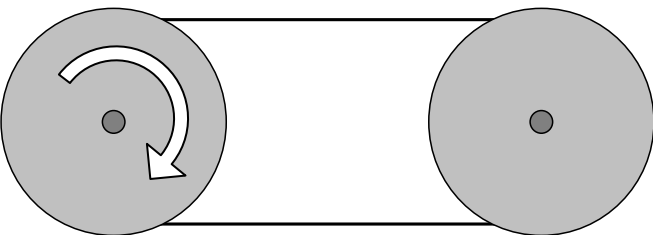
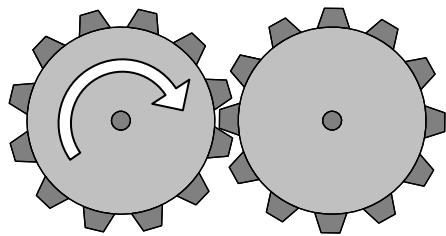
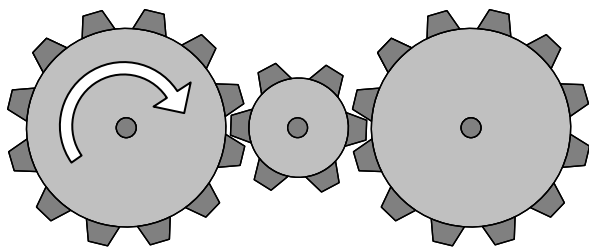
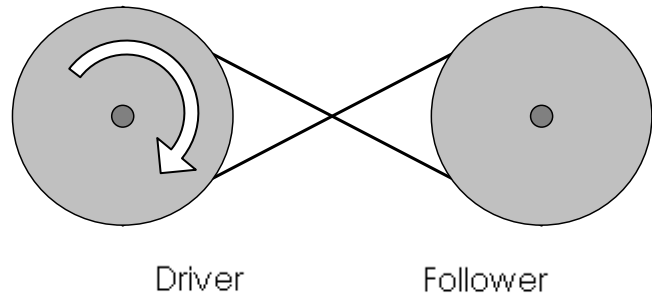


## Investigating Mechanisms Worksheet

| Name  | Date   |
|---|--|
| <p><b>Key Concept 1</b></p> <p>If the gears or the pulleys are the same size, they will rotate at the same speed</p>  |  |
| <p>Using the construction kits to test your ideas, can you complete the following table? Use the words at the bottom of the sheet to help with your labels.</p> <p>Note: The driver pulley is the pulley that is turned by hand (or by a motor). This is attached to a follower pulley.</p> |  |
| <p>Two pulleys the same size turn at the same speed. What direction does the follower turn in? Label your diagram using arrows to show direction.</p>   |  <p style="text-align: center;">Driver                      Follower</p>  |
| <p>Two gears the same size turning at the same speed. What direction does the follower turn in? Label your diagram using arrows to show direction</p>   |  <p style="text-align: center;">Driver                      Follower</p> |
| <p>Two gears the same size joined by a smaller gear. The two big gears still rotate at the same speed. What direction does the follower turn in now?</p>  |  <p style="text-align: center;">Driver                      Follower</p> |

Draw an arrow to show the direction the follower will turn. What speed will the follower turn?

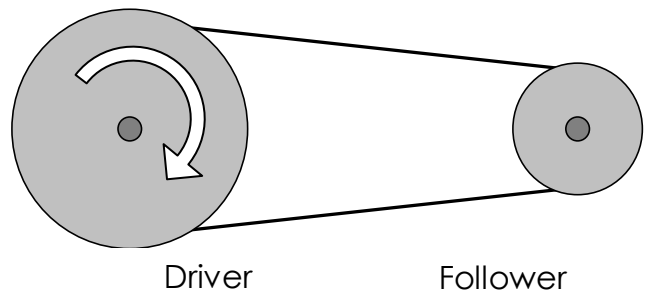


**Key Concept 2**

By changing the size of the pulleys or gears, you can make them rotate at different speeds

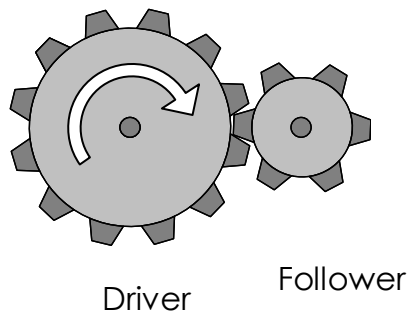
How does this arrangement change the speed of the follower? (Does it make it faster or slower?) What direction does the follower turn in? Draw an arrow on the diagram.

\_\_\_\_\_



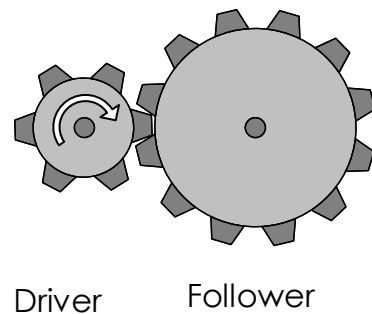
How does this arrangement change the speed of the follower gear? Is it faster or slower?

\_\_\_\_\_



What direction does the follower turn in?

Does the follower in this arrangement turn faster or slower than the driver?



What direction does the follower turn in?

|                  |               |               |                 |              |
|------------------|---------------|---------------|-----------------|--------------|
| <b>direction</b> | <b>driver</b> | <b>faster</b> | <b>follower</b> | <b>gear</b>  |
| <b>opposite</b>  | <b>pulley</b> | <b>same</b>   | <b>slower</b>   | <b>speed</b> |