

# Reaction time

*Shannon and Ian Jacobs*

I found a strip of black heavy paper in a drawer. When I asked what it was I was told that it's a stopwatch. It actually is! It's a time clock that measures reaction time from zero to 0.22 s.

You have to hold your hand with your arm resting on something and get someone else to drop it without warning. It helps if they hide their hand from your view. You try to catch it as fast as you can, before it slips through your fingers.



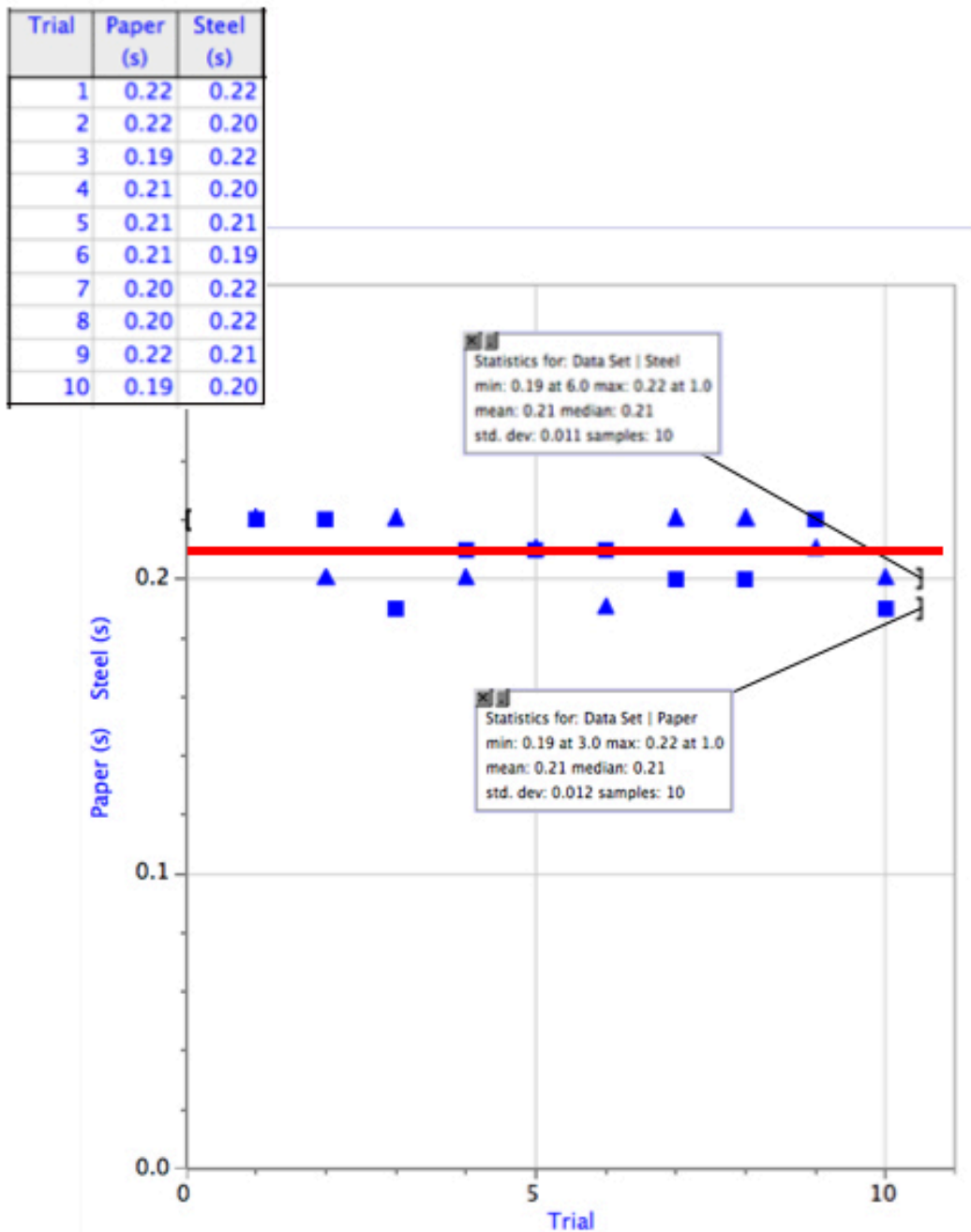
The first time I tried I missed and had to try again. Next time I caught it, but only just. I caught it ten times right near the top and I just couldn't do better than that even with practice.



I was told to tape the strip to a steel ruler. I did that, and thought that because it was heavier, I wouldn't be able to catch it at all.

No true – I could catch it just as well as the first time. Then I remembered. All heavy things (for which air resistance is not important) fall at the same rate. That isn't true for polystyrene bits, raindrops and feathers, but it does apply to paper and steel rulers falling edge on.

The results of my efforts are graphed below.



My reaction time (my average score) was the same (0.21 s) using the light sale and the heavy one.

I tried this with my little five-year-old sister. She couldn't catch it at all. Now I understand why I always beat her to sweets and cards. Her reaction time is longer. I wonder if reaction time is age dependent? I could find out by doing this at school.