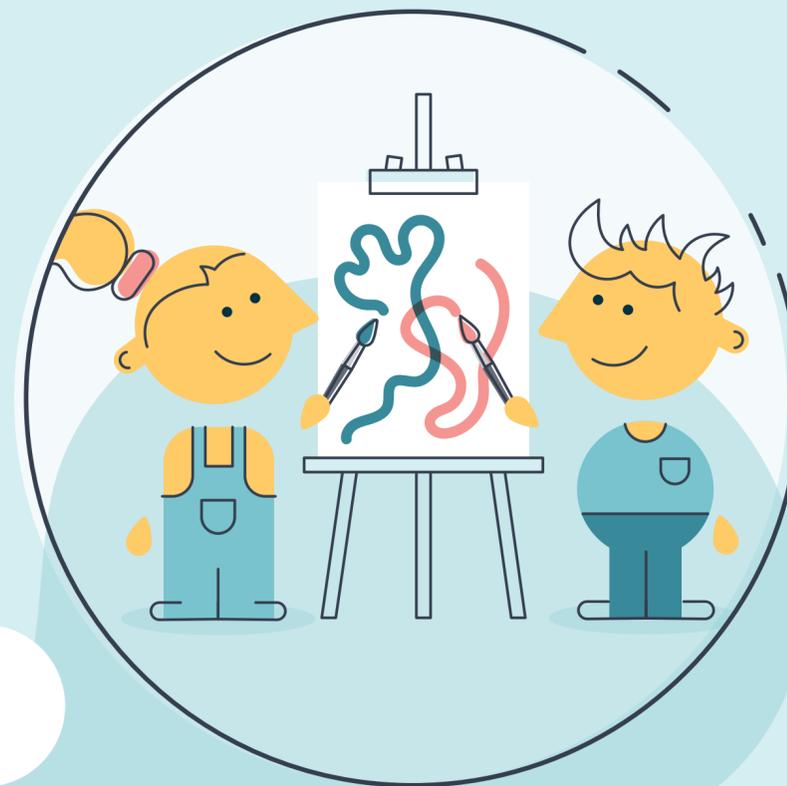


Ellie experiments with forces



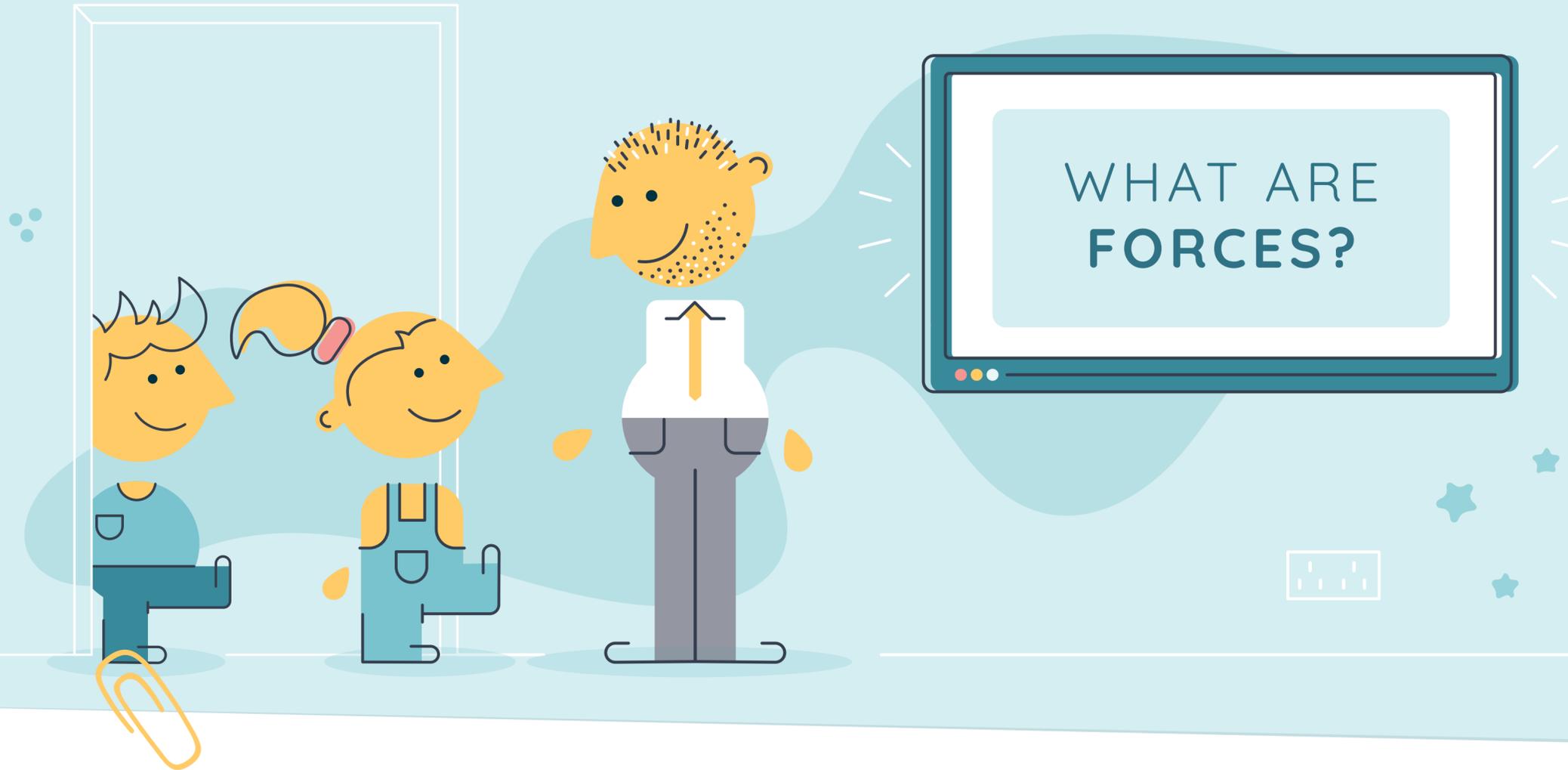
Ellie could not wait to get to school today because she had been asked by her teacher to buddy up with a new pupil, Mark. Being a buddy for the day meant sitting next to Mark and being his partner for class activities. It also meant being a friend at breaktime, sitting with Mark at lunchtime and making sure Mark did not get lost throughout the day.



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Mark's older sisters Sarah and Erin, were also new pupils at Ellie's school. All three siblings were waiting by the school office when Ellie arrived. After being buddied up, Ellie's first task was to show Mark where to hang his coat and rucksack.





In their first lesson together, Ellie and Mark made their own stamps for printmaking, and in their second lesson, they learnt about pulse and rhythm.

Breaktime followed, so Ellie showed Mark the best way to get to the playground.

After breaktime it was time for science which today, was being taught by the Headteacher, Mr Tyler. Every fortnight, Mr Tyler made sure he spent a day teaching all the different year groups as he always enjoyed teaching science.

