

Newton's 3 Laws of Motion Lesson

Grade 10-12

No-Prep & Fully Editable

“★★★★★ Extremely satisfied - A great resource! Engaging and informative.”



- ✓ Interactive & Video-Enhanced
- ✓ Google & Office Compatible
- ✓ Assessment Included

SCROLL
to take a look inside!

Over 120 Units Sold!



HOW THIS LESSON HELPS YOU

- **Saves Prep Time** - Everything is pre-made, ready to go, and fully editable.
- **Provides Built-In Assessments** - The auto-graded exit ticket lets you quickly check for understanding.
- **Provides Applicability** - the lesson includes multiple examples of real-life applications.

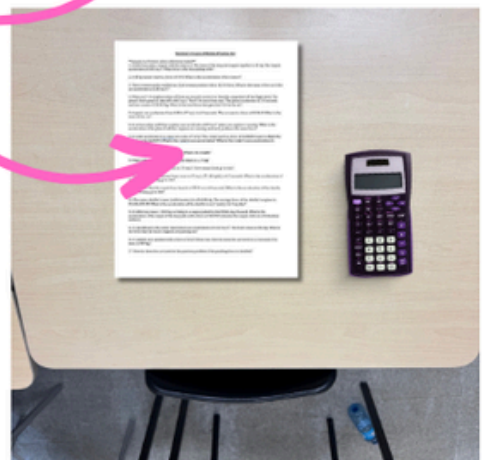
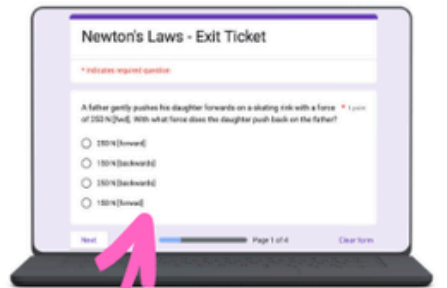
NO PREP

✓ **Simply Download and Project/Upload** to your class site.

✓ **Assessment Included**
4-question Exit Ticket and worksheet

✓ **Interactive & Video-Enhanced**

✓ **Google, Office, & PDF**



★★★★★ Extremely satisfied - Fun engaging activities. I can't wait to include more of your products into next year's plans.

- ★ A Complete, Fully-Editable Lesson & Student Notes
- ★ Teacher and Student Versions of your Lesson with Embedded Videos
- ★ Auto-Graded Exit Ticket and Worksheet

