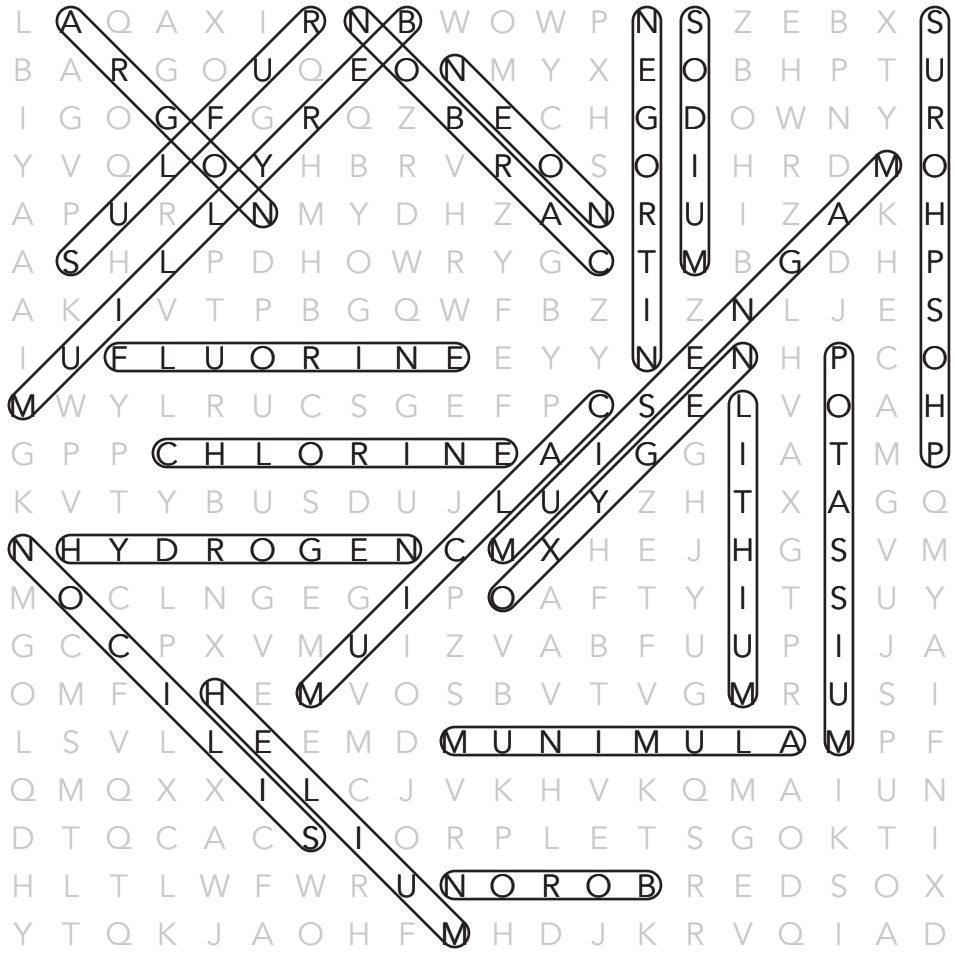
Element Word Search



The names of the first 20 elements are hidden in the puzzle above. Can you find them? The names can go in any direction.

Hydrogen	Boron	Fluorine	Aluminum	Chlorine
Helium	Carbon	Neon	Silicon	Argon
Lithium	Nitrogen	Sodium	Phosphorus	Potassium
Beryllium	Oxygen	Magnesium	Sulfur	Calcium

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