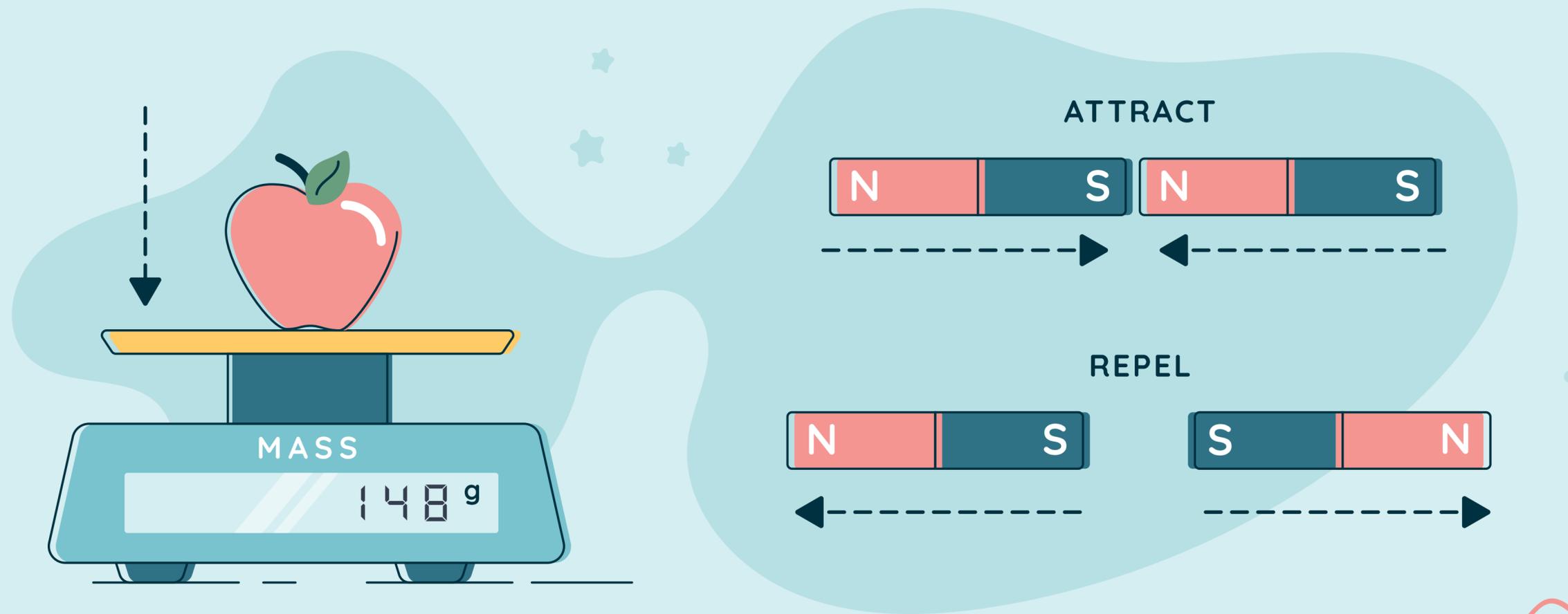
The lesson Mr Tyler had planned for Ellie's class today was all about forces.



After an introduction, Mr Tyler pulled an apple from his pocket and held it above his head. He asked the class what would happen if he let go of the apple.

Vishnu rightly suggested the apple would fall to the ground. He also said it would bruise the apple and probably make a mess on the floor.

James then put his hand up and said the apple would fall because of gravity.



Mr Tyler was very happy with these answers, and explained to the class how gravitational force is a non-contact force. “The non-contact force does not need to touch the apple to move it to the floor,” said Mr Tyler.

Mr Tyler then reminded the class about the difference between mass and weight, and also explained how weight is the force of gravity acting on an object. Finally, Mr Tyler asked the class if anyone knew of another non-contact force.

Lots of children put their hands up and made suggestions, but it was James who was first to give a correct answer: “I think it could be a magnetic force” said James. Mr Tyler told the class James was correct.

Ellie's class were always very curious in science lessons, so it was no surprise when lots of hands went up to ask questions, including Ellie, James, Priya and Mark. Mr Tyler was really pleased to see the new pupil, Mark, had the confidence to put his hand up.





After taking a few questions from the class, Mr Tyler said it was time to investigate forces.

“You are going to conduct an experiment” said Mr Tyler. “You will need to make some observations. I am happy if you want to ask questions and I will be looking to see if you can make predictions about what will happen in your experiment.”

Trays of marbles, cardboard tubes, corrugated cardboard and stopwatches were handed around while Mr Tyler explained what the children needed to do.

Not all of the class could remember what predictions were, so Mr Tyler explained that too.

