A WORLD IN MOTION®

JetToy Competition

Event / Track Description & Scoring Guide

AWIM Development Board

SAEINDIA The Engineering Society
for Advance Mobility
Land Sea Air and Space

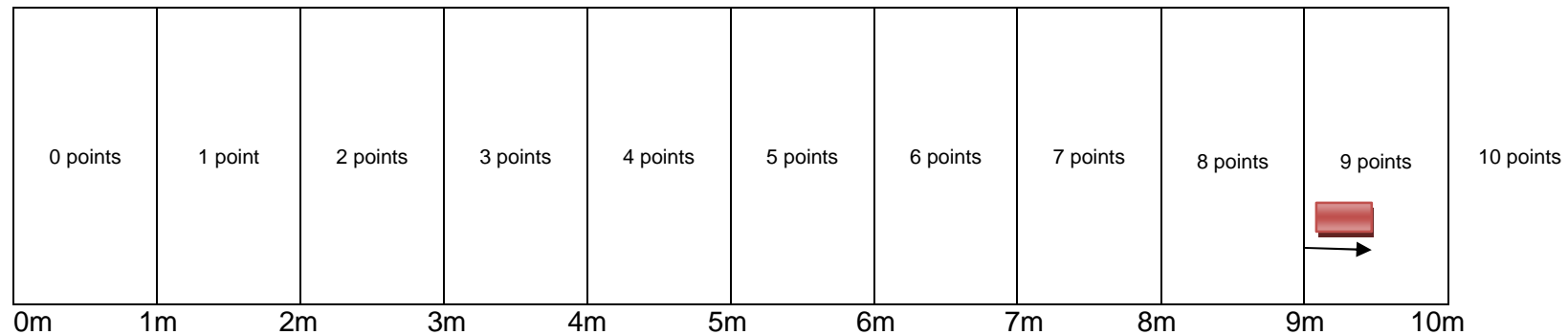A **W**ORLD IN **M**OTION®

Distance

Objective: Student design teams will construct a JetToy car that can travel as far as possible.

- ✍ Track Specs : The track will be 10m long x 3m wide
- ✍ Teams must release JetToy behind the 0m mark
- ✍ JetToy must stay on track for attempts to be valid (if JetToy leaves the track, points are rewarded at point of exit)
- ✍ JetToy balloon must be inflated to an 8 inch diameter or less – Judge will check diameter before JetToy is released.

Scoring
- ✍ Design teams get three attempts.
- ✍ Final score is based on the sum of the 3 attempts.
- ✍ Point total is awarded by judge determining the scoring box and adding the total cm travel in the point box.
- ✍ Measurements are taken from the furthest point of travel (i.e. most distant point), reference car front edge.

Distance Track –

0 points	1 point	2 points	3 points	4 points	5 points	6 points	7 points	8 points	9 points	10 points

0m   1m   2m   3m   4m   5m   6m   7m   8m   9m   10m

The JetToy stopped 55cm beyond the 9m line, the point value of this trial is 9.55
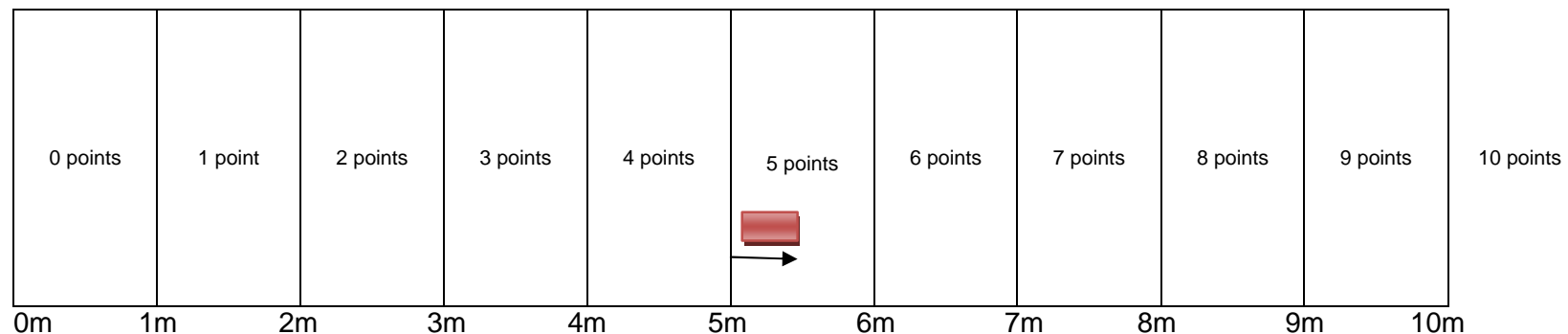
Weight

Objective: Student design teams will construct a JetToy car that can carry a specific amount of weight.

