1. A study in the journal *Pediatrics* from 2006 look at the best way to wake up kids (aged 6-12) during a fire. 24 healthy kids participated in the study. One thing they tested was two different ways to wake the kids:

   - Regular smoke alarm,
   - A recording of the mother's voice.

   The response variable was the time needed to wake up.

   (a) What was the explanatory variable?

   (b) How could we use matched pairs here?

   (c) What are the correct H_0 and H_A?

   (d) Kids in the actual study woke up faster when they heard their mother's voice with a p-value $p < 0.001$. What does that mean?

2. In which of the following situations would it be appropriate to use a matched pairs study?

   (a) You want to see how much weight freshman gain in college.

   (b) You want to see if students at HSC have newer cars on average than the faculty.

   (c) Does homeopathic cold medicine work? You get volunteers with a cold to take either homeopathic or regular over the counter cold medicine and rate their symptoms.