Master List For Task Cards Force and Motion

1) Make a list of 15 things that move . Describe how they move and if they are living or non-living.
2) Isaac Newton's first law states: Objects tend to remain at rest until you hit them and objects in motion tend to stay in motion until something hits them. Explain using some examples.
3) Describe the different ways you can make a ball move. Explain what might cause a ball to move faster or slower.
4) A cause will make something happen. The effect is what happened. Name the cause for: a bike going faster, a door opening and a door closing, a skateboard turning, a swing going higher, a wagon moving and a ball changing direction.
5) How many things can you name that need a "push" to move? How many things can you name that need a "pull" to move?
6) Choose 4 things that move and explain what happens by applying more force on those 4 things.
7) Explain why some things are easier to move and why some things are harder to move.
8) Friction is a force that slows moving objects. Provide 3 examples of friction that will slow a moving object.
9) Gravity is the force that pulls everything toward earth. Make a list of things that get pulled to earth.
10) Explain what would happen if there was no gravity. Provide examples.
11) Provide 3 examples of how nature acts as a force to move things.
12) A force is motion. Provide 5 examples of a man made force and 5 examples of a natural force and describe the motion.
13) Write about how the different equipment found on a playground will cause you to move (cause and effect).
14) Make a list of things (living and non-living) that move. Classify your list by speed: fast moving or slow moving.
15) List objects that move: in a straight line, in a curved path, back and forth, up and down, spin, rotate on an axis.
16) Friction reduces speed or stops objects. Think of the many sports that have moving objects. Indicate how these objects are stopped by friction.
17) A change in direction requires force. In sports, how do objects change direction. Name 7 ways.
18) Push/ Pull Diary. Make a list of everything you did today, record whether the movement was a push or pull.
19) How many ways can you list to show that "friction" helps to keep us safe.
20) Design a playground. Your playground must have at least 5 pieces of equipment. Explain how each works and what force is needed to make it fun.
21) Design a paper roller coaster that can be demonstrated using a marble.
22) Design something that will make a marshmallow move. Can you also make the marshmallow change direction?
23) You have been hired to keep roads safe in wet conditions. What types of roads will you build to ensure safety and why?
24) List all the way you can slow down and speed up each piece of playground equipment. Discuss any friction involved.
25) You are now an engineer. Your task is to design a car or bike that minimizes collision damage for vehicles and the individuals.
26) An inquiry of your choice. What do you wonder about?