- ✐ Track Specs 10m long x 3m wide
- ✐ Teams must release JetToy behind the 0m mark
- ✐ JetToy must stay on track for attempt to be valid (if JetToy leaves the track, points are rewarded at point of exit)
- ✐ JetToy balloon must be inflated to an 8 inch diameter or less – Judge will check diameter before JetToy is released.
- ✐ Weights for the event will consist of 3 washers which are provided by Track Judges & taped in a cylindrical arrangement.

Scoring
- ✐ Design teams get three attempts.
- ✐ Final score is based on sum of the 3 attempts.
- ✐ Point total is awarded by judge determining the scoring box and adding the total cm in the Point Box.
- ✐ Measurements are taken from the furthest point of travel (i.e. most distant point), reference-car front edge.

Weight Track –

0 points	1 point	2 points	3 points	4 points	5 points	6 points	7 points	8 points	9 points	10 points

0m   1m   2m   3m   4m   5m   6m   7m   8m   9m   10m

The JetToy stopped 66cm beyond the 5m line, the point value of this trial is 5.66

Accuracy

Objective: Student design teams will construct a JetToy car that can travel a specific distance.
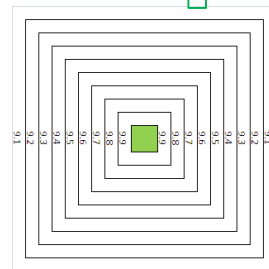
- ✍ Track Specs 10m long x 3m wide
- ✍ Teams must release JetToy behind the 0m mark
- ✍ JetToy must stay on track for attempt to be valid (if JetToy leaves the track, points are rewarded at point of exit)
- ✍ JetToy balloon must be inflated to <u>Max allowed</u> (8 inch) dia. <u>or less</u> by the team.

Scoring
- ✍ Design teams get three attempts.
- ✍ Final score is based on the sum the 3 attempts.
- ✍ Point awarded are by determining the scoring box and adding the total cm traveled in the Point Box.
- ✍ Measurements are taken from the furthest point of travel (i.e. most distant point), reference-car front edge; if vehicle lands in target square the points are determined by square where 50% + of vehicle stops - target square begins at 9.1 points; increases by a tenth of a point each 5 cm to center of target at 10 points; decreases by tenths beyond center.

Accuracy Track

0 points	1 point	3 points	5 points	7 points	8 points	7 points	5 points	3 points	1 point
0 points	2 points	4 points	6 points	8 points	Target 10 points	8 points	6 points	4 points	2 points
0 points	1 point	3 points	5 points	7 points	8 points	7 points	5 points	3 points	1 point

0m — 1m — 2m — 3m — 4m — 5m — 6m — 7m — 8m — 9m — 10m

The JetToy stopped 68cm beyond the 3m line, the point value of this trial is 6.68
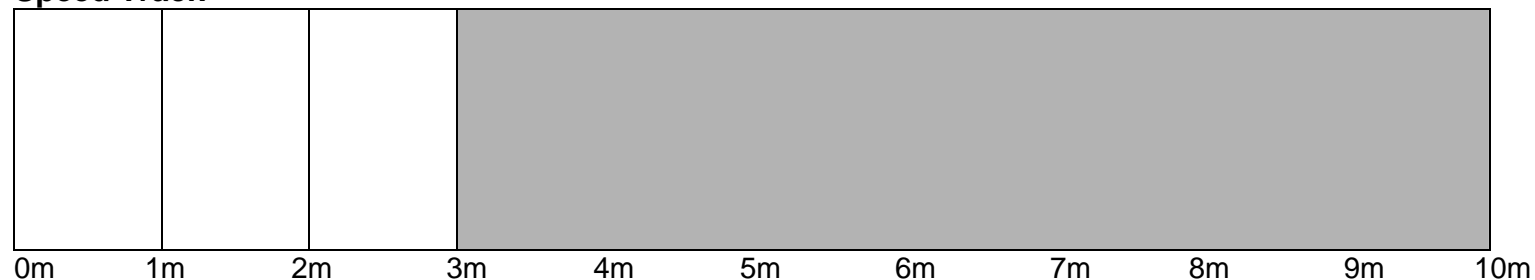
Speed