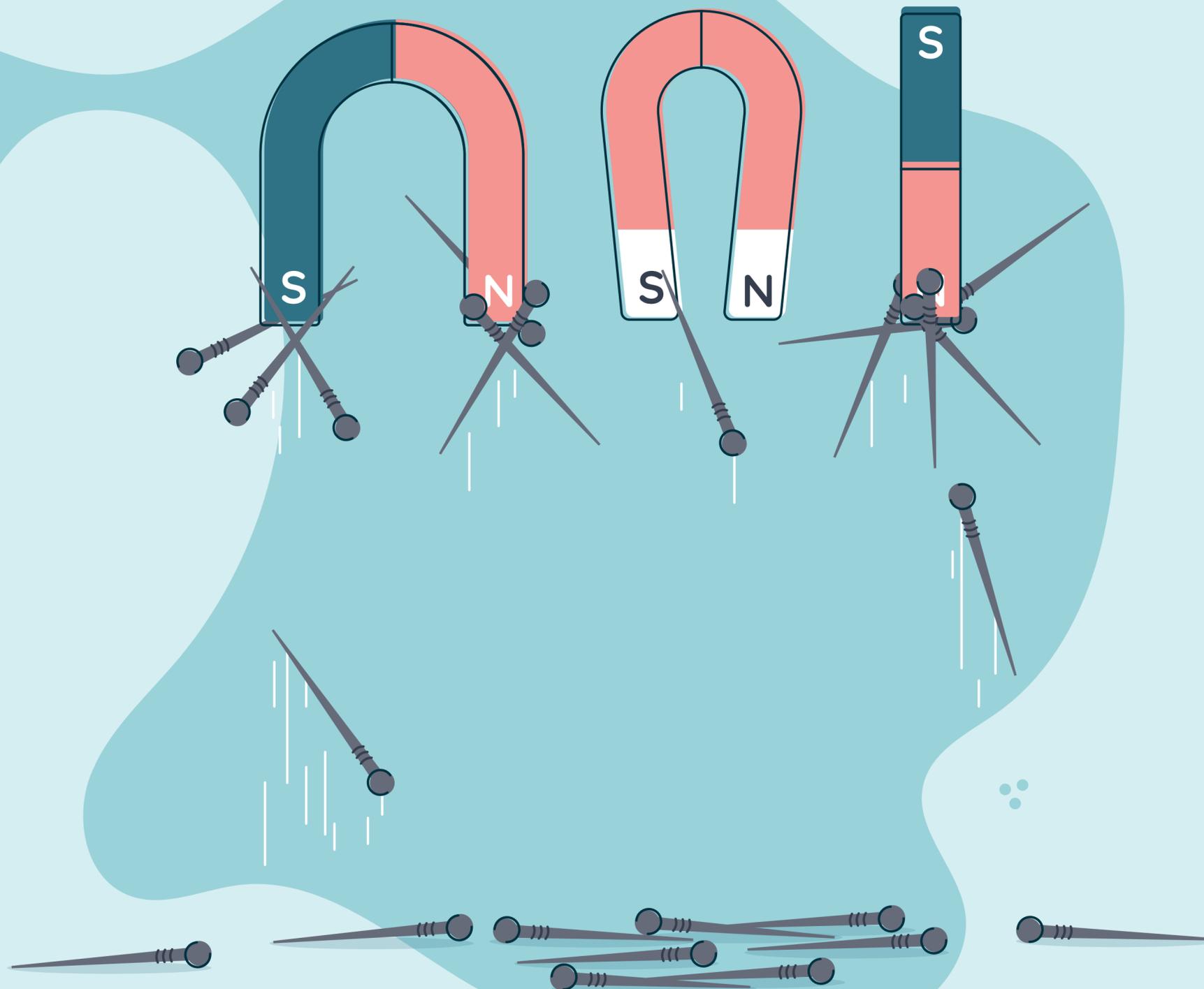
Having listened carefully to all instructions, Mark, Ellie and Vishnu worked together to get the experiment ready. Then, after making their predictions about what they expected to happen, they made a start by releasing the first marble.

