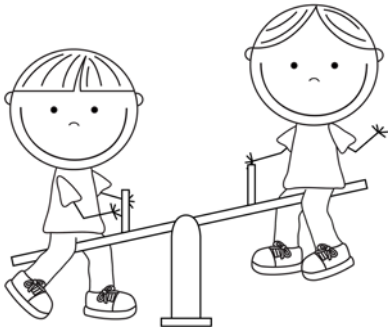
Name:

# Force and Motion in the Playground

**Forces are at work everywhere! For this activity, you will need to go to a playground or look online for pictures of the equipment in the playground. For each structure / piece of equipment in the playground, answer the following questions:**

1. What is the name of the structure?
2. What force is required to make it work?
3. What type of motion occurs?
4. Describe the direction(s) this structure moves or needs to make it fun.
5. What makes it go faster or slower?
6. Is friction involved to slow it down or stop? Explain.
7. Provide an example of balanced and unbalanced force for this structure.
8. Could this structure be improved? How ?
9. Is there opportunity for objects to collide? Explain.
10. Could you add a feature that would make this structure safer? Why or why not?



11. What would you give as a **fun** rating on this structure? (1—5 where 1 is weak, 5 is great) Why?
12. Indicate if and how this piece of equipment relates to any of Newton's Laws of Motion

**<u>1st Law:</u>**

"Any object in motion will continue to move in the same direction and speed unless forces act on it. "

**<u>2nd Law:</u>**

"The greater the mass of an object, the more force it will take to accelerate the object. " *(In others words, more force is needed for heavier objects, and the more force you provide, the farther the object will go.)*

**<u>3rd Law:</u>**

"For every action, there is an equal and opposite reaction"