

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

Particle Fever (2014) Vocabulary

Beam

Big Bang

black hole

cosmological constant data

European Organization for Nuclear Research (CERN)

experimental physics

François Englert

Higgs boson

high-energy collision

Large Hadron Collider (LHC)

laws of nature

magnets

mathematics

matter

Meyrin (Switzerland)

multiverse (meta-universe)

parameter

particle

Peter W. Higgs

Physics

Proton

Quark

scientific breakthrough

Standard Model of particle physics

Structure

supersymmetry (SUSY)

symmetries

theoretical physics

universe

Questions:

(1) Where is the LHC located?

(2) When was construction of the LHC first planned?

(3) What type of conditions are recreated in the LHC?

(4) What are scientists working at the LHC trying to understand?

(5) What role do quarks play in particle formation? (6) Describe the research being done on each LHC project: Alice, Atlas, CMS, and LHCb.

(7) Compare and contrast the supersymmetry and multiverse theories.

(8) What is predicted to happen, if new particles are not discovered following the discovery of the Higgs boson?

(9) Who was awarded the Nobel Prize in Physics 2013?

(10) When was it announced that the Higgs boson was found?

(11) Do you believe that governments should invest in projects such as the LHC? Why or why not?