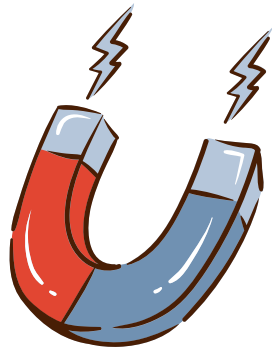
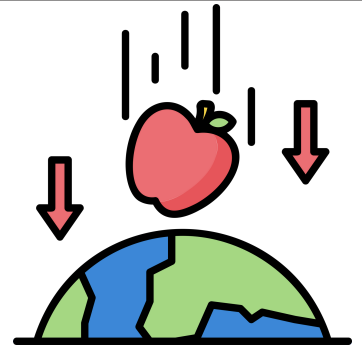
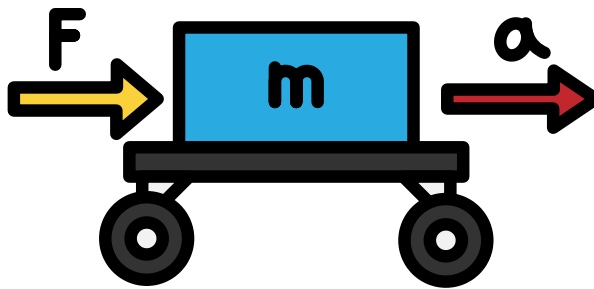


NGSS MS-PS2

Matter and its Interactions

Full Standard BUNDLE

- ✓ Everything You Need to Teach NGSS MS-PS2
- ✓ Lessons, Activities, Labs, and more
- ✓ MS-PS2-1, PS2-2, PS2-3, PS2-4, PS2-5



Bundles Included

NGSS MS-PS2-1 Curriculum Bundle

Newton's Third Law & Collisions

- ✓ 1 Lesson and 4 Activities
- ✓ Everything You Need to Teach NGSS MS-PS2-1



NGSS MS-PS2-4 Curriculum Bundle

Gravitational Attraction Explained Mass and Distance

- ✓ 1 Lesson, 3 Activities
- ✓ Everything You Need to Teach NGSS MS-PS2-4



NGSS MS-PS2-3 Curriculum Bundle

Electric and Magnetic Forces

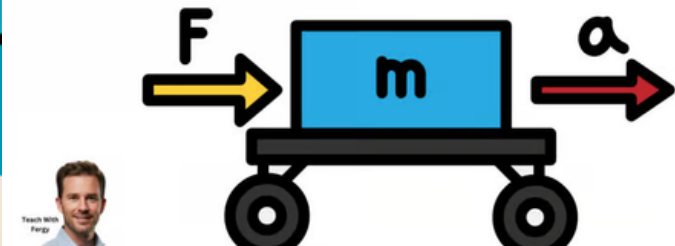
- ✓ 2 Lessons, 2 Activities
- ✓ Everything You Need to Teach NGSS MS-PS2-3



NGSS MS-PS2-2 Curriculum Bundle

Forces and Motion: Newton's First and Second Laws

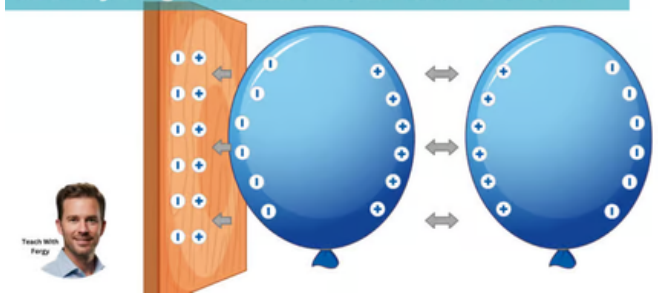
- ✓ 1 Lesson and 4 Activities
- ✓ Everything You Need to Teach NGSS MS-PS2-2



