**Wonder Wheels**

At this exhibit, you can design your own experiments to test how different wheels travel down the sloping track and to see if you can work out why the different wheels travel at different speeds. At the front of the exhibit is a set of green analogue weighing scales and five black wheels in a pink rectangular holding stations. Behind the weighing scales and exhibit label, there are two silver metal tracks that you can test and race the wheels on.

[Pictures of full exhibit; front view + side view]

To start your experiment, select two wheels. Look at them carefully. Can you predict which one might be the fastest or slowest? You can weigh the wheels with the weighing scales to help inform your prediction. The wheels might feel a little heavy – do they all look, feel or weigh the same?

[Picture of weighing scales and wheels in pink holders, picture of one wheel on weighing scales]

When you are ready, place your two chosen wheels at the top of the track, and let go. You don’t need to push them. The wheels will roll down the track and stop at the end point.

[Picture of two wheels at start of track; picture of two wheels going down the track; picture of wheels at end of track]

Test all five of the wheels by comparing them to each other. Why do you think the different wheels move at different speeds?

On one of the wheels you can change how close the weights are to the centre of the wheel.

[Picture of adjustable wheel]

Here is a challenge for you – Can you find the slowest wheel? Why do you think is it the slowest?

If you would like a further challenge – can you make two different wheels arrive at the finish line at the same time?

Sensory guidance:

* avoid fingers when wheels on track
* wheels can be noisy if they crash