

Science Time



Experimenting at Home – Parent Resource

Shadow Puppets

To compliment this resource;

1. Watch the 'Experimenting at Home – Shadow Puppets' video online.
2. Read the 'Exploring with your Little Scientist Parent Resource' sheet.



Resources

- A light source (e.g. lamp, torch or phone torch).
- Surface (e.g. white wall or sheet)
- Things to make a shadow (e.g. paper, cardboard, cellophane, plastic lid).
- Things for making shadow puppets (e.g. paper, cardboard, scissors, large spoons, foil, wool, pipe cleaners, etc.).
- Things to make a handle (e.g. tape, chopstick, pencil, straw, stick).

Safety

- Ensure that the light source is safe for children to use
- Supervise when children are using scissors. Avoid use of valuable or breakable objects (e.g. glass jars, electronic equipment).

Getting started

Hand shadows

Shine your light towards a wall or another surface. Place your hand between the light and the wall. Discover how your hand blocks the light and casts a shadow. Investigate what happens to the shadow when you move your hand into different shapes. Experiment with making hand shadow puppets, like a dog or a bird.

Bigger and smaller shadows

Investigate what happens to the shadow when you move your hand closer and further away from the light source. What happens when you move the light source closer and further away from your hand?

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What else makes a shadow?

Collect different materials and shine the light through them. Investigate the different shadows that they make.

Discover if all materials make the same shadow. Do the materials block out all of the light or do they let a little of the light shine through?

Exploring further

Paper shadow puppets

Try making different shadow puppets out of paper. Cut the paper into different designs of people or animals. Attach a handle to the puppets. Investigate how to make a face for the paper shadow puppet that the light will shine through. (Adults will need to help if cutting out faces).

Experimenting with puppet design

Experiment with shadow puppet designs using objects from around the house (e.g. wooden spoon) and add extra bits for arms and hair. Encourage them to experiment using a variety of materials.

Toy shadows

Discover what happens when you use toys to make shadows. Investigate how the shadows look different as they turn the 3D toys around. Explore making the toy's shadows bigger and smaller.

Moving shadows

Experiment with making shadow puppets move. Explore movement as they hold the puppet or experiment with attaching the puppet to something that moves, like a toy car.

Extra Challenges

Encourage children to use their understandings of shadows and shadow puppets to attempt the following challenges;

- **Shadow Puppet Show:** Can you make up a story and perform a shadow puppet show? You can include puppets that you make and your toys. You can make scenery for your show. Experiment with the shadow puppets moving and changing size. You can perform your shadow puppet shows for your family.
- **Shadow Puppet Theatre:** Can you make a shadow puppet theatre for your show? You can use a sheet attached to two chairs or a large box with one end cut out and paper attached. Put the light source and shadow puppets with the puppeteer behind the theatre and the audience in front. Enjoy the show!