Objective: Student design teams will construct a JetToy car that can travel as fast as possible over 3m distance.

- ✍ Track Specs 3m long x 3m wide
- ✍ Teams must release JetToy behind the 0m mark
- ✍ JetToy must stay on track for attempt to be valid.
- ✍ JetToy balloon must be inflated to an 8 inch diameter or less, track Judge will check diameter before Jet Toy is released.
- ✍ Track judge will time the teams' attempts using a stopwatch / or by installing appropriate sensors.
    - ✍ Time starts when nozzle is released
    - ✍ Time stops when JetToy passes the 3m mark

Scoring
- ✍ Design teams will run 3 trails
- ✍ Final score is based on the <u>Best of</u> the 3 attempts (judges will round times (in Sec), in case of sensors the indicated speed will be recorded).
- ✍ Team with the best time gets 25 points and the next best gets 24 points….. and so on.

Speed Track

| 0m | 1m | 2m | 3m | 4m | 5m | 6m | 7m | 8m | 9m | 10m |

The JetToy crosses the 3m line with the best time/speed among all participating teams gets 25 points, second best team gets 24 & so on.

Longest Travelling Time

Objective: Student design teams will construct a JetToy car that can travel for an extended period of time (longest travel time).

- ✍ Track Specs 10m long x 3m wide
- ✍ Teams must release JetToy behind the 0m mark
- ✍ JetToy must stay on track for attempt to be valid (or exit track past 10m mark)
- ✍ JetToy balloon must be inflated to an 8 inch diameter or less – Judge will check diameter before Jet Toy is released.
- ✍ Track judge will time the teams attempt using a stopwatch
    - ✍ Time starts when nozzle is released
    - ✍ Time stops when JetToy stops moving forward (JetToy cannot stop and start.)

Scoring
- ✍ Design teams get three attempts.
- ✍ Final score is based on the <u>best of</u> the 3 attempts (judges will round times to 1 significant figure).

Time Track

| 0m | 1m | 2m | 3m | 4m | 5m | 6m | 7m | 8m | 9m | 10m |
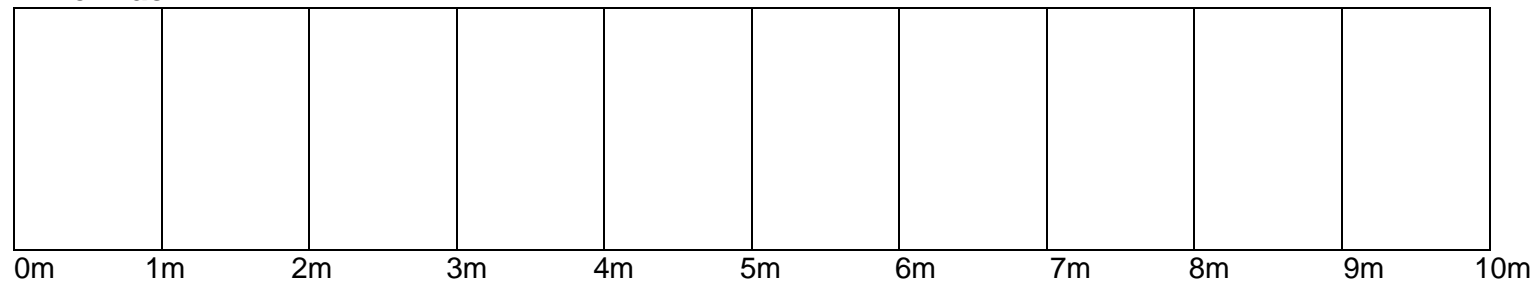
The JetToy stays on track and keeps moving for 32.34 sec., point value of the trial is 32.34