INVESTIGATIONS

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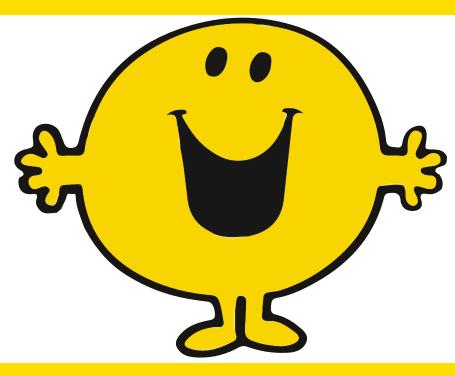
MR HAPPY

Read *Mr Happy* by Roger Hargreaves, and have a go at this problem-solving task that involves exploring the power of exponential growth.

TASK: MR MISERABLE RETURNS HOME

Mr Miserable arrived back to his village, Sadtown, after his time with Mr Happy feeling like a new person. The entire Village, more than 200 people, gathered in the Town Hall to have a party to welcome back Mr Miserable. As they waited for Mr Miserable to arrive, you would think these people would be happy – I mean, they were at a party! But far from it. They were as sad as Mr Miserable was before he met Mr Happy.

Suddenly, Mr Miserable, who was now one of the happiest people in the world, arrived at the Town Hall for the party. Not only was Mr Miserable extremely happy, he had learnt from Mr Happy how to make others happy too. As he walked around the room, greeting one villager every minute, he made them happy. How long until everyone in the village was happy?

What if Mr Miserable's happiness is contagious, just like Mr Happy's? When he makes someone happy, they go on to make someone else happy, every minute. If happiness is contagious, how long would it take to make everyone in the village happy?

EXTENDING PROMPT

What if Mr Happy attended the party with Mr Miserable, and they both greeted someone every minute and their happiness was contagious? How long would it take to make everyone in the village happy?

ADDITIONAL EXTENSION

How long would it take Mr Happy and Mr Miserable to make everyone in the whole country of Sadland (with a population of over one million people) happy? What if Mr Happy couldn't make the trip after all?

How much longer would it take Mr Miserable to make everyone in Sadland happy without Mr Happy's help?

AND IF YOU WANT TO TAKE IT FURTHER

What if Mr Happy and Mr Miserable could instead make two people happy every minute, and their happiness was contagious, so that the people they infected with happiness could also make two people happy every minute. How would this change the answers to the above questions?

Image https://mrmen.com

What kinds of investigations have you used 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.