**S100: Science: a foundation course**
**S100/05: Science course unit 5**

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**Clip transcript: Simulation of a solid using steel ball-bearings**

**Alan Walton:**
I might use these ball bearings to represent atoms. If I did I would still require a repulsive and an attractive force.

Well there's the repulsive force all right – they drive each other apart.

Some motor oil.

And there's the attractive force – pull one, and the other follows.

So oily ball bearings represent our atoms. Now I've only used two ball bearings here and in any real system there's going to be a great many more than two atoms. But how should I add more bearings? Should I perhaps take this one and flick it in gently? Or should I really go to town on it? Well that's just it, it's the speed with which this one comes in that determines whether the material is a solid, a liquid or a gas.