Forces and Motion

Grade 3 Science Worksheet - Challenge Me

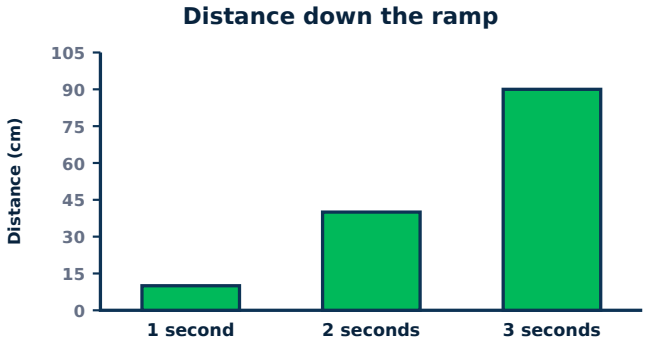
Name _____ Date _____

Circle the answer.

1. A box has 20 units of force pushing right and 12 units of friction pushing left. Which way does it move, and how much extra force is there?
   right, with 8 extra units left, with 8 extra units it stays still right, with 32 extra units

2. A cart is still while two students push from opposite sides. Then one pushes harder. What happens?
   the cart stays still
   the cart moves sideways
   the cart moves away from the harder push
   the cart moves toward the harder push

3. A ball rolls down a ramp. Use the graph of how far it has gone after each second. What does the pattern show?



   the ball stops after 2 seconds
   the ball slows down
   the ball moves at the same speed
   the ball speeds up as it rolls down

4. A sled slides down a snowy hill onto flat ground. On which surface would it stop soonest?
   it would stop the same on each
   a patch of sand
   smooth ice
   packed snow

5. A book sits on a table. Gravity pulls it down. Why doesn't it fall?
   the table pushes up with an equal force
   air holds the book up
   the book has no weight on a table
   gravity stops working on tables

6. Team A and Team B each pull a rope with 60 units of force. A third child joins Team A and adds 10 units. What happens?
   the forces stay balanced
   the rope moves toward Team B
   the rope moves toward Team A
   the rope stays still

7. A toy car rolls 50 cm on carpet and 200 cm on tile with the same push. What is the best explanation?
   the car is heavier on carpet
   tile has more friction than carpet
   carpet has more friction than tile
   gravity is stronger on carpet

8. A student pushes a box with 10 units of force, and friction pushes back with 10 units. She wants the box to move. What should she do?
   push with less than 10 units
   push with exactly 10 units
   push with more than 10 units
   push from both sides at once

9. A ball rolls back and forth in a bowl. It reaches 10 cm, then 8 cm, then 6 cm, then 4 cm up the side. Predict the next height.
   6 cm 10 cm 4 cm 2 cm

10. A kite stays still high in the sky. The wind pushes it and the string pulls it. What does this tell you?
   the string pulls harder than the wind
   gravity has stopped pulling the kite
   the forces on the kite are balanced
   only the wind is pushing the kite

Scan to get this marked free. No screen time for your child.
Print it · do it in pencil · scan it · PencilGo picks the next sheet.

Forces and Motion

Answer Key - Grade 3 Science Worksheet - Challenge Me

Circle the answer.

1. A box has 20 units of force pushing right and 12 units of friction pushing left. Which way does it move, and how much extra force is there?

   right, with 8 extra units

   left, with 8 extra units

   it stays still

   right, with 32 extra units

2. A cart is still while two students push from opposite sides. Then one pushes harder. What happens?

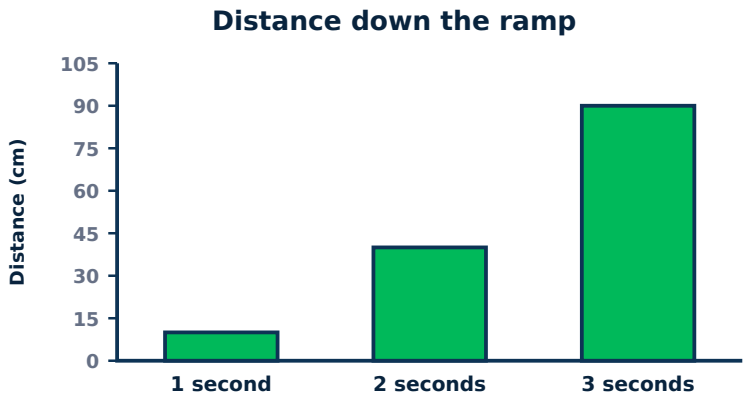
   the cart stays still

   the cart moves sideways

   the cart moves away from the harder push

   the cart moves toward the harder push

3. A ball rolls down a ramp. Use the graph of how far it has gone after each second. What does the pattern show?



   the ball stops after 2 seconds

   the ball slows down

   the ball moves at the same speed

   the ball speeds up as it rolls down

4. A sled slides down a snowy hill onto flat ground. On which surface would it stop soonest?

   it would stop the same on each

   a patch of sand

   smooth ice

   packed snow

5. A book sits on a table. Gravity pulls it down. Why doesn't it fall?

- the table pushes up with an equal force
- air holds the book up
- the book has no weight on a table
- gravity stops working on tables

6. Team A and Team B each pull a rope with 60 units of force. A third child joins Team A and adds 10 units. What happens?

- the forces stay balanced
- the rope moves toward Team B
- the rope moves toward Team A
- the rope stays still

7. A toy car rolls 50 cm on carpet and 200 cm on tile with the same push. What is the best explanation?

- the car is heavier on carpet
- tile has more friction than carpet
- carpet has more friction than tile
- gravity is stronger on carpet

8. A student pushes a box with 10 units of force, and friction pushes back with 10 units. She wants the box to move. What should she do?

- push with less than 10 units
- push with exactly 10 units
- push with more than 10 units
- push from both sides at once

9. A ball rolls back and forth in a bowl. It reaches 10 cm, then 8 cm, then 6 cm, then 4 cm up the side. Predict the next height.

6 cm 10 cm 4 cm 2 cm

10. A kite stays still high in the sky. The wind pushes it and the string pulls it. What does this tell you?

- the string pulls harder than the wind
- gravity has stopped pulling the kite
- the forces on the kite are balanced
- only the wind is pushing the kite