

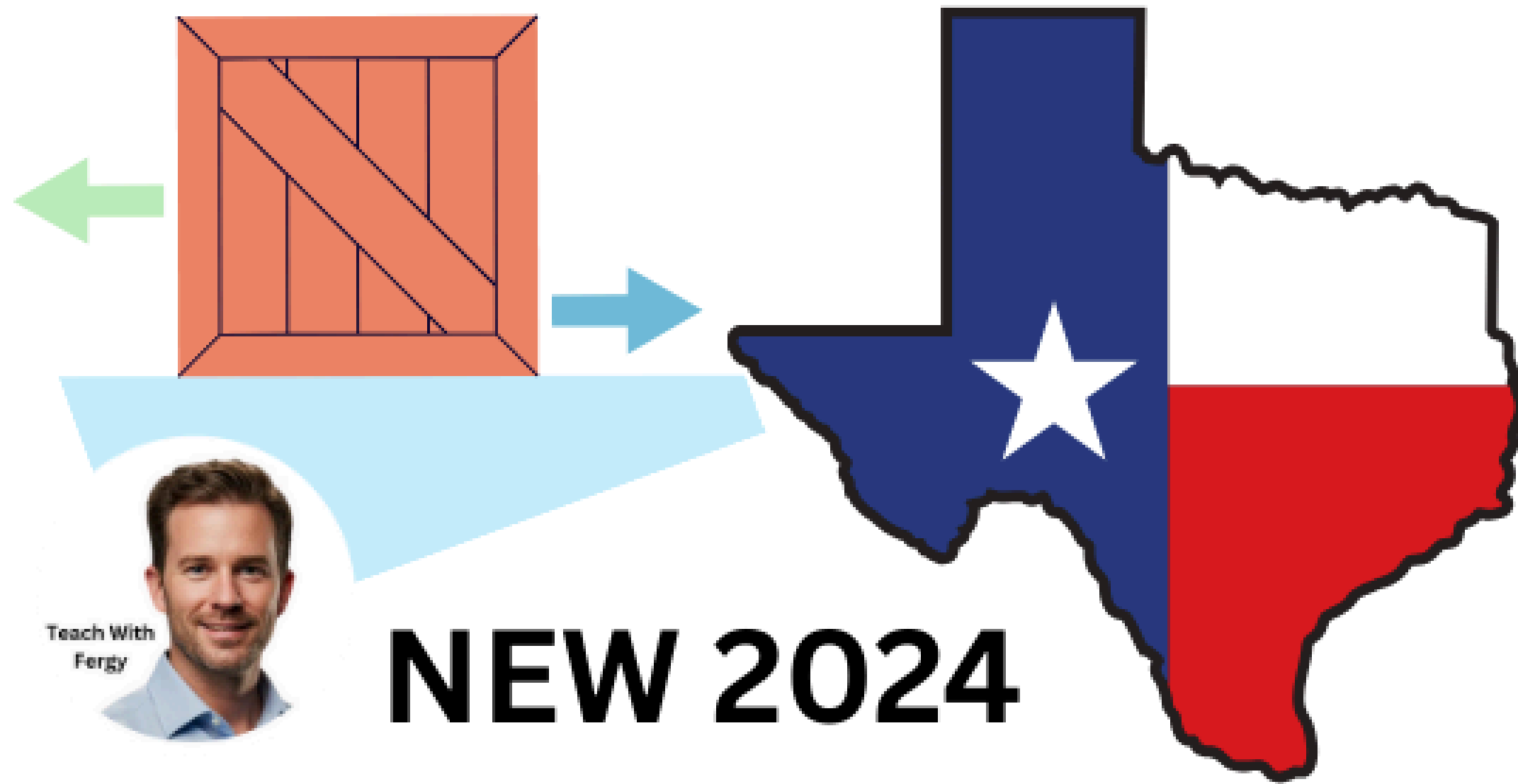
Complete S.6.7.B Bundle

- Lesson
- Activity

TEKS Grade 6 - S.6.7.B Net Force: Balanced & Unbalanced Forces Using Diagrams

- ✓ 6th Grade Science TEKS Curriculum Bundle
- ✓ Variety of Lesson and Activity Types
- ✓ Digital + Printable Formats

SCROLL
to take a look inside!



Daily Teaching Timeline Included

Forces in Everyday Life Lesson

- Lesson
- Word Search and Scramble
- NO PREP - Just download and Go!

6th, 7th, 8th Grade



NET FORCE: BALANCED VS UNBALANCED FORCES STEM INVESTIGATION

Net Force Investigation: Balanced vs Unbalanced Forces — STEM Investigation

Purpose
Use a hands-on force-diagram challenge to teach experimental design, variables and controls, data collection, and evidence-based explanations while exploring how to calculate net force (horizontal direction) using diagrams and determine whether forces are balanced or unbalanced.

Learning Objectives

- Plan and carry out a controlled investigation with repeated trials
- Measure forces and represent them with force arrows / free-body diagrams
- Calculate net force in the horizontal direction
- Determine whether forces are balanced (net force = 0 N) or unbalanced (net force ≠ 0 N)
- Use evidence to predict and explain object motion based on net force

Materials

Option A (recommended hands-on):

- Small cart or toy car (or a smooth box)
- 2 spring scales (or 2 Newton meters)
- String
- Masking tape

Option B (no equipment / paper-based):

- Printed force-diagram task cards (included below)
- Calculator

Background Science for the Teacher

Net force is the overall force acting on an object after all pushes and pulls are combined. Forces have size (magnitude) and direction, so net force must be calculated with direction in mind.

- **Balanced forces:** net force = 0 N → motion does not change (object stays at rest or keeps moving at constant speed)
- **Unbalanced forces:** net force ≠ 0 N → motion changes (speed up, slow down, or change direction)

Horizontal net force:

$$F_{\text{net}} = F_{\text{right}} - F_{\text{left}}$$

Students will use the task cards to show forces, then calculate net force and decide if forces are balanced or unbalanced.



NO PREP

TEKS – Grade 6

S.6.7 Force, motion, and energy. The student knows the nature of forces and their role in systems that experience stability or change. The student is expected to:

S.6.7.B - The student is expected to calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

- Forces in Everyday Life - Lesson
- Net Force - Balanced vs Unbalanced Forces STEM Investigation

TEKS Science Daily Teaching Plan

Lesson Length: 55 minutes

Timeframe: 3-4 Days

Day	Lesson / Activity
1	Forces in Everyday Life - Lesson
2	Forces in Everyday Life - Lesson
3	Net Force - Balanced vs Unbalanced Forces STEM Investigation

NO PREP

Just Download and Teach

- ✓ **Complete S.6.7.B - 6th Grade Science TEKS Curriculum.**
- ✓ **Variety of Lesson Types** - Includes a lesson and activity.
- ✓ **Daily Teaching Timeline Included** - Includes a ready-to-go, daily teaching timeline.
- ✓ **Digital + Printable Formats** - Ideal for classroom, hybrid, or remote learning environments with flexible access options.

Who is it for?

- **Teachers who teach 6th grade science in Texas**
- **Teachers who want multiple resources at their fingertips including lessons and a variety of activities, in order to prepare their students for the STAAR Science Exam**
- **Teachers who don't have time to develop their own resources or organize what to teach and when**

Fully Editable and Interactive