

Online resources S8P5 Force Fields (Elec, Mag, Gravity)

S8P5. Obtain, evaluate, and communicate information about gravity, electricity, and magnetism as major forces acting in nature.

a. Construct an argument using evidence to support the claim that fields (i.e., magnetic fields, gravitational fields, and electric fields) exist between objects exerting forces on each other even when the objects are not in contact.

FIELDS:

· Gravitational Field <https://share.nearpod.com/QVsOIXW6FV>

○ Interactive

<https://www.physicsclassroom.com/Physics-Interactives/Circular-and-Satellite-Motion/Gravitational-Fields/Gravitational-Fields-Interactive>

· Magnetic Field <https://share.nearpod.com/p5AMTipyEV>

○ Interactive

<https://www.physicsclassroom.com/Physics-Interactives/Magnetism/Magnetic-Field/Magnetic-Field-Interactive>

· Electric Field <https://share.nearpod.com/8nGmLRO7FV>

○ Interactive

<https://www.physicsclassroom.com/Physics-Interactives/Static-Electricity/Electric-Field-Lines/Electric-Field-Lines-Interactive>

Gravitational Field

<https://www.physicsclassroom.com/Physics-Interactives/Circular-and-Satellite-Motion/Gravitational-Fields/Gravitational-Fields-Interactive>

Magnetic Field

<http://sciencenetlinks.com/lessons/exploring-magnetic-fields/>

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Standard:

S8P5. Obtain, evaluate, and communicate information about gravity, electricity, and magnetism as major forces acting in nature.

b. Plan and carry out investigations to demonstrate the distribution of charge in conductors and insulators. (Clarification statement: Include conduction, induction, and friction.)

CHARGES:

Static Electricity

<https://www.physicsclassroom.com/class/estatics/Lesson-1/Conductors-and-Insulators>

○ Interactive

<https://www.physicsclassroom.com/Physics-Interactives/Static-Electricity/Charging/Charging-Interactive>

○ Interactive <https://phet.colorado.edu/en/simulation/john-travoltage>

ELECTROMAGNETS:

Introduction to Electromagnets <https://youtu.be/TTFIXmubvkQ>

○ Interactive to show # of dry cells (batteries) to lift weights

https://www.classzone.com/books/ml_science_share/vis_sim/emm05_pg77_electromag/emm05_pg77_electromag.html

Online resources S8P5 Force Fields (Elec, Mag, Gravity)

Standard:

S8P5. Obtain, evaluate, and communicate information about gravity, electricity, and magnetism as major forces acting in nature.

c. Plan and carry out investigations to identify the factors (e.g., distance between objects, magnetic force produced by an electromagnet with varying number of wire turns, varying number or size of dry cells, and varying size of iron core) that affect the strength of electric and magnetic forces. (Clarification statement: Including, but not limited to, generators or motors.)

ELECTROMAGNETS:

Introduction to Electromagnets <https://youtu.be/TTFIXmubvkQ>

o Interactive to show # of dry cells (batteries) to lift weights

https://www.classzone.com/books/ml_science_share/vis_sim/emm05_pg77_electromag/emm05_pg77_electromag.html

ARGUMENT-DRIVEN INQUIRY (ADI)

Lab 6. Strength of Gravitational Force: How is distance and mass related to the strength of gravitational forces?

ADI:

Lab 6 , Lab 10 , and Lab 11

<https://drive.google.com/open?id=1dUqDOhHSAv24lpbNPajBuPWW85w0tQqt>

GADOE: “Seeing is Believing”

The following link is provided by the GADOE. It has resource links embedded in the document for example ck-12 resources.

[Eighth Grade Instructional Segment: Force Fields](#)

[Pacing Guide for “Seeing is Believing”](#)

GADOE: [Interactions with Energy and Matter](#)

[Pacing Guide for “Interactions with Energy and Matter](#)