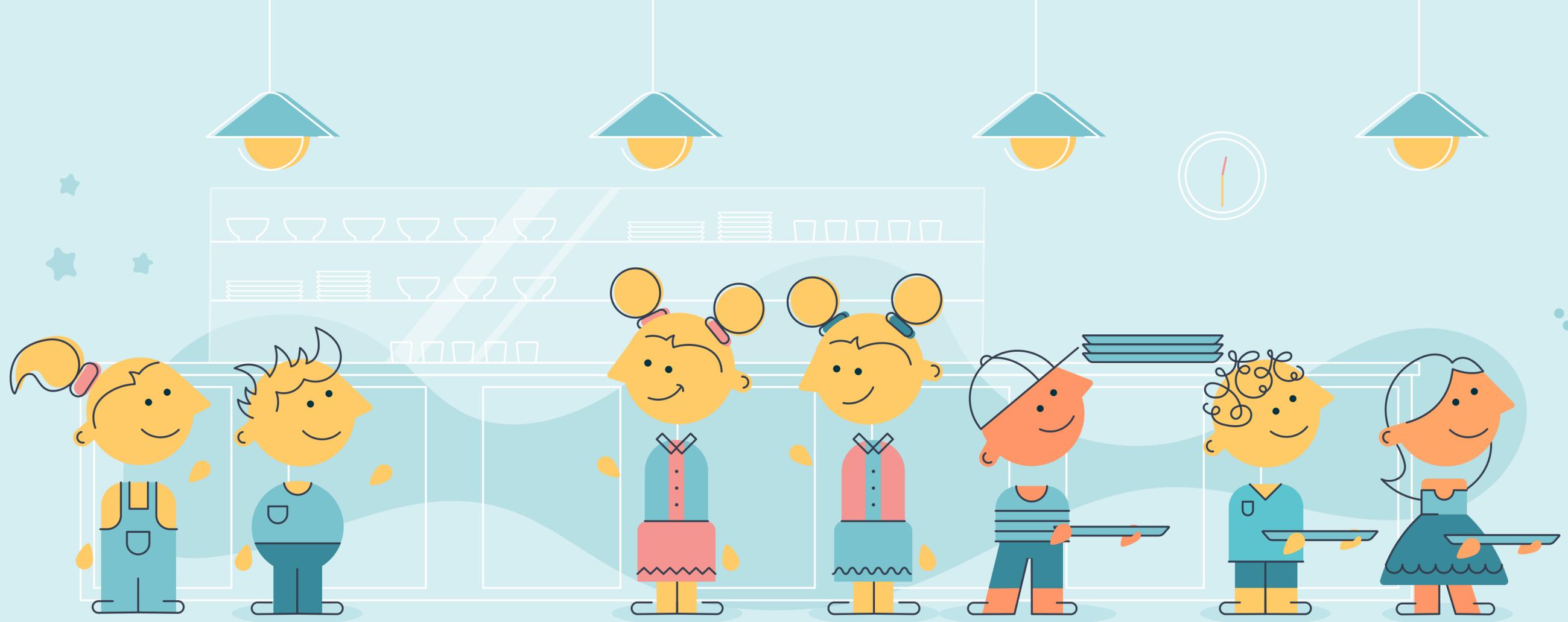
The experiment went well and several children had made a correct prediction about the effect of gravitational force on the movement of the marbles.





Having experimented on gravitational force, Mr Tyler told the class they would have an opportunity to investigate magnetic force acting at a distance in their next science lesson. Mr Tyler also told the class to find examples of where magnets are important and to think about how to compare the strength of different magnets, before their next lesson.





Lunchtime was next, and so Ellie showed Mark the right way to reach the lunch hall. When Ellie and Mark arrived, they saw Sarah and Erin already in the lunch queue. All three siblings smiled at each other and put their thumbs up to show each other they were all having a wonderful first day in school.

