

# Materials Lab

Materials hold up your world! The house that you live in, the roads that you drive on, and even the subway tunnels that you ride in rely on a good choice of materials, so that they stand up when the wind blows and don't leak when it rains. In this lab, we will look at the different types of materials that you might find in your house and find out what roads and sidewalks are made out of.

## Materials

- Building Materials (display/explanation only)
  1. lumber
  2. plywood
  3. particle board
  4. insulation
  5. I-beam section / steel
  6. bricks
  7. shingles
  
- Concrete Materials (to touch and mix)
  1. rocks of different sizes
  2. cement
  3. sand
  4. water
  5. concrete cylinder test samples

## Directions

- Building Materials
  1. Pick up and touch the different types of building materials
- Concrete
  1. Identify the materials needed to make concrete: water, cement, and rocks
  2. Mix these ingredients to make concrete

## Questions

- Building Materials
  1. What do you think these materials are used for and which ones do you think are the strongest?
  2. What do you use each of these building materials for?
  
- Concrete
  1. What do you think would be stronger, a concrete mix with rocks of all sizes or a mix with just big rocks?
  2. Why do you need water for your concrete mix?