

SC.6.P.13.1 Forces Test Bank

Name: _____

Types of Forces. Also assesses SC.6.P.13.2; SC.8.P.8.2 Includes questions on unbalanced forces causing motion (SC.6.P.13.3)

Question 1 (1 point)

The force of gravity on a person or object on the surface of a planet is called

Extra Content:

SC.6.P.13.1

- A. mass.
- B. terminal velocity.
- C. weight.
- D. free fall.

Question 2 (1 point)

The space shuttle must produce a great amount of thrust in order to reach the height it needs to maintain its constant path around the Earth. What term describes the circular path that the shuttle makes around the Earth?

- A. Orbit.
- B. Gravity.
- C. Free Fall.
- D. Weight.

Question 3 (1 point)

In which of the following are action and reaction forces involved?

- A. when a tennis racket strikes a tennis ball
- B. when stepping from a curb
- C. when rowing a boat
- D. all of the above

Question 4 (1 point)

The gravitational force between two objects increases as mass

- A. decreases or distance decreases.
- B. decreases or distance increases.
- C. increases or distance decreases.
- D. increases or distance increases.

Question 5 (1 point)

In physical science, a push or a pull is called a(n)

Extra Content:

SC.6.P.13.1

- A. force
- B. acceleration
- C. inertia
- D. motion

Question 6 (1 point)

Juan and his friends want to build their own engine-powered go-karts and race. According to Newton's Second Law of Motion, which of these will help Juan to win the race?

- A. increasing the mass of his go-kart
- B. increasing the amount of inertia the go-kart has
- C. decreasing the net force applied to the go-kart
- D. decreasing the mass of his go-kart

Question 7 (1 point)

Ignacio uses a hammer to hit a nail into a board on the floor. How does gravity make it easier to hammer in the nail?

- A. Gravity pushes the board up to help the nail go in
- B. Gravity pulls the board and the nail toward each other
- C. Gravity pulls the hammer down so that it has greater force on the nail
- D. Gravity pulls the nail down so the hammer hits with less force

Question 8 (1 point)

The property of matter that resists changes in motion is called

- A. friction.
- B. gravity.
- C. inertia.
- D. weight.

Question 9 (1 point)

In physical science, a push or a pull is called a(n)

- A. force.
- B. acceleration.
- C. inertia.
- D. motion.

Question 10 (1 point)

The force that one surface exerts on another when the two rub against each other is called

- A. friction.
- B. acceleration.
- C. inertia.
- D. gravity.

Question 11 (1 point)

Forces can be added together only if they are

- A. acting on the same object.
- B. balanced forces.
- C. unaffected by gravity.
- D. substantial.

Question 12 (1 point)

An open parachute increases air resistance of a falling sky diver by

- A. decreasing the weight of the diver.
- B. increasing friction with a greater surface area.
- C. increasing the terminal velocity.
- D. reducing friction.

Question 13 (1 point)

The following pairs of surfaces are pushed together with the same amount of force. Between which pair of surfaces will friction be the greatest?

Extra Content:
SC.6.P.13.1

- A. two pieces of sandpaper
- B. two pieces of waxed paper
- C. a painted surface and a piece of sandpaper
- D. a painted surface and a piece of waxed paper

Question 14 (1 point)

Penny says that dust particles in space cannot be pulled together by gravity because they have very little mass. Emma says that as long as the dust particles have any mass at all, gravity can pull them together. Who has the better argument and why?

- A. Penny, because objects with only a little mass are not affected by gravity
- B. Penny, because dust particles in space are far from Earth so there is no gravity
- C. Emma, because any two objects exert a gravitational force on each other
- D. Emma, because objects with smaller mass have more gravity acting on them

Question 15 (1 point)

A force is described by

- A. the mass of the object on which it acts.
- B. its strength.
- C. its inertia.
- D. its strength and direction.

Question 16 (1 point)

An orange might roll off your cafeteria tray when you stop suddenly because of

- A. the balanced forces acting on the orange.
- B. the centripetal force acting on the orange.
- C. the friction forces acting on the orange.
- D. the orange's inertia.

Question 17 (1 point)

Newton's third law of motion describes

- A. action and reaction forces.
- B. balanced forces.
- C. centripetal forces.
- D. net force.

