

Chuck It!

Elementary Science, Grade 1

TEKS: Recurring Theme Concepts (RTCs) 1.5ABCDG (patterns, cause & effect, scale & size, parts/whole, structure/function, stability & change) [1.CDE.1.5AB Math](#); ; [1.7AD Science](#)

Phenomena (Big Idea): Forces and energy are what causes all work, movement (motion), and change. Energy exists in many forms and can be changed, but not created or destroyed but it can be measured.

Objectives:

Part I: Students will toss and measure the distance an object will travel after it is thrown. The distance traveled will be recorded onto their observation sheet..

Part II: Students will use manipulatives to toss the rounded object and measure the distance traveled. They will compare the distance traveled from the first set of trials to this set of trials using a manipulative.

Duration

Part I: 20-30 minutes

Part II: 25 minutes

Vocabulary [Quizlet- Chuck It!](#)

Force, distance, units of measure, table, pushes and pulls, target, manipulative, whole number,

Materials

Ping pong ball (if indoors), tennis ball (if outdoors), Chuck it dog toy, measuring tape, target poster

Teacher Background: [PPPst on Atatl Construction and use](#)

Concept 1: Force, Motion, and Energy are related and are part of everyday life. Forces and energy follow predictable patterns and so can be used to make our lives better. Motion is movement; we can predict and describe how moving objects will behave.

Concept 2: Forces cause movement and a change in direction of an object in motion. The push and pull of an object cause the object to change its position from staying in place to being in motion. Friction causes an object to stop moving.

Chuck It!

Lesson Activity I [Observation Sheet](#)

1. Students will go outside on open land.
2. Students will place the measuring tape on the ground from the starting position.
3. Students will toss a ball using their arm. (Pulling back as if to toss a baseball.)
4. Each time the ball is tossed, they will measure the distance traveled.
5. As they measure, have students count by 2's
6. The distance traveled will be added onto their observation recording sheet.
7. They will repeat steps 2-5 three times.

Lesson Activity II [Observation Sheet](#)

Design challenge:

1. Students will view a video on how to throw a ball using the Chuck it tool! [How to throw a Chuck It!](#)
2. Students and teachers will go outside and stand opposite of the target.
3. Students will place the measuring tape on the ground from the starting position reaching the target.
4. Students will test out the "Toy Atlatl" using their arm. Students will use their arm to "push" the atlatl towards the target in mid-air similar to how the Native Americans threw the atlatl.
5. Students will measure the distance traveled by using a measuring tape and count by 2's.
6. Students will record their findings on their observation sheet.
7. Finally, students will compare the distance traveled from activity I with the distance traveled on Activity II.
8. Students will discuss and sketch the type of force applied when tossing the ball.

Closing: [Exit Ticket-Chuck it! Google Form](#) After throwing the toy atlatl, as you moved your arm back, you used a **pulling** force. Then, as your arm was aiming forward and the ball was tossed, it was a **pushing** force.

Further understanding:

Additional videos on the Atlatl

[Video on Historical use of the Atlatl](#), [Atlatl Demonstration Throw](#).