

## SCIENCE CUP – ROJKO 2016

Shahid Mahdavi Educational Complex

International School

1st category – Kindergarten

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### Creativity

The students were very excited when I told them we would be taking part in a competition involving children from across the world. I explained to them what a mascot is, and we brainstormed our ideas as to what would best resemble our class. The students liked the idea of tracing around their hands to show that they would all dedicated to work on the projects as a team. I had explained to the children that our mascot would stay with us for the whole competition and that other participants might see it. One student suggested we make an earth to show the students from the other schools and countries that we are friends with them all.



### Theory and research

The children couldn't wait to start making paper planes! At first each student was given a piece of paper and asked to make a paper plane. They were given no instructions or steps to follow. Each student folded her paper randomly, and when everyone had finished, they tried to make them fly, with no luck!



I then demonstrated making a paper plane using an A4 paper. The students eagerly followed the steps and were encouraged to adapt the steps if they wanted too. They couldn't wait to go into an open space to try them out.

Before the race the children were encouraged to look at each other's planes, and how other students were throwing them; the angle they were being thrown at, and where the hand was placed in particular. Feeling very pleased that their airplanes were indeed flying; we set up a race to see which plane would go further.

The winning plane got a sticker and was brought back to class to analyze and compare with the other planes. The students saw that it was the most streamlined and the tip had not been bent or played with.



On a windy day, we went to the playground to test if the plane would go further outdoors. We tried it in the direction of the wind (which helped the distance a lot) and against the wind (it flew back at us!)



## Practice and project

### Straw rockets

Each student was given two different sized straws, alongside two different pieces of paper. They rolled their papers into a rocket like form and taped it. The tip of the rocket was still open. The children were asked to find a way to ensure it is fully closed. Some chose to tape it, some to pinch and twist it, and some chose to fold it. To ensure no air was still coming out, the children experimented blowing through the rockets on to their hand. When all students were sure no air was coming out we set out again to try them out.



Each student tried blowing into their big straws, and their little straws. All students recorded the same results. The smaller rockets, being blown with the smaller straws flew higher up.



### Stomping rockets

Two different sized bottles were taken from the recycling bin. The children saw the difference and decided to make different sized rockets to match the bottles. The rockets were designed and assembled with the students. We went back to the open space ready to launch our rockets, only for me to realize that the children did not have a clear understanding as to why we needed the bottles



So we all sat, and discussed how our rockets would fly without us throwing them, or blowing into straws. After a few ideas (blowing into the hose, making a hole in the bottle and blowing through that) one student said 'we should use the air already in the bottle!'

She was told it was a great idea, and asked how she would use it. She said to squeeze the bottles. This discussion suddenly reminded another student that her brother had made something similar and had stomped on the bottle. The students all agreed that this was the best idea.

