**Appendix B: Application of Concepts Learned**

Introduction Worksheet: Motion Transmission and Motion Transformation

1. What is the main function of a motion transmission system?
2. List five common motion transmission systems.

1. Name and draw the motion transmission systems described below:
2. A hand-held egg beater that use two toothed wheels turning in opposite directions.
3. When drying clothes outdoors, two smooth grooved wheels are connected via a belt that fits into the groove.
4. Wheels with no teeth that touch each other are used in white-out containers.
5. What is the main function of a motion transformation system?
6. List five common motion transformation systems.

1. Name and draw the motion transformation systems described below:
2. When the base of a glue stick is turned, the glue stick moves out of the cylinder.
3. A sewing machine needle moves up and down as a wheel rotates.
4. You have decided to build a system that moves heavy objects from you house to your next-door neighbor’s house. Explain what would be the best system to use for this mission. Draw the system as part of your explanation.

**Appendix B: Application of Concepts Learned Answer Key**

Introduction Worksheet: Motion Transmission and Motion Transformation

1. What is the main function of a motion transmission system?

 To transmit motion from one object to another

1. List five common motion transmission systems.
2. Chain and sprocket b. Belt and Pulley

c. Gear Train d. Friction Gears

e. Worm and Worm Gear

1. Name and draw the motion transmission systems described below:

a. A hand-held egg beater that use two toothed wheels turning in opposite directions. Gear train

 b. When drying clothes outdoors, two smooth grooved wheels are connected via a belt that fits into the groove. Belt and pulley

 c. Wheels with no teeth that touch each other are used in white-out containers. Friction Gears

1. What is the main function of a motion transformation system?

 To change the type of motion from rotational (circular) to translational (back and forth or up and down)

1. List five common motion transformation systems.
2. Slider-Crank b. Cam and Follower

c. Rack and Pinion d. Screw Gear Type I

e. Screw Gear Type II

6. Name and draw the motion transformation systems described below:

 a. When the base of a glue stick is turned, the glue stick moves out of the cylinder.

 Screw Gear type 1

 b. A sewing machine needle moves up and down as a wheel rotates.

 Cam and Follower

7. You have decided to build a system that moves heavy objects from you house to your next-door neighbor’s house. Explain what would be the best system to use for this mission. Draw the system as part of your explanation.

 A belt and pulley would work; however, a chain and sprocket would be better because it can move heavy objects over a distance without slippage.