

A group of students decided to investigate the reactivity of four different transition metals; rhenium, vanadium, zirconium and tantalum. They did this by placing small pieces of each metal in separate test tubes with the appropriate test solutions. The 1.00 mol L<sup>-1</sup> test solutions were prepared by dissolving the nitrate salt of each metal in distilled water. Their results are summarised in the table below.

Metal	Metal Ions			
	Re <sup>3+</sup> (aq)	V <sup>2+</sup> (aq)	Zr <sup>4+</sup> (aq)	Ta <sup>3+</sup> (aq)
Rhenium		no reaction	no reaction	no reaction
Vanadium	reaction occurs		no reaction	reaction occurs
Zirconium	reaction occurs	reaction occurs		reaction occurs
Tantalum	reaction occurs	no reaction	no reaction	

15. Which of these metals is the **weakest** reducing agent?

- (a) rhenium
- (b) vanadium
- (c) zirconium
- (d) tantalum