

ReactFast Challenge Teachers' Notes

To accompany the NPL reaction time sports-science lesson

Thanks for choosing our ReactFast resource

Sport is a great way to introduce measurement science (metrology) showing how science and technology impacts our lives and culture.

- Fairness and the ability to record performance are essential in any competition, and demand careful measurement. In common with all precise measurement, sport metrology requires accurate/calibrated reference standards and an appreciation of uncertainty.

Focus: Sc1 skills; measuring, estimating, recording, data analysis, time.

- Be able to measure,
- Record appropriately,
- Use data to inform,
- An understanding of the need for accurate time measurement.

Learning Objectives

Resource components

		Format
ReactFast Challenge Notes	(this overview document with presentation notes)	pdf
ReactFast Challenge Presentation		ppt
ReactFast Video		You Tube
ReactFast Challenge Ruler	(A4 printable, needs scissors & tape to assemble)	pdf
ReactFast LogsheetsT	(to log and evaluate mean values)	xls/pdf
ReactFast LogsheetsD	(as above with extra drop distance for reaction time evaluation)	
ReactFast Graph	(for distance to time graph evaluation exercise)	pdf
ReactFast WebCompare	(to compare your results with others')	web
http://interactive.npl.co.uk/npl-site/sports/		

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Slide number	Slide note	More	Preparation needed
1	Full stops indicate the last statement on a slide. Red arrows usually provoke discussion. (Conventions throughout presentation.)		
2			
3	Film of Harlequin Rugby Union First Team players discussing how they train and use reaction time in rugby, and how they fare in the challenge.		
4	This activity applies good measurement practice to evaluating difference in reaction time between dominant and non-dominant hand. Other variations could be comparing reaction times for boys and girls; before and after lunch; old and young, etc	Differentiation: rulers with timings may be used, more advanced students can measure distances and use look up graphs and tables, advanced students can determine appropriate equation to convert distance to time. Find mean of three dominants and non-dominant hand results. ReactFast WebCompare compares last 50 entered results.	<ul style="list-style-type: none">• Reaction time rulers,• (distance to time graphs if required),• sheets for collecting results,• access to NPL webpage to compare results.
5	Summary.		
6	Other NPL schools activities.		