

# **SPEED Science of Racing**

## **Human (1) – BATAK Reaction Tester**



You quickly pull back your hand when you accidentally touch a hot kettle in 0.08 seconds. Lewis Hamilton slows down his F1 car instantly when Fernando Alonso cuts in, a tad slower than 0.08 seconds. Are these quick actions due to reflexes or reaction time?

Take the BATAK challenge and see how you fare!  
It's always challenging the first time. So try a few times.

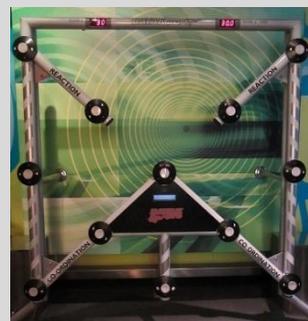
### **Checkout the 60 sec score by F1 drivers**

Fernando Alonso - 138

Heikki Kovalainen - 138

Jenson Button -136

**Can you beat them?**



### **DO YOU KNOW?**

Reflexes and reactions are similar but different.

Reflexes are:

Involuntary - used to protect the body. Faster than a reaction.

Reaction time is a measure of the quickness we react to something. Usually measured in milliseconds (a thousandth [1/1000] of a second).

What affects your reaction speed?

Body temperature, gender, age, level of fitness of one's body, time available, health & the psychological state of a person, personality, state of alertness and experience.

### **Test your reaction time!**

You can do this anywhere with a friend.

1. Hold the ruler vertically at head level with your arm stretched out.
2. Hold the ruler with your thumb & index finger at the end with the highest measurement.
3. Get a friend to place their thumb & index finger at the bottom of the ruler, slightly open & not touching it.
4. Tell your friend to grab it between their fingers when you drop the ruler.
5. Drop the ruler without warning.
6. Write down the measurement on the ruler where your friend's thumb caught it.
7. The table lets you convert distance on the ruler to reaction time.

**E.g.** If you caught the ruler at the 30.5 centimetre mark, your reaction time is 0.25 seconds.



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Distance on the ruler (centimetres)	Reaction time (seconds)
5	0.10
10	0.14
15	0.17
20	0.20
25.5	0.23
30.5	0.25
43	0.30
61	0.35
79	0.40
99	0.45

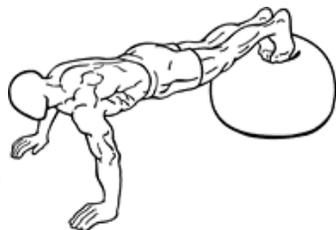
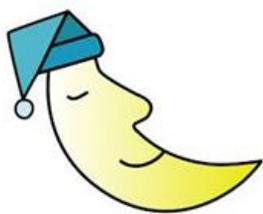
### Questions

Do people's reaction times improve with practice?  
How about when you're tired?

### DO YOU KNOW?

#### Steps to quicker reactions

1. **Stay** mentally & physically fit.
2. **Get** your eyesight checked regularly.
3. **Stop** poisoning your brain. Steer clear of tobacco & non-medicinal drugs. Consume alcohol in moderation or not at all.
4. **Stop** being indecisive. Practise making decisions so that you'll be able to respond with speed & confidence.
5. **Get** more sleep.
6. **Do** speed reading.
7. **Play** games to improve your mental & motor skills.



**Keywords:** reflex, reaction time

