Seabreeze PHYSICAL science

Seabreeze Park
Rochester NY

Prepared in Cooperation with

Greece Athena Middle School
Rochester NY

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Labs Available for your Use:

– Bumper Cars
– Carousel
– Jack Rabbit
– Log Flume
– Sea Dragon
– Tea Cups
– Yo Yo
– Whirlwind
– Newton's 3 Laws Of Motion

– Plus Completion Cards, Proctor Schedules, Glossary of Terms & More

SEABREEZE PHYSICAL SCIENCE IN-PARK EXERCISE

CAROUSEL 1A

1. If the carousel were to suddenly stop, would you
   (1) be thrown forward
   (2)be thrown backward
   (3)be thrown toward the center

2. Have one person make a sound with a constant pitch stand on the ground. As the person on the carousel is moving towards the sound, it appears to the person moving that the
   (1) sound has a higher pitch
   (2) sound has a lower pitch
   (3) sound has the same pitch

3. The time it takes for a person near the outside rim to go around compared with the time it takes for some near the inside to go around is
   (1) the same time (2) longer (3) shorter

4. Two adjacent horses that ride up and down
   (1) have the same frequency
   (2)do not have the same frequency

5. Compared to a person standing at the center of the carousel, a person standing at the rim has
   (1) a greater velocity
   (2) a smaller velocity
   (3) the same velocity

6. Have one person make a sound with a constant pitch sit on the carousel. As the sound approaches, according to a person on the ground the sound
   (1) appears as a higher pitch
   (2)appears as a lower pitch
   (3) appears to have the same pitch

7. The power to turn the carousel comes from
   (1) an electric motor
   (2) a gasoline engine
   (3) horse power

8. Have one person make a sound with a constant pitch sit on the carousel. As the sound is moving away, according to a person on the ground the sound
   (1) appears as a higher pitch (2) appears as a lower pitch (3) sound has the same pitch

9. The horses that ride up and down
   (1) return to the same height after one complete revolution
   (2) do not return to the same height after one complete revolution
   (3) move with the car

10. Have one person make a sound with a constant pitch stand on the ground. As the person on the carousel is moving away from the sound, it appears to the person moving that the sound has
   (1) a higher pitch (2) a lower pitch (3) the same pitch

SEABREEZE PHYSICAL SCIENCE IN-PARK EXERCISE

JACK RABBIT
1A

1. If the second hill is taller than the first hill,
   (1) the car will make it up and over the next incline
   (2) the car will not make it up and over the next incline
   (3) the car may not make it up and over the next incline if there is too much friction

2. At the bottom of the hill as the car is moving, the energy is
   (1) kinetic energy
   (2) all nuclear energy
   (3) all potential energy

3. If the car makes a right turn you are
   (1) thrown to the left
   (2) thrown to the right
   (3) thrown forward

4. The conversion of energy that makes the roller coaster work is similar to
   (1) a battery lighting a light bulb
   (2) a bowling ball rolling down a hill
   (3) an electric stove that boils water

5. Your velocity at the bottom of the highest hill is
   (1) practically zero
   (2) the greatest during the entire ride
   (3) somewhere in between

6. When the chain first pulls you up the roller coaster track, you
   (1) lunge forward
   (2) are thrown backward
   (3) do not move

7. If the car makes a left turn, you are
   (1) thrown to the left
   (2) thrown to the right
   (3) thrown forward

8. Your energy at the top of the first hill is
   (1) all kinetic energy
   (2) all nuclear energy
   (3) all potential energy

9. At the top of the first incline you velocity is
   (1) practically zero
   (2) the greatest during the entire ride
   (3) somewhere in between

10. If you were in a lighter car the time it would take to get to the bottom of the first hill
   (1) would be the same
   (2) take less time
   (3) take more time

Appendix F

SEABREEZE PHYSICAL SCIENCE IN-PARK EXERCISE

SEA DRAGON 1A

1. The force on you is greatest when you are
   (1) at the bottom
   (2) at the top
   (3) somewhere between

2. At the highest point the potential energy is
   (1) a maximum
   (2) a minimum
   (3) not involved with this ride

3. Between the highest point and the lowest point
   (1) the kinetic energy is changing to potential energy
   (2) the potential energy is changing to kinetic energy

4. The energy to lift the Sea Dragon in the air comes from
   (1) A nuclear power generator
   (2) A gasoline engine
   (3) An electric motor

5. You have the greatest acceleration when you are
   (1) at the bottom
   (2) at the top
   (3) somewhere between

6. You weigh the greatest when you are
   (1) at the bottom
   (2) at the top
   (3) somewhere between

7. The Sea Dragon is similar to
   (1) a yo-yo
   (2) a pendulum
   (3) a carousel

8. The force on you is similar to the force introduced from the
   (1) Wildwater Log Flume
   (2) Carousel
   (3) Bumper Cars

9. It is easier to see people on the ground when you are
   (1) at the bottom
   (2) at the top
   (3) somewhere between

10. You are moving the fastest
   (1) at the bottom
   (2) at the top
   (3) somewhere between

SEABREEZE PHYSICAL SCIENCE IN-PARK EXERCISE

YO-YO
1A

1. The force keeping you moving in the circle is similar to
   (1) a satellite moving in a circular path around the earth
   (2) a stone attached to a string swung in a circular path
   (3) a fast car banking on a turn and the passenger side door keeps you from flying outside

2. If the wheel were rotating in the other direction, you would
   (1) fly in towards the center
   (2) fly away from the center
   (3) hang directly below the chain

3. As you are turning
   (1) the distance between you and the chair ahead of you is increasing
   (2) the distance between you and the chair ahead of you is decreasing
   (3) the distance between you and the chair ahead of you is constant

4. If the ride is turning faster, you
   (1) fly in towards the center more
   (2) fly away from the center more
   (3) hang directly below the chain

5. As you are turning, you
   (1) can see the person ahead of you clearly
   (2) cannot see the person ahead of you clearly

6. As you are turning, you
   (1) can see the center post clearly
   (2) cannot see the center post clearly

7. As you are turning, you
   (1) can see the people on the ground clearly
   (2) cannot see the people on the ground clearly

8. As you are turning, you
   (1) can return the chair so that it hangs beneath the chains
   (2) cannot return the chair so that it hangs beneath the chains

9. If gravity were not present, as you turn you
   (1) would fly all the way out so that you were horizontal
   (2) would hang directly below the chain
   (3) would fly in towards the center post

10. As you are turning, you
   (1) fly in towards the center
   (2) fly away from the center
   (3) hang directly below the chain