

## 1.7: Thinking about the Material

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### Reflect and research

1. What particle helps to give mass to all of the massive elementary particles?
2. Name that physicist! Who was the first to propose that the universe is expanding?
3. Before discovering the CMBR (Cosmic Microwave Background Radiation), scientists Arno Penzias and Robert Wilson were trying to detect radio waves with very sensitive antennae. The very first time they heard a consistent, low noise on their detectors they discovered that it was (mostly) not the CMBR. What was causing most of this noise?
4. Physicist Lene Hau first slowed a beam of light to 17 m/s using a very cold, dilute gas of bosons. In 2001, how fast was she able to slow down the beam of light?
5. Think of two theories that you use in your every day life. (For example, when we wash our hands, we do so because of the germ theory of disease!)

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