NGSS MS-PS2-5 Curriculum Bundle

Force at a Distance: Magnetic & Electric Fields

- ✓ 2 Lessons, 7 Activities
- ✓ Everything You Need to Teach NGSS MS-PS2-5

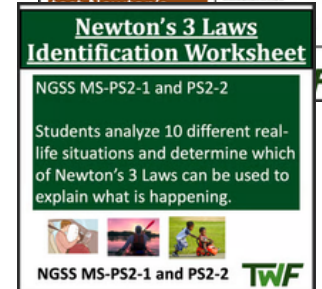
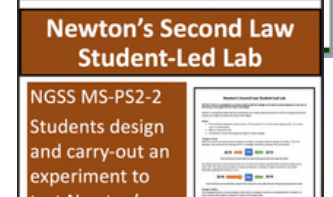
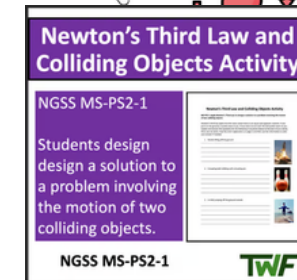
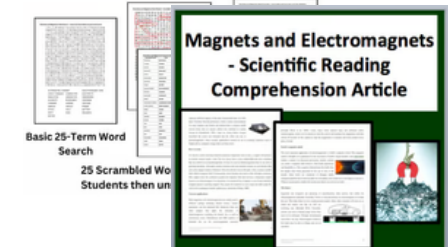
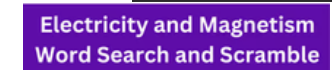
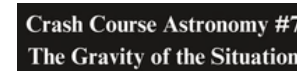
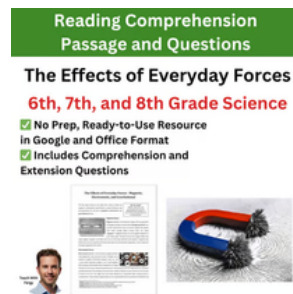
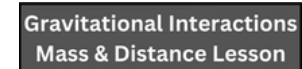
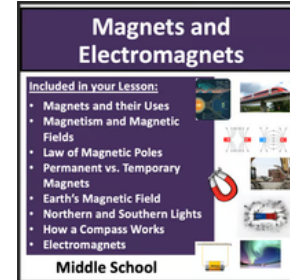
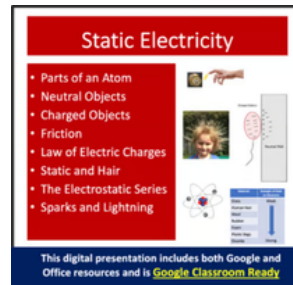


Everything You Need to Completely Cover NGSS MS-PS2

Complete Lessons

Activities

Labs



The Standard is Explained and the Resources it Incorporates are Outlined

MS PS2 Motion and Stability: Forces and Interactions

Note: There are resources that overlap between the standards. Simply choose the order that best fits your classroom. Also, there are more resources here than you will most likely decide to use. I have provided extra so you can make the best decision for your students on what is best to include.

MS PS2-1: Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.

Examples of practical problems could include the impact of collisions between two cars, between a car and stationary objects, and between a meteor and a space vehicle. *Assessment Boundary:* Assessment is limited to vertical or horizontal interactions in one dimension.

Resources:

- Newton's Laws of Motion – Lesson
- Newton's Laws Identification Worksheet
- Newton's Third Law and Colliding Objects - Activity
- Crash Course Video Worksheet Newton's Laws
- Isaac Newton - Reading

MS PS2-2: Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

Emphasis is on balanced (Newton's First Law) and unbalanced forces in a system, qualitative comparisons of forces, mass and changes in motion (Newton's Second Law), frame of reference, and specification of units. *Assessment Boundary:* Assessment is limited to forces and changes in motion in one-dimension in an inertial reference frame and to change in one variable at a time. Assessment does not include the use of trigonometry.

Resources:

- Newton's Laws of Motion – Lesson
- Newton's Second Law Student-Led Lab
- Newton's Laws Identification Worksheet
- Newton's Laws of Motion Word Search and Scramble Activity
- The Newtonian Adventures - Story Prompt

MS PS2-3: Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.

Examples of devices that use electric and magnetic forces could include electromagnets, electric motors, or generators. Examples of data could include the effect of the number of turns of wire on the strength of an electromagnet, or the effect of increasing the number or strength of magnets on the speed of an electric motor. *Assessment Boundary:* Assessment about questions that require quantitative answers is limited to proportional reasoning and algebraic thinking.

Resources:

- Magnets and Electromagnets – Lesson
- Motors and Generators – Lesson
- Magnets and Electromagnets - Reading
- Electricity and Magnetism Word Search and Scramble Activity

MS PS2-4: Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.

Examples of evidence for arguments could include data generated from simulations or digital tools; and charts displaying mass, strength of interaction, distance from the Sun, and orbital periods of objects within the solar system. *Assessment Boundary:* Assessment does not include Newton's Law of Gravitation or Kepler's Laws.

Resources:

- Gravitational Interactions - Mass and Distance – Lesson
- Orbit Rope Model Activity
- Crash Course Video Worksheet Compilation - GRAVITY
- Crash Course Video Worksheet - The Gravity of the Situation

MS PS2-5: Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.

Examples of this phenomenon could include the interactions of magnets, electrically-charged strips of tape, and electrically-charged pith balls. Examples of investigations could include first-hand experiences or simulations. *Assessment Boundary:* Assessment is limited to electric and magnetic fields and limited to qualitative evidence for the existence of fields.

Resources:

- Magnets and Electromagnets – Lesson
- Static Electricity - Lesson
- Magnets and Electromagnets - Reading
- Effects of Everyday Forces - Reading
- Forces at a Distance – 4 Student-Led Activities
- ElectroQuest- The Spark of Discovery - Story Prompt
- Bill Nye – Static Electricity Video Worksheet
- Static Electricity Word Search and Scramble – Activity
- Static Electricity - Lab Station Activity

Who is this Bundle for?

- **Teachers who teach Middle School Science and use the NGSS**
- **Teachers who want multiple resources at their fingertips including lessons and a variety of activities, in order to meet the standard**
- **Teachers who don't have time to develop their own resources or organize what to teach and when**