Aerogel Video List and Teacher Notes:

**Emulsion**
- Straightforward and clear info on emulsions and everyday examples are provided. [https://www.youtube.com/watch?v=bC czAL24zY](https://www.youtube.com/watch?v=bC_czAL24zY)

**One Means of Aerogel Synthesis**
- **Agnello Polymide Aerogels -- Weight Savers for Aircraft Antennae.** A good summary of the work being done at NASA. Highlights the work of a young female engineer. [https://www.youtube.com/watch?v=DgkogPXG134](https://www.youtube.com/watch?v=DgkogPXG134)

**Videos that highlight a specific property of Aerogels**

*Thermal Insulative:*
- **Penn and Teller Tell a Lie: Aerogel Vs Flame Thrower.** Comical Penn and Teller video showing thermal insulative property. [https://www.youtube.com/watch?v=MCVw9PSDQRw&feature=youtu.be](https://www.youtube.com/watch?v=MCVw9PSDQRw&feature=youtu.be)
- Aerogels used in sheets for various shown and suggested uses including clothing, insoles, etc from a commercial company. Dry ice is used in this video. [https://www.youtube.com/watch?v=HITtcncWOJ4](https://www.youtube.com/watch?v=HITtcncWOJ4)
- Aerogels used in coats--Video in the middle of the KickStarter page; best if shown just before or just after a liquid nitrogen demo. [https://www.kickstarter.com/projects/1338531979/lukla-endeavour-outerwear-for-the-21st-century-adv?ref=category_location](https://www.kickstarter.com/projects/1338531979/lukla-endeavour-outerwear-for-the-21st-century-adv?ref=category_location)

*Hydrophobicity:*
- Aerogel Powder—Superhydrophobic “Never Wet” Coating. [https://www.youtube.com/watch?v=s5UuWwSsrSU](https://www.youtube.com/watch?v=s5UuWwSsrSU)
- **Hydrophobic Aerogel Makes Hands Waterproof.** Chemistry structure explained. [https://www.youtube.com/watch?v=12QjKET1Dq8](https://www.youtube.com/watch?v=12QjKET1Dq8)
- Airloys--Improved Aerogels. [https://www.youtube.com/watch?v=k8OhjKR3AA4](https://www.youtube.com/watch?v=k8OhjKR3AA4)
Overview of Properties

- **Quest Lab: Aerogel KQED Quest.** Dust Collection on space satellite shown. Good to segue into clothing filtration goal.  
  [https://www.youtube.com/watch?v=kHnen2nSmDY](https://www.youtube.com/watch?v=kHnen2nSmDY)

- **Why Airloys and Aerogels are the Next Supermaterial.** A good summary including the problem of cost of production.  
  [https://www.youtube.com/watch?v=ZY5qy1glF1s](https://www.youtube.com/watch?v=ZY5qy1glF1s)

- **Advanced Materials by Green Earth Aerogel Technologies.** Environmentally friendly aerogel; properties shown but not uses; good showing of fireproofing.  
  [https://www.youtube.com/watch?v=4k91URjFNgY](https://www.youtube.com/watch?v=4k91URjFNgY)

The Aerogel Synthesis Process

- **How It's Made—1336 Aerogel.** A thorough summary.  
  [https://www.youtube.com/watch?v=AlohrrK6u4k](https://www.youtube.com/watch?v=AlohrrK6u4k)