What You Get

NEWTON'S 3 LAWS OF MOTION LESSON TEACHER & STUDENT VERSION



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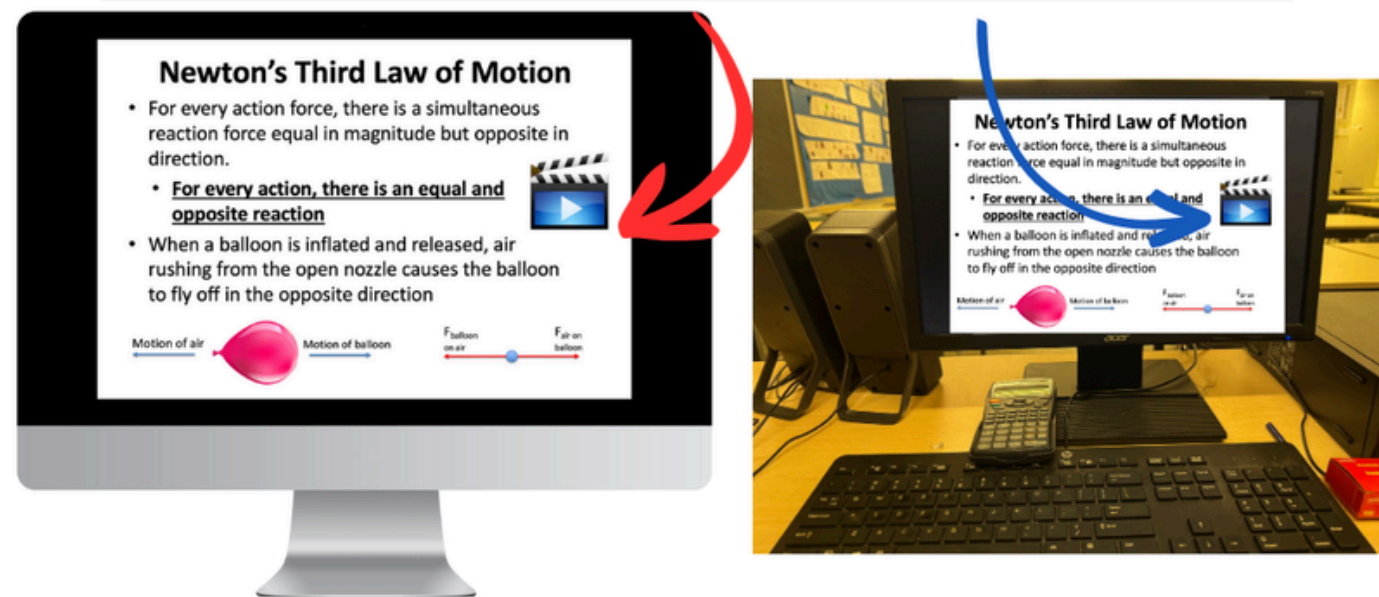
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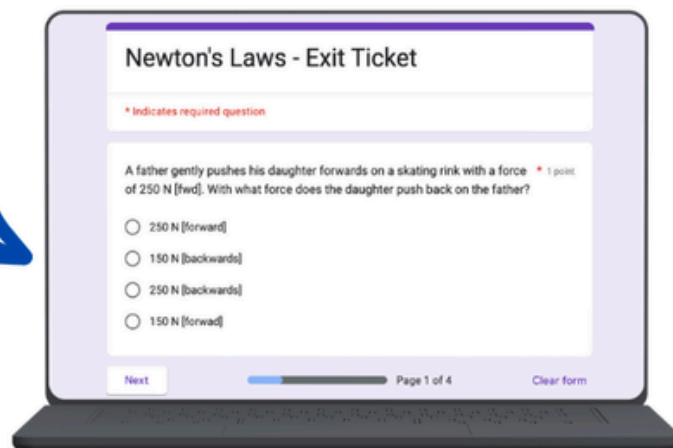
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What Will Your Students Learn?

