

# REACTION TIME

Many athletes spend hours practicing in order to improve their reaction time. For example, in baseball, a catcher practices to reduce the amount of time it takes for his mitt to move into position once his eye first notices the motion of the baseball. In this activity, you will conduct a simple, measurable experiment to study reaction time and determine how it can be improved with practice.

## QUESTION

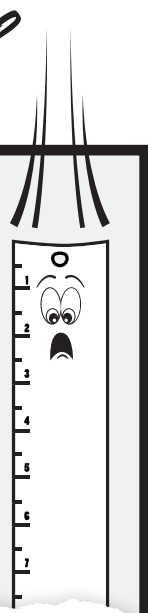
*How can reaction time be measured and improved?*

## ACTIVITY



## METHOD

- 1 One partner (the catcher) kneels with their arm outstretched over the back of a chair
- 2 The other partner (the dropper) holds the ruler at the 12" mark, positioning the 1" mark just above the catcher's hand
- 3 The dropper lets go, without warning, and the catcher grabs it as fast as they can
- 4 Record the inch-mark at the top of the catcher's fist where the ruler is caught. The lower the number, the faster the reaction time
- 5 Conduct and record several trials to try to improve reaction time



*You will need...*

- METRIC RULER
- CHAIR
- PAPER & PENCIL
- PARTNER

## WHY?

When we begin to acquire a new physical skill through repetition, our nervous system creates new neural pathways. This phenomenon is often referred to as muscle memory. However, no matter how good your muscle memory for this task becomes, it will always take some time for the falling ruler to travel as a message from your eyes to your brain and from your brain to your fingers!

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THIS ACTIVITY  
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