Machines That Make a Difference

Chuck fell down while he was rollerblading and broke his leg. He had to stay in the hospital for a few days. One day Chuck was sitting in a wheelchair in the hall. A nurse walked by and noticed that Chuck was looking kind of sad. "What's the matter, Chuck?" she asked. "I can't get to the candy machine up the stairs in this wheelchair," Chuck explained.

"Oh, that's no problem," the nurse said. "Around the corner, there's a wheelchair ramp that you can use to get up there. A wheelchair ramp is an inclined plane. You have to go a little farther when you use it, but using it is a lot easier than trying to pull yourself up the stairs. There is also an elevator that you can use to go to other places in the hospital. An elevator is a compound machine that goes up and down by a pulley system."

Chuck thanked her and pushed himself up the ramp. He used the elevator to go visit other floors in the hospital. He enjoyed rolling around the hospital so much that he did it every day until he went home. After a few months, Chuck's leg was completely healed and he was able to walk again.

During his hospital stay, Chuck used the three simple machines below. After each machine, tell what he used in the hospital that was an example of each and how he used it.

1. Pulley
   
   ________________________________

2. Wheel and axle
   
   ________________________________

3. Inclined Plane
   
   ________________________________

4. What happened after Chuck's leg was healed?
   ○ He went upstairs in his wheelchair.
   ○ He was able to walk again.
   ○ He broke his leg.
   ○ He talked to the nurse about the ramp.
Think about the things you have learned about simple machines. Use what you learned to answer the questions below.

1. Jonathan wants to measure the force of gravity on a table. What tool should he use? Mark your answer.
   ○ A tape measure  ○ A ruler
   ○ A measuring cup  ○ A scale

2. Janie and Josie are sitting on a seesaw. Janie weighs 100 kg and Josie weighs 120 kg. If the seesaw is evenly balanced, who is sitting closer to the fulcrum? How do you know?

3. What is another name for an inclined plane wrapped around a post?
   ○ A pulley  ○ A wedge
   ○ A screw  ○ A lever

4. Which of the following does not belong with the other three items? Mark your answer.
   ○ A bicycle  ○ A pulley
   ○ A lever  ○ An inclined plane

Unscramble the letters of the words to answer each question.

1. Which of the following words is not an example of a simple machine?
   finek  esewas  norbodok  doari

2. Alicia rolled a ball down the sidewalk. Which of the following forces will make the ball stop?
   tcrfnioi  vyrgtia  iiatenr  shup

3. Which of the following vegetables could be considered a wedge?
   sbnae  trcrao  nroc  aspe