Lesson: Forces and Motion	Name:
Teacher:	Date:

1. Choose the best answer for each question. A magnet pulls a paperclip from 10 cm away. What type of force is acting on the paperclip?

   a) Friction
   b) Tension
   c) Gravitational
   d) Magnetic

2. Choose the best answer for each question. A student pushes a cart with 20 N of force. Friction opposes it with 5 N. What is the net force?

   a) 20 N
   b) 5 N
   c) 15 N
   d) 25 N

3. Choose the best answer for each question. A balloon rubbed on a sweater attracts small pieces of paper. Which explains this?

   a) Gravity
   b) Friction
   c) Static electricity
   d) Magnetic force

4. Choose the best answer for each question. Gravity pulls a rock down a hill. Which type of force is this?

   a) Contact
   b) Friction
   c) Non-contact
   d) Applied

5. Choose the best answer for each question. A person opens a heavy door by pushing. This is an example of:

   a) Magnetic force
   b) Non-contact force
   c) Gravitational force
   d) Contact force

6. Choose the best answer for each question. A metal spoon is attracted to a fridge magnet. The force is:

   a) Tension
   b) Gravitational
   c) Magnetic
   d) Friction

7. Choose the best answer for each question. Two weights are dropped from the same height. Which force causes both to fall?

   a) Friction
   b) Gravity
   c) Tension
   d) Magnetism

8. Choose the best answer for each question. In tug-of-war, two equal teams pull with the same force. The forces are:

   a) Balanced
   b) Magnetic
   c) Non-contact
   d) Unbalanced

9. Choose the best answer for each question. A leaf is lifted by the wind. Which force acts on it?

   a) Air resistance
   b) Applied
   c) Friction
   d) Tension

10. Choose the best answer for each question. Rubbing a balloon and sticking it to the wall produces what charge on the balloon?

    a) Only positive
    b) Only negative
    c) Positive or negative (depending on friction)
    d) Neutral

11. Choose the best answer for each question. A car moves 100 m in 10 s. Its speed is:

    a) 10 m/s
    b) 110 m/s
    c) 1 m/s
    d) 90 m/s

12. Choose the best answer for each question. A skateboard slows on a rough surface. Which force is responsible?

    a) Magnetic
    b) Friction
    c) Tension
    d) Gravity

13. Choose the best answer for each question. A sled slides faster on ice than on grass because:

a) Grass has less friction
b) Ice has less friction
c) Ice has more gravity
d) Grass has more gravity

14. Choose the best answer for each question. A box moves 3 m east then 4 m east. Total distance traveled is:

a) 4 m
b) 12 m
c) 7 m
d) 1 m

15. Choose the best answer for each question. A toy car rolls down a ramp and stops. Which force stops it?

a) Gravity
b) Tension
c) Magnetic
d) Friction

16. Choose the best answer for each question. A ball thrown upward experiences:

a) Tension only
b) Gravity and air resistance
c) Gravity only
d) Air resistance only

17. Choose the best answer for each question. Two blocks slide: A on wood, B on ice. Which has less friction?

a) Cannot tell
b) Block A
c) Both same
d) Block B

18. Choose the best answer for each question. A cyclist brakes quickly to avoid a dog. Which force allows the bike to stop?

a) Friction
b) Tension
c) Magnetic
d) Gravity

19. A 5 kg box is pulled with 20 N; friction = 4 N. Net acceleration is:

a) 5 m/s^2
b) 3.2 m/s^2
c) 2.8 m/s^2
d) 4 m/s^2

20. A student's bridge collapses under 2 kg. Which improvement reduces failure?

a) Use fewer sticks
b) Add trusses for tension/compression support
c) Make bridge longer but thinner
d) Remove glue

21. A 1 kg book falls. Force of gravity (g = $9.8 \mathrm{m/s^2}$) is:

a) 9.8 N
b) 98 N
c) 0.1 N
d) 1 N

22. A student jumps off a skateboard. According to Newton's 3rd law:

a) The student floats
b) The skateboard moves backward
c) Gravity stops the skateboard
d) The skateboard does not move

23. A balloon lifts a small paper "person" via static electricity. What keeps it in the air?

a) Friction
b) Gravity only
c) Magnetic force
d) Electrostatic attraction/repulsion

24. A bridge must hold 1 kg. Uneven weight could cause failure due to:

a) Gravity only
b) Friction only
c) Tension and compression
d) Magnetism

25. Using trusses in a bridge helps because:

a) Adds friction
b) Reduces material cost
c) Makes bridge heavier
d) Distributes forces evenly and prevents collapse

Answer Keys

1. d) Magnetic
2. c) 15 N
3. c) Static electricity
4. c) Non-contact
5. d) Contact force
6. c) Magnetic
7. b) Gravity
8. a) Balanced
9. a) Air resistance
10. c) Positive or negative (depending on friction)
11. a) 10 m/s
12. b) Friction
13. b) Ice has less friction
14. c) 7 m
15. d) Friction
16. b) Gravity and air resistance
17. d) Block B
18. a) Friction
19. b) 3.2 m/s^2
20. b) Add trusses for tension/compression support
21. a) 9.8 N
22. b) The skateboard moves backward
23. d) Electrostatic attraction/repulsion
24. c) Tension and compression
25. d) Distributes forces evenly and prevents collapse