

## Making Shadows

Shadows are all around us. They're formed when a solid object blocks light. People have been looking at shadows for thousands of years – you can tell the time using shadows on a sundial, when the moon passes in front of the sun during an eclipse the world falls into its shadow, you can even calculate how big the Earth is using shadows!



Different cultures all over the world use shadows to tell stories using shadow puppets, as in this picture of Wayang Kulit, which is a traditional shadow play in Indonesia<sup>1</sup>. We're going to be making our own shadow plays.

### Investigation

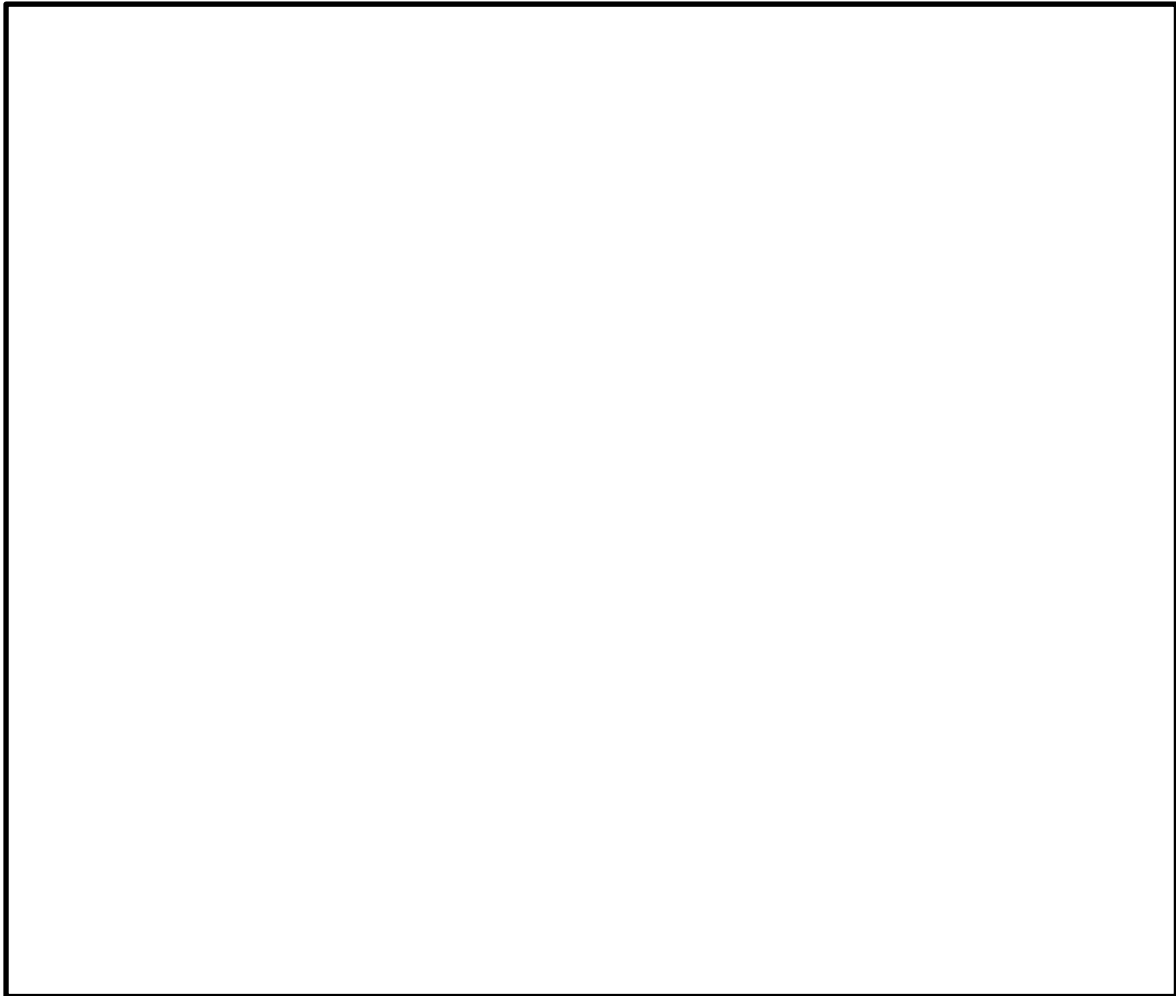
In order to create a shadow play, we need to understand how shadows are formed. Once you have made a shadow puppet for yourself, play with the puppet and the light – see if you can make the shadow bigger and smaller.

What variables can you change? What are you going to measure?

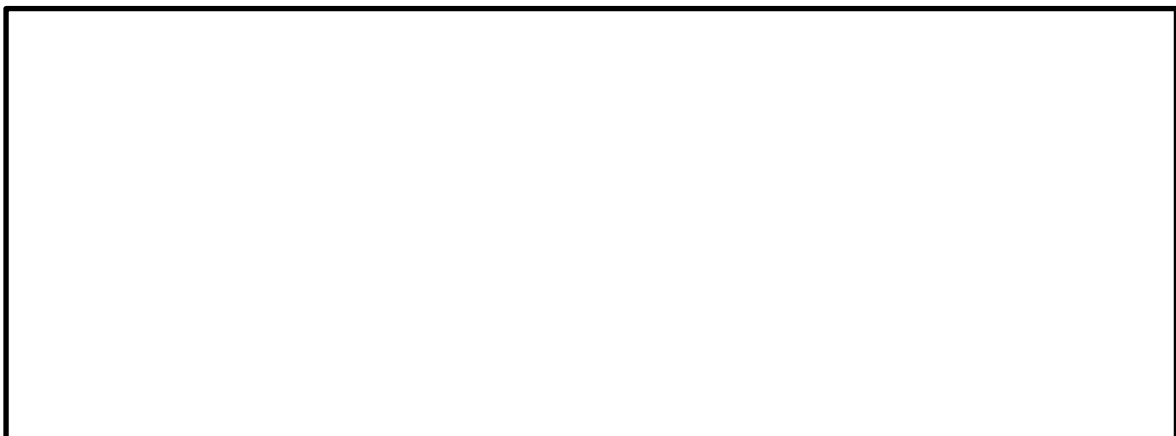
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<sup>1</sup> By Jpatokal at the English language Wikipedia, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=2773202>

In groups, talk about how you can investigate how shadows form, and how you can make shadows bigger and smaller. Write your method here, and draw a diagram of how you will set up your investigation. Remember to label your diagram clearly!



How are you going to make sure your investigations are fair?





Now you're ready to create your shadow play!  
Working together, write your script – remember to include stage directions, and how you need to move your puppets to make their shadows get bigger or smaller.



A large empty rectangular box with a black border, intended for writing a script for the shadow play.