Videos Embedded



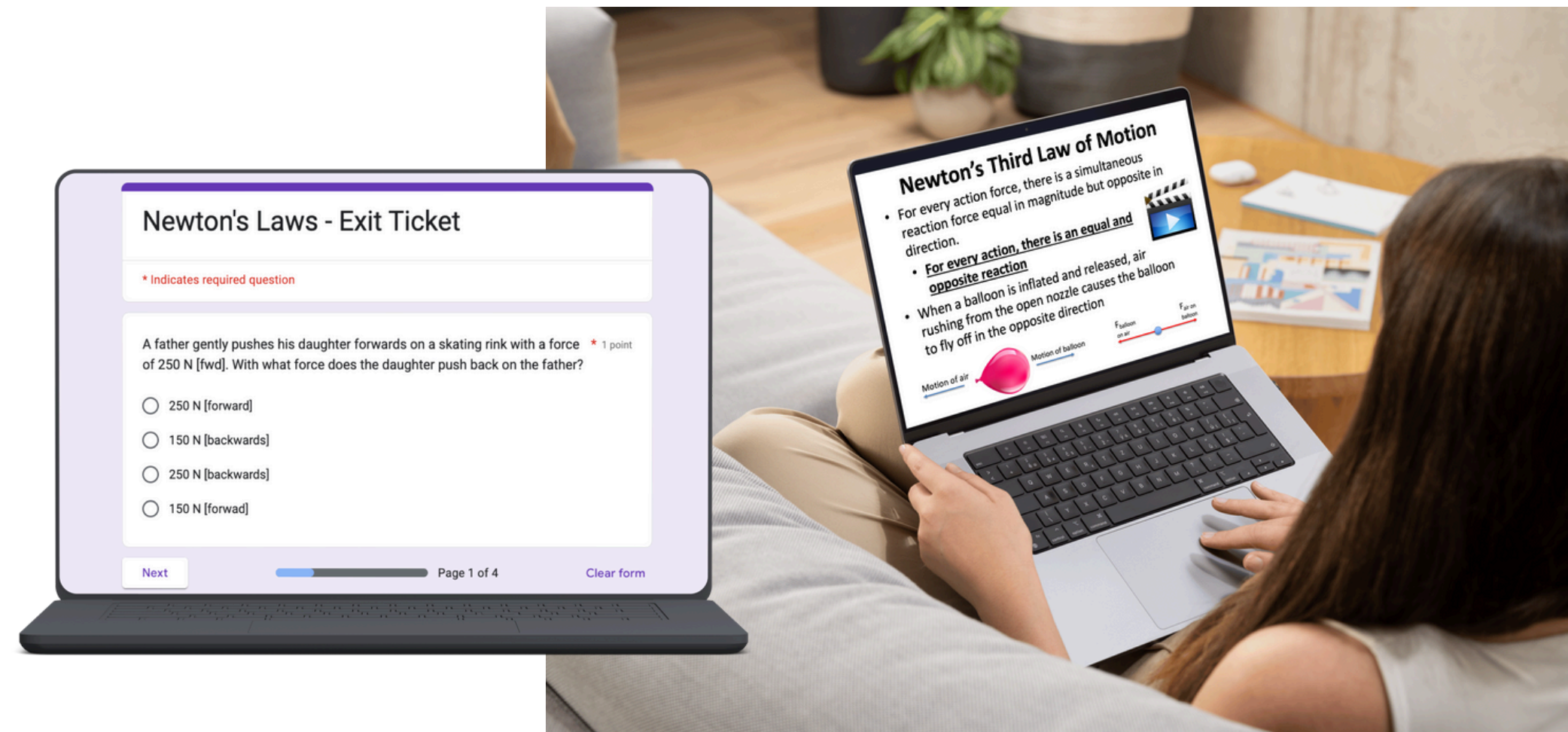
4-Question Auto-Graded Exit Ticket



Office, Google, and PDF Versions



- ✓ Newton's First Law
- ✓ Newton's Second Law
- ✓ Newton's Third Law
- ✓ Newton's Laws Applications
- ✓ Many opportunities for students to check their understanding





Your Lesson

Newton's Laws of Motion – Student Lesson Outline

Newton's Laws of Motion

1. The Law of Inertia: If the net force acting on an object is zero, that object maintains its state of rest or constant velocity.
2. An object accelerates in the direction of the net force. The acceleration is directly proportional to the net force and inversely proportional to the object's mass.
3. _____

Newton's First Law of Motion

- a.k.a. The Law of Inertia: Things want to keep doing what they are doing
 - Stationary objects don't want to move
 - Moving objects don't want to stop moving
- _____

Newton's First Law of Motion

This law has several important implications.

- _____
- For an object to change velocity (including changing from $v = 0$), the F_{net} must be greater than zero
- Objects at rest remain at rest unless acted upon by an external F_{net} greater zero
- _____

Application

- An example occurs when a car slows down quickly; the people in the car tend to continue moving forward, possibly crashing their heads into the windshield if they are not wearing a seatbelt
- The seatbelt prevents them from shooting forward through the windshield
- An airbag acts in a similar fashion to stop the person from hitting their head on the dashboard or steering wheel during a front-end collision
- _____

Check Your Understanding

You exert a force of 45 N [up] on your backpack, causing it to move up. Determine the force of gravity on the pack.

