

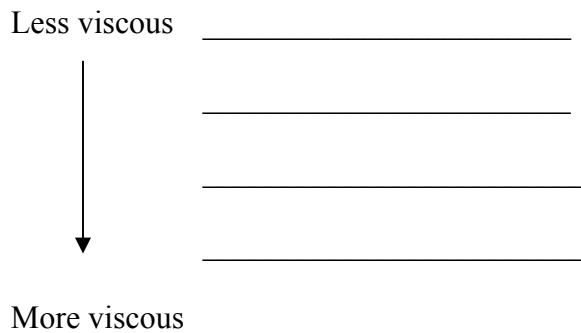
1. What is viscosity?

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2. Organize the foods you have been given in order of increasing viscosity:



3. Which food(s) do you think have viscosities most similar to silicate magmas?

Why?

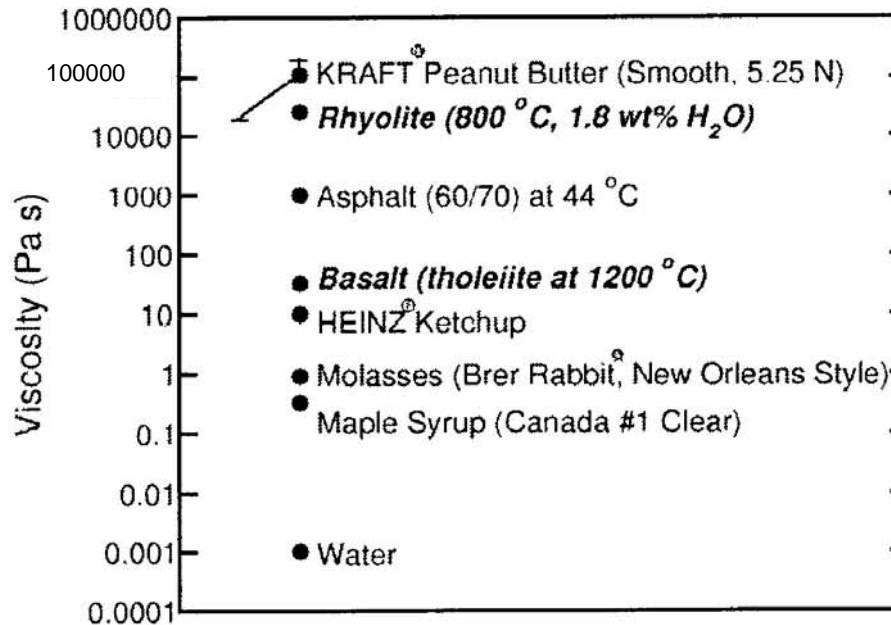
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# Viscosity of foods

Poise  
x10



**Figure 3. Viscosities of selected foods at 25 °C (from this study), water at 25 °C (Bauer et al., 1995) and asphalt at 44 °C (Shaw et al., 1968) compared with those of an anhydrous basaltic melt at 1200 °C (Shaw, 1969) and a rhyolitic composition melt with 1.8 wt % dissolved water at 800 °C, 1.0 GPa (Baker, 1996). Measurement uncertainties are smaller than the symbols except for peanut butter viscosity, whose lower error is displaced for clarity. The silicate melts span the range of commonly expected viscosities for terrestrial silicate melts (Basaltic Volcanism Study Project, 1981; Hess, 1989).**

Newtonian vs.  
Non-  
Newtonian

From Baker et al.  
JGeosci Ed, 52,  
363-367, 2004.