

MindsAhead Academy

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Lesson 1: Dancing Birds



Objective:

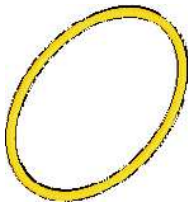
- To show the transmission of motion and transfer of energy through the machine.
- How pulley and belt work
- Demonstrate the effect when crossing the belt, what happens to the bird?
- Gear size and ratio, how does it affect the speed when used

Vocabulary:

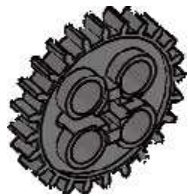
- **Axle:** A shaft or rod that is used to rotate a wheel or gear



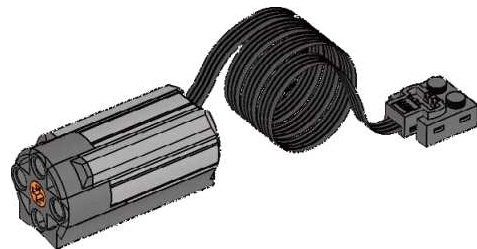
- **Belt :** A loop or chain of flexible material that links two or more rotating objects



- **Gear:** A rotating machine part that has teeth that translate motion to another



- **Motor:** A machine that produces motion



- **Pulley:** A wheel on an axle that supports and carries movement



Procedure:

1. Announce the project (What will we be doing)
2. Allow them to take notes of vocabulary (Identify which part is what)
3. Give them the parts necessary to complete the assignment (Guide them and follow the instructions of assembly)
4. Watch the video (Inside LEGO WeDo software)

Question time:

- What did Mia and Max see at the beginning? (One bird was spinning, but the other was not)
- Which direction are the birds spinning?
- Can they spin opposite to each other? (Cross belt will produce an opposite motion)
- What is making them spin? (The motor is rotating an axle that is also spinning the bird)
- Special Question: How can you make one spin faster or slower? (Change the pulley diameter)