

# Balanced & Unbalanced Forces Notes

Name \_\_\_\_\_ Date \_\_\_\_\_

1. What is a force?
2. Forces have \_\_\_\_\_ and are expressed in \_\_\_\_\_.
3. What is friction?
4. Why does friction occur?
5. Friction depends on what two factors?
6. Identify surfaces that have more friction.
7. Identify surfaces that have less friction.
8. Identify examples of friction being helpful.
9. Identify examples of friction being harmful.
10. Why is air resistance considered a form of friction?
11. What factors influence air resistance?
12. What is gravity?
13. How does the Earth's gravity influence the movement of objects?
14. When two forces acting on an object are \_\_\_\_\_, we say the forces are \_\_\_\_\_.
14. Balanced forces \_\_\_\_\_.
15. If forces are unbalanced, objects can \_\_\_\_\_.

16. The diagram to the right illustrates \_\_\_\_\_ forces.



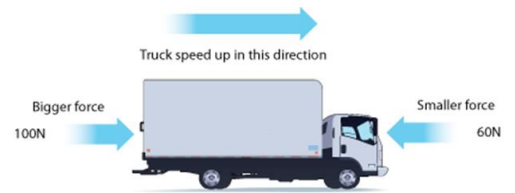
17. Draw arrows and identify the balanced forces in the two illustrations below.



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18. The diagram to the right illustrates \_\_\_\_\_ forces.

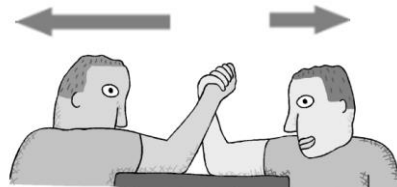


19. \_\_\_\_\_ cause a change in motion by changing the object's \_\_\_\_\_.

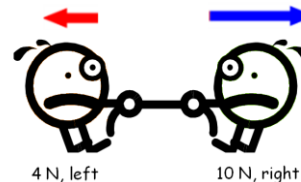
20. Draw arrows and identify the unbalanced forces in the illustrations below.



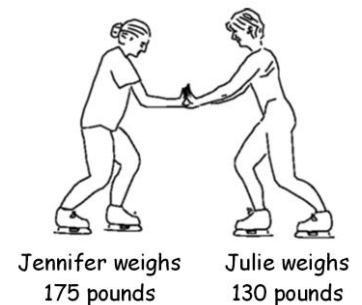
21. Identify which arm wrestler will win and which direction will the arms move. Why?



22. In which direction will the rope move? Why?



23. Look at the diagram to the right. Both women are wearing ice skates on an ice rink. If both women push off from one another, which woman will most likely move the furthest? Why?



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24. What is inertia?

25. An object at rest will \_\_\_\_\_.

26. An object in motion will \_\_\_\_\_.

27. Mass is a measure of \_\_\_\_\_.

28. An object that has a small mass has \_\_\_\_\_.

29. Changing the motion of an object that has a small mass is \_\_\_\_\_ than changing the motion of an object that has a \_\_\_\_\_.

30. Which would require more force to move a bowling ball or a tennis ball? Why?

31. Explain the relationship between friction and the Law of Inertia.