

INSTRUCTION GUIDE











DC MOTOR KIT ITEM # 3167-11

These kits allow students to build their own DC motor from scratch!



PARTS

Part	Quantity	Image
(A) Plastic Base	1	
(B) Magnet Bar	2	
(C) Terminals	2	
(D) Coils	2	
(E) Metal Brushes	2	
(F) Screws	2	
(G) Armature Shaft	1	
(H) Round Washers	2	

TOOLS NEEDED

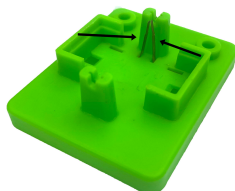
- Screwdriver

ASSEMBLY

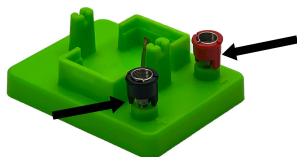
- 1** Take one of the Coils (**D**) and insert it into the red Terminal (**C**), the Coil (**D**) should rest inside one of the grooves in the Terminal (**C**). Do the same for the black Terminal (**C**) and remaining Coil (**D**).



- 2** Insert one of the Metal Brushes (**E**) through the small opening in the bottom of the Plastic Base (**A**) and match the hole in the Metal Brush (**E**) with the screw opening. Do the same with the other Metal Brush (**E**).

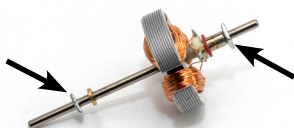


- 3** Place the Terminal (**C**) with Coil (**D**) on top of the circular hole on the Plastic Base (**A**). Insert the Screw (**F**) through the bottom of the Plastic Base (**A**) to attach the Terminal (**C**) to the base. Repeat the same step for the black Terminal (**C**).

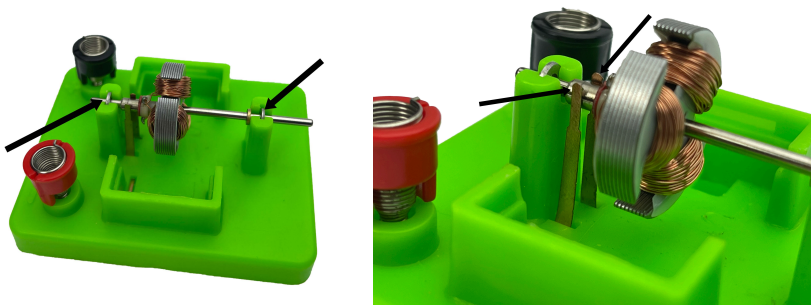


ASSEMBLY

- 4** Slide one of the Round Washers (**H**) on one end of the Armature Shaft (**G**) then do the same with the remaining Round Washer (**H**) on the other end of the Armature Shaft (**G**).



- 5** Push the Round Washer (**H**) on the Armature Shaft (**G**) that is farthest from the armature coil into the Plastic Base (**A**) near the Terminals (**C**). Do the same for the other Round Washer (**H**) on the motor shaft. *NOTE: Be sure that the Armature Shaft (**G**) is resting in between the Metal Brushes (**E**).*



- 6** Push the Magnet Bar (**B**) on the Plastic Base (**A**) where the rectangular supports are. Connect battery holder (with AA battery) to the Coil Terminals (**C**, **D**). The motor should start spinning. If not, try spinning the Armature Shaft (**G**) to start the motor.

