Observations:

Gear Ratio	Number of Teeth on Front	Number of Teeth on Back	Number of Pedal Turns	Number of Back Wheel
Low Gear			1	
High Gear			1	
Other				

Discussion:

1. Why do you think there are different sprockets attached to the pedals, and other sprockets attached to the back wheel?

   It allows the bike rider to use different amounts of force. When it is difficult to peddle the sprockets can be arranged to make it easier to peddle. When it is easy to peddle the sprockets can be arranged to help the rider go faster.

2. Which gear would be best for going up a steep hill? Why?

   Low gear would be best. This is because it does not require as much energy. Each turn of the peddles only causes a little movement in the back wheel. This means it takes more turns to get up the hill, but it is easier.

3. Which gear would be best for travelling the fastest on flat ground? Why?

   high gear would be best. This is because the energy is transferred to more motion. Each turn of the peddles causes a lot of movement in the back wheel. This means you go further with fewer turns.

4. What is different about the way gears on a bicycle turn in comparison to standard spur gears?

   Standard spur gears turn in opposite directions. Sprockets on a bike are not meshed and both turn in the same direction using the chain.

5. Why do you think oil is put on the chains of bicycles?

   The chains rub against the sprockets, which would cause both of them to wear down over time. Also, the oil reduces the friction, which makes it easier to ride.