Question 18 (1 point)

What happens when two forces act on the same object in the same direction?

- A. They cancel each other out.
- B. The stronger one prevails.
- C. Their strengths are added.
- D. Their sum divided by two is the total force.

Question 19 (1 point)

What happens when two forces act in the same direction?

Extra Content:

SC.6.P.13.3

- A. They cancel each other out.
- B. The stronger one prevails.
- C. Their strengths are added.
- D. Their sum divided by two is the total force.

Question 20 (1 point)

The force that one surface exerts on another when the two rub against each other is called

Extra Content:

SC.6.P.13.1

- A. friction.
- B. acceleration.
- C. inertia.
- D. gravity.

Question 21 (1 point)

The law of universal gravitation states that any two objects in the universe that have mass, without exception,

- A. attract each other.
- B. repel each other.
- C. combine to provide a balanced force.
- D. create friction.

Question 22 (1 point)

The following pairs of surfaces are pushed together with the same amount of force. Between which pair of surfaces will friction be the greatest?

- A. two pieces of sandpaper
- B. two pieces of waxed paper
- C. a painted surface and a piece of sandpaper
- D. a painted surface and a piece of waxed paper

Question 23 (1 point)

As an astronaut travels far away from Earth, her weight

- A. decreases because gravity decreases as distance increases.
- B. decreases because her mass decreases.
- C. increases because gravity increases as distance increases..
- D. remains the same because her mass remains the same.

Question 24 (1 point)

As you push a cereal box across a tabletop, the sliding friction acting on the cereal box

- A. acts in the direction of motion.
- B. equals the weight of the box.
- C. is usually greater than static friction.
- D. acts in the direction opposite of motion.

Question 25 (1 point)

A place or object used for comparison to determine if something is in motion is called

- A. a position.
- B. a reference point.
- C. a constant.
- D. velocity.

Question 26 (1 point)

The force that pulls falling objects toward Earth is called

Extra Content:
SC.6.P.13.1

- A. gravity.
- B. free fall.
- C. acceleration.
- D. air resistance.

Question 27 (1 point)

The acceleration due to gravity on the surface of Mars is about one third the acceleration due to gravity on Earth's surface. The weight of a space probe on the surface of Mars is about

- A. nine times greater than its weight on Earth's surface.
- B. three times greater than its weight on Earth's surface.
- C. one third its weight on Earth's surface.
- D. the same as its weight on Earth's surface.

Question 28 (1 point)

The greater the mass of an object,

- A. the easier the object starts moving.
- B. the greater its inertia.
- C. the more balanced it is.
- D. the more space it takes up

Question 29 (1 point)

A force is described by

Extra Content:
SC.6.P.13.1

- A. the mass of the object on which it acts.
- B. its strength.
- C. its inertia.
- D. its strength and direction.

Question 30 (1 point)

According to Newton's second law of motion, the net force acting on an object equals the object's mass multiplied by the object's

- A. acceleration.
- B. momentum.
- C. velocity.
- D. weight.

Question 31 (1 point)

The force of gravity on a person or object on the surface of a planet is called

- A. mass.
- B. terminal velocity.
- C. weight.
- D. free fall.

Question 32 (1 point)

What contact force resists motion as a fish swims through water?

- A. friction.
- B. normal.
- C. applied.
- D. magnetic.

Question 33 (1 point)

According to Newton's third law of motion, when a hammer strikes and exerts force on a nail, the nail

- A. creates a friction with the hammer.
- B. disappears into the wood.
- C. exerts an equal and opposite force on the hammer.
- D. moves at a constant speed.

Question 34 (1 point)

The law of universal gravitation states that any two objects in the universe that have mass, without exception,

Extra Content:

SC.6.P.13.1

- A. attract each other.
- B. repel each other.
- C. combine to provide a balanced force.
- D. create friction.

Question 35 (1 point)

The *forces* acting on a falling leaf are

- A. inertia and friction.
- B. gravity and friction (air resistance).
- C. gravity and inertia.
- D. mass and inertia.

Question 36 (1 point)

Which of the following is an example of a contact force?

- A. electrical force
- B. magnetic force
- C. normal force
- D. gravitational force