2019年度通訊博物館小學生科・藝大作戰
Museu das Comunicações - Actividade de Ciência e Arte para Estudantes do Ensino Básico, 2019
Communications Museum - Science and Arts Activity for Primary Students, 2019

[SUPPLEMENTARY RULES]

1. **Rules of Activity**
   a) The participant has to use the electronic components provided by the organizer to make a design work and put it on a A4-size matt within the time limit. Participants can bring a picture for reference when making their works. Requirements for each group are listed below:
      - Group A (Primary 1 to 4): 2- or 3-dimensional work, the theme will be announced on the spot.
      - Group B (Primary 5): 3-dimensional work, the theme will be announced on the spot.
      - Group C (Primary 6): 3-dimensional work, the theme will be announced on the spot.

   b) Before the activity starts:
      - Each participant will be provided with an "A4-sized matt", "Point Redemption Coupons" and two 1.5V AA batteries.
      - The "**Point Redemption Coupons**" are used for redeeming materials. For detailed redemption rules, please refer to the **Points Redemption Coupons** and **Conversion Table**. The un-used points will be counted as additional scores.
      - Each team has two minutes to redeem for their materials. Once redeemed, the materials cannot be returned.
      - Due to the limited time, participants are advised to plan for the types and quantities of their materials, and check that they have enough points for redemption.

   c) After the museum staff has announced the start of time-keeping:
      - All teams should start making their design work.
      - They can choose their required types and quantities of components, and use their "Points Redemption Coupons" to redeem for them with our staff, without limit on the number of times of redemption.
      - The teams can agree among themselves for exchange of their materials on hand.

   d) **The competition time is limited to 2.5 hours.** When time is up, the participants have to stop and put their works in the indicated location according to the instruction of the staff. Then they have to register for the quantities of their remaining "Points Redemption Coupons" in order for the judges to calculate their scores.
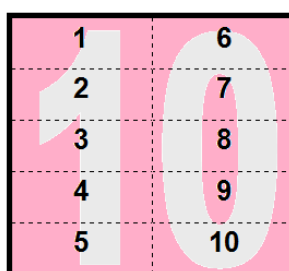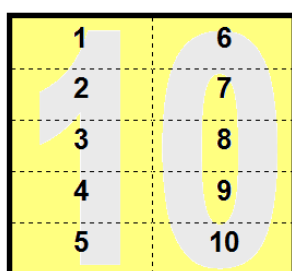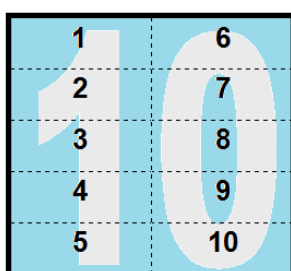
2. **Scoring Criteria**
   a) Creativity (40%): Creative, unique and innovation features.
   b) Artistic Design (40%): The name, theme and design of the creative work should match mutually. Visual effect, colors and motion.
   c) Completeness (20%): Stable construction and its sophistication, use of science theories & techniques (e.g. on/off switch, sound, movement or rotation, etc.) and the tidiness of working table.

3. **Tools:** The organizer will provide tools such as scissors, tapes, sharp-nose pliers, flat-nose pliers, pens, paper and hot melt adhesives (shared). Participants are welcome to bring their own tools, but dangerous tools are prohibited (soldering iron, electric drill, etc).

4. **Points Redemption Coupons** and **Conversion Table**
   There are 3 types of "Points Redemption Coupons" for redeeming different types of materials.
   - Blue: Electronic components, 240 points in total;
   - Yellow: Supplies, 120 points in total;
   - Pink: Decorative parts, 80 points in total.

1	6		1	6		1	6
2	7		2	7		2	7
3	8		3	8		3	8
4	9		4	9		4	9
5	10		5	10		5	10

Conversion Table

Electronic Components (240 points in total)

Name	Qtd	Points required
LED 3mm	1	1
Electrolytic capacitor – small	1	1
On/off switch – with cap	1	1
On/off switch	1	1
LED 5mm	1	1
Resistor	3	1
Ceramic capacitor	5	1
Triode (BJT)	1	2
Variable resistor	1	2
Photoresistor	1	2
Electrolytic capacitor – large	1	2
Buzzer	3	2
Heat sink	1	3
PIN Header	1	3
Rocker switch	2	3
LED 10mm	1	5
Electronic beeper	1	5
IC Holder – 8 pins / 14 pins	1	5
PIN Header	1	5
Battery case	1	5
Motor	1	10
Battery case with LED/buzzer (soldered)	1	15

Supplies (120 points in total)

Name	Qtd	Points required
Hard wire	2 pairs	1
Soft wire	5	1
Fiber	20cm	1
Heat shrink tube	10cm	1
Fuse	1	1
AC adapter	1	2
Screw terminal	1	2
Alligator Clip	1	2
3.5mm audio plug	1	2
Magnet	1	3
PCB board – small	1	8
PCB board – medium	1	15
PCB board – large	1	25

Decorative parts (80 points in total)

Name	Qtd	Points required
Paper strip	1	1
Cardboard	1	1
Bamboo stick	1	1
Art paper	2	1
Toothpick	5	1
Ribbon	20cm	1
Straw - thick	1	2
Straw - thin	1	2
Colored A4 paper	1	2
Wood clip	2	2
rope	20cm	2
Paper cup	1	5
Wooden piece - square	1	5
Glass marble	1	5
Fan blade	1	5
Ping-pong ball – mixed colors	1	8

* Participants can bring their own batteries of other models or decorative parts.