INVESTIGATIONS

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USING MOVIES

Movie clips can be an effective way to contextualise mathematical problems and engage students. These challenging tasks use a short video clip as a prompt to launch the problem. Thanks to Howie Hua (Twitter: @howie_hua) for this task idea.

COIN OPERATED

Watch *Coin Operated*. Imagine one 5c coin propels his rocket 50cm, but this is not enough. He needs more. Space is 100km away. How many 5c coins does he need to become a real astronaut who has been to outer space?

ENABLING PROMPT

Draw a table to help you.

Distance	Coins
50cm	1
100cm or 1m	
10m	
100m	
1000m or ?	

EXTENDING PROMPT

70 years passes and he charges 10c for lemonade. How many cups did he need to sell per day to travel to outer space? What if he flew to the moon instead?

UP

Watch the 'take-off scene' from the movie *Up*.

How many helium balloons do you think it takes to lift the house in *Up*. Make an estimate and justify your reasoning. (If possible, consider providing students with a few inflated helium balloons to share).

ENABLING PROMPT

How many balloons might cover the floor of your classroom? Draw a picture to help you estimate. How many balloons might you need to fill the whole classroom up?

EXTENDING PROMPT

Can you estimate the weight of the house? Can you estimate how much weight one balloon can lift? How many helium balloons do you think it takes to lift you off the ground and into the sky?

ALADDIN
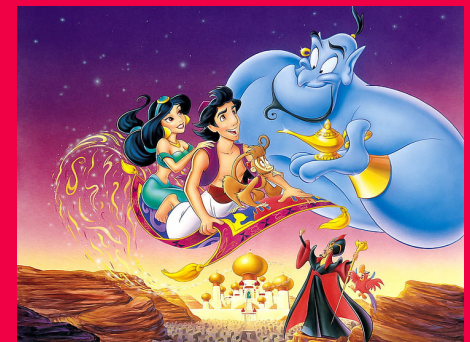
Watch the film clip of 'A Whole New World' from the animated version of *Aladdin*.

Travelling on the magic carpet, Aladdin and Jasmine pass the Pyramids of Giza. 18 seconds later, they are seen in Athens. How many km/h was the carpet travelling?

ENABLING PROMPT

It is approximately 1100 kilometres between Cairo and Athens 'as the crow flies'. If it takes an aeroplane four hours to travel this distance, what speed is it travelling?

EXTENDING PROMPT

Compare the speed of the magic carpet with other vehicles. How much faster is it? How does its top speed compare with the speed of the quickest jet? Your family car? You riding a bike?

How did students in your class approach the above investigation? Share your class's experience with the *Prime Number* editorial team (primenumber@mav.vic.edu.au), for the opportunity to have it published in *Prime Number* as a resource to share with other teachers and students. If possible, try and include photographs of work samples, as well as students engaging in the task.