

Ruler Reaction Time Activity

Name: _____

Date: _____

Task Overview

Goal: Measure how fast the nervous system sends signals from eyes to brain to hand.

Materials (per pair)

- Ruler
- Paper/pencil to record results
- Optional: class chart paper

What Students Learn

- **Sensory input** (eyes see ruler drop) → **brain processes** → **motor output** (hand grabs).
- Faster reaction = faster nervous system communication.
- Practice, focus, and anticipation affect brain processing time.

Teacher Instructions

Step 1: Quick Demo (2 minutes)

1. Hold ruler vertically between partner's thumb and index finger (0 cm mark at bottom).
2. Say "READY?" → drop ruler unexpectedly.
3. Partner catches → record cm where caught (lower = faster).

Step 2: Pairs Test (5–7 minutes)

1. Pair students (switch roles 3x each).
2. **Rules:**
 - Fingers 2 cm apart, not touching ruler.
 - Dropper says "READY?" but drops **anytime** after.
 - No cheating (don't move early!).
3. Record **3 trials** per person → average cm.

Sample Data Table (on board or handout):

Name	Trial 1	Trial 2	Trial 3	Average (Total/3)
Student 1	15 cm	10 cm	9 cm	11.33 cm

Step 3: Class Discussion (3–5 minutes)

1. **Find fastest/slowest** averages → graph on chart paper.
2. **Key Questions:**
 - "Why different speeds? (sleepy, distracted, practiced)"
 - "What path did the signal take? (eyes → brain → spinal cord → hand muscles)"
 - "How does this connect to neurotech like The Claw?"

Step 4: Your Data Table

Name	Trial 1	Trial 2	Trial 3	Average (Total/3)

Curriculum Connections (Grade 5 Science)

Strand 2.1: Follow established safety procedures for physical activities

Strand 3.3: Identify interrelationships between body systems