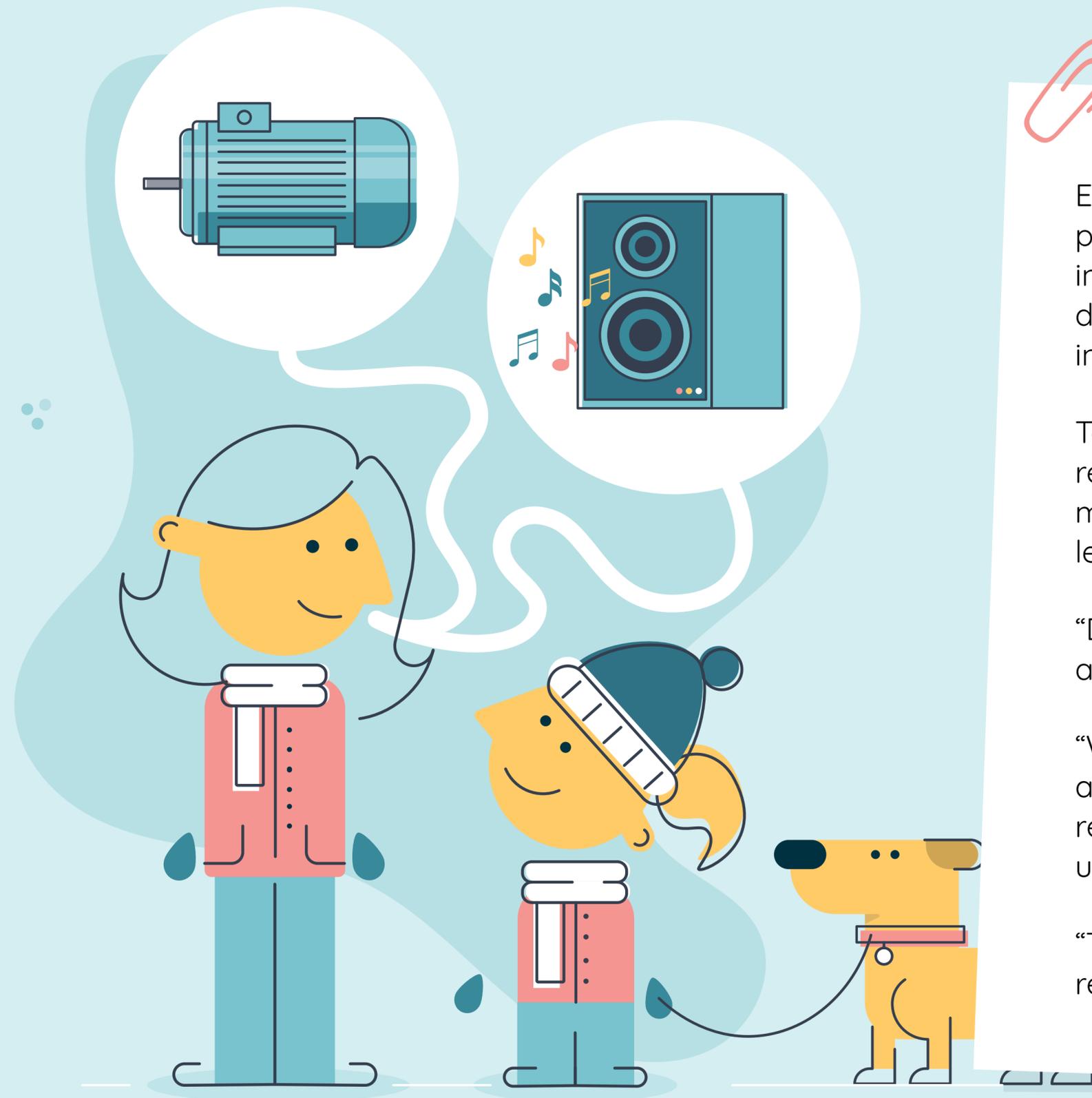
After more lessons in the afternoon, it was time for Ellie to walk Mark back to the school office. Ellie said goodbye to Mark before he was reunited with his two older sisters.



Ellie however, was not going straight home as she had an after school club to attend, which today, was sign language club.

When it was finally time for Ellie to go home she was met, as usual, by her mother, Susan.

As Ellie, Susan and Rusty walked home, Ellie took great enjoyment in telling her mother all about her day and her duties as a buddy to Mark.



Ellie talked about the stamps made for printmaking, and the instruments used to investigate pulse and rhythm. Next, Ellie described how she, Mark and Vishnu had investigated gravitational force.

Talking about today's science lesson reminded Ellie she needed to find out more about magnets before her next lesson with Mr Tyler.

"Do you know examples of where magnets are important, Mum?" asked Ellie.

"Well, I know magnets are used in motors and speakers. Why don't we do some research together to find some other uses?" suggested Susan.

"That's a wonderful idea. Thanks Mum!" replied Ellie.

Just then, Ellie, Susan and Rusty reached their front gate, and as they did, it started to snow!

With the snow falling, Ellie's thoughts turned to the fields near her home, especially the

very steep hill. Ellie was now hoping there would be enough snow for her and Mags to toboggan down the steep hill. In particular, Ellie was curious to test if gravitational force would work on her toboggan like it had

the marbles. She then wondered if Mark, Sarah and Erin would want to come too.

'Oh, how exciting!' thought Ellie.





For more stories featuring Ellie,
her family, friends and teddies,
as well as accompanying
teaching resources, visit:
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Designed by tothepoint

Story by Thomas Andrews
Scientist and educationalist

