**Grade 6 Technology: Electric Car Module**

**Design Brief:**

You and your partner have been given the opportunity to create an electric car together.

**Outcomes:**

* Students will use orthographic drawings to show the views of their car.
* Students will safely use selected tools and equipment in the lab.
* Students will work co-operatively in their groups.
* Students will follow an established design/manufacturing process to construct a prototype to specifications.

**Evaluation:**

10% Part A: Research/Terms

20% Part B: Planning/Drawing

40% Part C: Construction

10% Part D: Presentation

10% Part E: Class Mark

10% Part F: Peer/Self Evaluation

**Detailed Components:**

***Part A: Research/Terms***

 On a piece of loose-leaf or on a computer, define the following terms associated with building an electric car.

* Axle
* Pulley
* Motor
* Circuit
* Battery
* Switch
* Friction
* Band Saw
* Drill Press
* Combination Square

***Part B: Planning/Drawing***

 Using your new knowledge of orthographic views, draw the top and side view of your car on a piece of graph paper. All drawings should be drawn to scale in pencil, using a ruler, and include the main measurements. The car frame should measure 12cm x 20 cm.

***Part C: Construction***

 Create your car to the proper specifications. It should move on its own and run in a straight line. The materials you will need are: three 60cm long pieces of 1 cm2 wood, glue gun, dowel, electric motor with mount, four wheels, pulley, rubber band, two thumb tacks, metal paper clip, wire, battery with mount, and a motor bushing. ***\*\*\*More Info. To Come\*\*\****

***Part D: Presentation***

 Your group will be given about three minutes to present your car to the class. You will be evaluated on organization, eye contact, voice, length, and if your car moves in a straight line.

***Part E: Class Mark***

 You will each begin with a mark of 10/10 each class. Marks will be lost if you come unprepared (must have pencil, tech. duotang/binder, and ruler each class), are unsafe, off task, etc. An average class mark will be calculated at the end of the module.

***Part F: Peer/Self Evaluation***

 As with previous modules, you will be given the opportunity to evaluate yourself and your partner(s) at the end of the module. Keep in mind that you will be evaluated on how well you contributed to the group, completion of tasks, and if others would want to work with you again.

***Important Dates:***

Module Starts: November 3/4

Definitions Due: November 17/25 (5-6Landry)

Drawings Due: December 8/9, 2015

Presentations: February 2/3, 2016

Race Day: February 9/10, 2016