Explanation

The FBD of the pack (right) shows that two forces act on the pack: the force of gravity (F_g) that Earth exerts. Since the pack is moving at a constant velocity, by the law of inertia, be zero. So the upward and downward forces have equal magnitudes. [down].

Check Your Understanding

The traction system below stabilizes a broken tibia (bottom leg bone). Neglect friction. Hint: A traction system is meant to create a force that is equal in magnitude and opposite in direction to the force of gravity.



Student Notes in Word



1-Click Google Access

Teacher and Student Versions of the Lesson

Videos embedded in your slides

NEWTON'S 3 LAWS OF MOTION LESSON TEACHER & STUDENT VERSION



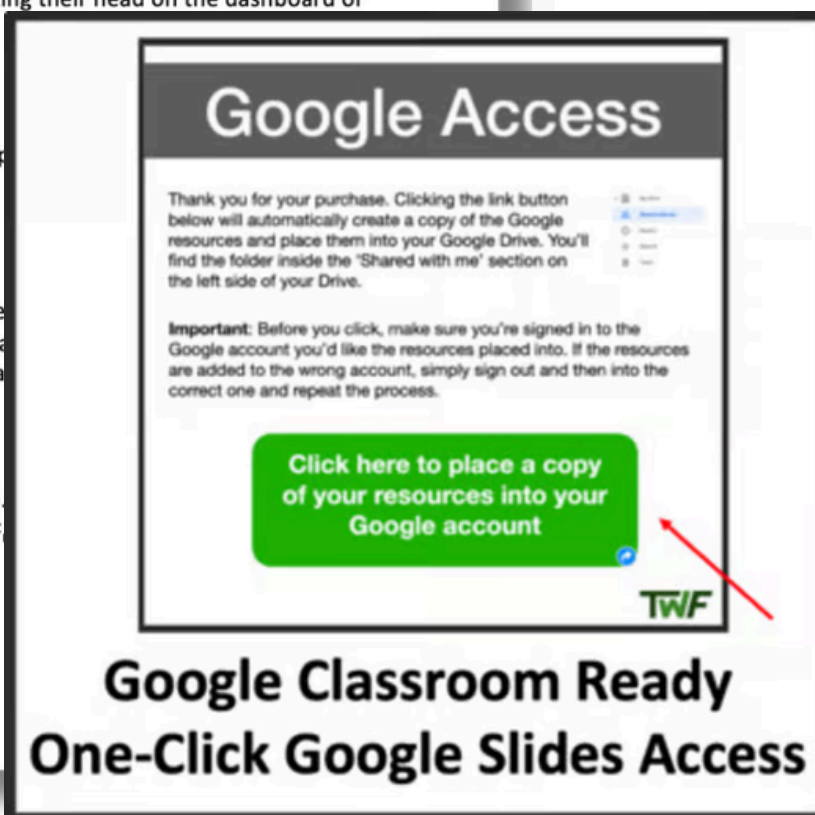
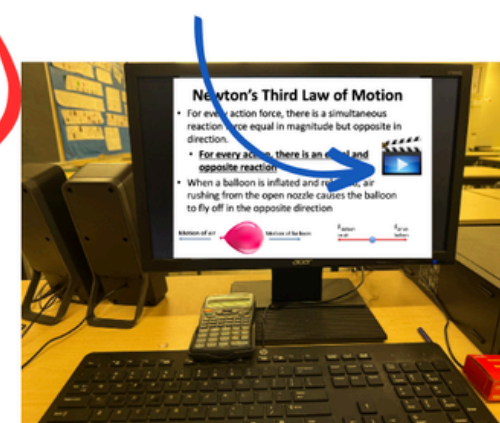
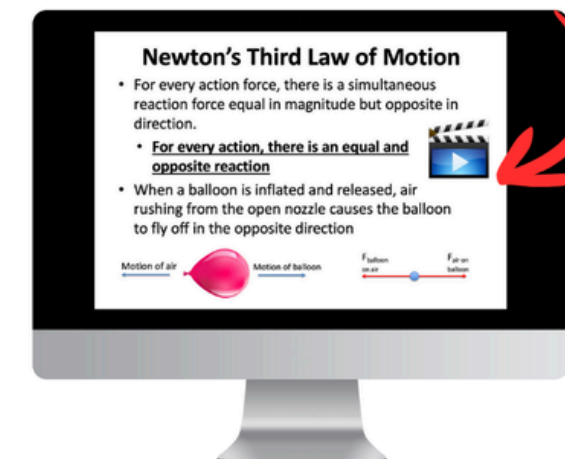
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”

