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**EDUCATIONAL QUESTIONNAIRE (1)**

PRIMARY SCHOOL AGED CHILDREN

**TIMING**

**Q1.** How many balls does the clock deliver every minute into the timing racks ?

Ans:.....

**Q2.** How do you read/calculate the minutes on the clock ?

Ans:.....

**Q3.** How do you tell if the time is pm or am ?

Ans:.....

**Q4.** How many balls are required ( in the timing racks) for the clock to show 11:59:45

Ans:.....

**Q5.** What happens when daylight saving is started ?

Ans:.....



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## **BALL PHYSICS**

**Q1.** How fast must the ball be going to “loop the loop” without falling down ? ( the radius of the loop is 0.3m)

**Ans:**.....

**Q3.** How wide must the track be for the ball to roll correctly ?

**Ans:**.....

**Q3.** Can you calculate the banking angle of the track for a ball travelling at 1.7m/sec so that it does not fall off the track?

**Ans:**.....

## **ENERGY**

**Q4.** How does the Newton’s Cradle demonstrate the conservation of energy ?

**Ans:**.....

**Q5.** Can you calculate the kinetic energy of the moving balls ?

**Ans:**.....



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**EDUCATIONAL QUESTIONNAIRE (3)**

**DISTANCE TRAVELLED**

		<b>Distance ( m)</b>
<b>Inlet track</b>	<b>From lifting gears</b>	<b>6</b>
<b>Outlet track to gears</b>	<b>Timing Arms</b>	
<b>T1 timing arm</b>	<b>60 sec</b>	<b>10</b>
<b>T2 timing arm</b>	<b>10 min</b>	<b>35</b>
<b>T3 timing arm</b>	<b>60 min</b>	<b>16</b>
<b>T4 timing arm</b>	<b>12 hour</b>	<b>9</b>

**Q1.** How far do the T2 Timing Arm ( 10 min ) balls travel in one day ?

Ans:.....

**Q2.** How far do the T4 Timing Arm ( 12 hour) balls travel in one day ?

Ans:.....

**Q3.** How far do T1 Timing Arm ( 60 second) balls travel in one week ?

Ans:.....

( Note assume only the balls in the rack are counted and between each timing arm is 1m of travel)



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**EDUCATIONAL QUESTIONNAIRE (4)**

**CULTURAL**

**Q1.** Can you find the Maramataka Moon Face for the full moon ?

**Ans:**.....

**Q2.** Why does the flax rope that Maui is holding go right up into the sky?

**Ans:**.....

**Q3.** Where is there a hongi ( traditional maori greeting) on the clock ?

**Ans:**.....

**Q4.** What does the Pedal Man have on his arm ??

**Ans:**.....

**Q5.** What star system is displayed in the graphic on the back door of the clock ?

**Ans:**.....