INVESTIGATIONS

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SUPERHEROES

Use comic books, clips from movies or images from the web to launch these mathematical investigations into the powers of superheroes. The tasks below are suitable for students in upper primary and lower secondary, and are focussed on estimation and proportional reasoning. You may wish to encourage students to develop their own investigations from what they know, or can find out, about their favourite superheroes.

SPIDER-MAN

Spider-Man's web is made from spider silk - and is stronger than steel! A 5mm thick string of web can support ten times Spider-Man's weight as he swings between buildings. How many strings of web might Spider-Man need to support: A bull? An elephant? A blue whale? Your family car? The school bus? A train? (Think of your own animal or mode of transport).

SUPERMAN

Superman is faster than a speeding bullet, more powerful than a locomotive and able to leap tall buildings in a single bound. Which of these feats is most impressive relative to our human capabilities? Use mathematical reasoning to support your argument.

WONDER WOMAN

According to some versions of the comic books, Wonder Woman is immortal; according to other versions, she does age, but very slowly. If Wonder Woman was born around the time of the ancient Greeks (her father is Zeus after all, and her mother Hippolyta), how old might she be today? If she does age very slowly, how many more years might you expect her to live? Given your calculations, how many times longer is her lifespan than the average human female?

THE HULK

When Bruce Banner transforms into The Hulk, he not only becomes much stronger but also taller and heavier. Using photographs from the comic books and films, estimate how much taller (in cm) and heavier (in kg) The Hulk is than Bruce Banner. Explain your reasoning. When he transforms, which is impacted more - his height or his weight? How do you know this?

THE FLASH

According to the comic book, The Flash can run faster than light travels (impossible of course, but he is a superhero). Could The Flash run around the Earth faster than you could blink your eyes (assume he can run on water)? Explain your reasoning. How long might it take for The Flash to run a 100m sprint? How many times faster would this be than the current world record time?

Have you used movies in your classroom as a launch for mathematical exploration? Our readers would love to hear your experiences. You can share your ideas with us at primenumber@mav.vic.edu.au.