Videos Embedded



Google Classroom Ready
One-Click Google Slides Access

WHAT TEACHERS SAY

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Upgrade to the Physics Mega Bundle

Get the lesson, teaching timeline, plus additional activities, and assessments inside the Physics Mega Bundle.

PHYSICS COMPLETE CURRICULUM

Newton's Third Law of Motion

- For every action force, there is a simultaneous reaction force equal in magnitude but opposite in direction.
- For every action, there is an equal and opposite reaction**
- When a balloon is inflated and released, air rushing from the balloon causes it to fly off in the opposite direction.

Daily Teaching Schedule

Print & Digital

Save You Hours of Prep and \$\$

DAILY TEACHING SCHEDULE FOR ALL UNITS

Day 1:

- Teach - Lesson 1 - One Dimensional Motion - Part 1
- Complete Student Notes
- One Dimensional Motion HW
- HW
- Any questions you didn't complete

Day 2:

- Teach - Lesson 1 - One Dimensional Motion Part 2
- Speed Challenge
- HW
- Complete Speed Challenge

Day 3:

- Teach - Lesson 2 - Two Dimensional Motion Part 1
- Two Dimensional Motion HW
- HW
- Complete Two Dimensional Motion HW

Day 4:

- Teach - Lesson 2 - Two Dimensional Motion Part 2
- Complete any outstanding HW questions

Day 5:

- Lab Station Activity - 1 and 2 Dimensional Motion

Day 6:

- Teach - Lesson 3 - Relative Motion
- Work Period - Lesson 3 - Relative Motion
- Students are to complete any outstanding HW questions plus any you see fit to assign
- It is also a day to answer any questions
- HW
- Complete any outstanding questions

★★★★★ Extremely satisfied - This is a wonderful resource. I am a first time physics teacher after being in the math classroom for 25 years. This resource gave me a road map for the upcoming year. Instead of being nervous, now I am excited. So far, the 5E lessons are my favorite! Also, I really like the fact that the bundle includes 11th and 12th grade materials. I can use this to differentiate instruction, remediate some and challenge others. Well worth the investment!

EVERYTHING YOU NEED

- ✓ Daily Teaching Timeline
- ✓ Interactive Lessons in Print & Digital
- ✓ 5E Lesson Bundles, Activities, & Assessments
- ✓ Complete 11th and 12th Grade Physics Units
- ✓ Space Unit, Optics Unit, & Electricity Unit

Motion (Kinematics) Unit

Forces Unit

Electricity and Magnetism Unit

Space Unit BUNDLE

Light and Waves Senior Physics Unit

Over 850 Units Sold on TPT!

★★★★★ Extremely satisfied - This bundle is super simple to just pick up and teach. As a first year teacher I was hesitant to spend so much on something, but my Grade 12 Physics class loved the slides and activities in this unit. I also love that it's growing!

★★★★★ Extremely satisfied - There is SO much here. This is a huge resource. Finding quality physics curriculum can be difficult. This is extremely well done. It is well worth the money and I highly recommend this curriculum.

Physics Curriculum BUNDLE

- ✓ Complete Physics Curriculum
- ✓ Day-by-Day Teaching Walkthrough
- ✓ Interactive 5E Lessons & Labs
- ✓ Google & Microsoft Compatible

Teach With Fergy

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Just  **and then choose what you teach!**

thanks
**for your interest
in this resource!**



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