

Photography challenge



Children's University Tasmania members can earn up to 10 hours in their *Passports to Learning* for this fun photography challenge.

EARN 10 HOURS IN YOUR PASSPORT



RICHARD Jupe's love of photography started when he was in primary school.

"Images are my life," he says.

"Images are the absolute best way to tell a story, communicate a message or share a moment."

Richard's passion has allowed him to travel throughout Australia to study, work and teach.

After more than 10 years as Head of Vision for the *Mercury* newspaper, he is now working as a freelance photographer again.

Richard wants to inspire you to take photos, and look at and think more about the images all around you.

He has helped Children's University Tasmania design a series of activities you will be able to enjoy with any basic camera.

How cameras work

TO understand how a camera works, you first need to know how light works.

Light travels in a straight line.

Think about when you turn on a torch in a dark room.

Light travels in a straight line and then bounces off objects and travels back at the same angle where it began.

But those rays of returning light change, because when they are reflected and partly absorbed by objects, they retain information about the colour and brightness of those objects.

The first cameras were darkened boxes, tents or rooms with a small hole in one side or the top.

Light would pass through that hole, and because light travels in straight lines it would project an image on the opposite surface.

This natural process is known as 'camera obscura'.

These images were inverted (upside down) and reversed (left to right).

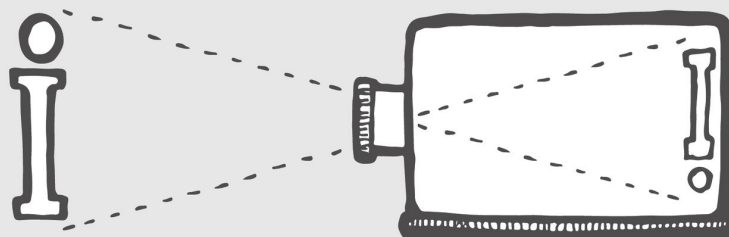
It wasn't until people started placing material that was sensitive to light on the opposite surface that photography was invented.

When light hit that material, a chemical reaction etched an image in its surface.

A good way to learn about the way cameras work is to make your own pinhole camera.

The craft version, right, won't take a photograph, but it will help you to think about how light works, as well as the history of photography.

You can earn up to **two hours** in your passport for this activity, at the discretion of your school/ hub coordinator.



Make a "pinhole camera"

This is a great activity for understanding how cameras work, but please do not attempt to do it without the assistance of an adult family member.

STEP ONE

Use the point of a pencil to punch a hole at one end of the shoe box.

STEP TWO

Ask an adult family member to cut a 5-centimetre hole at the opposite end of the box (using a craft knife).

STEP THREE

Cut a square of wax paper 7.5-centimetres wide, using the scissors.

STEP FOUR

Secure the wax paper over the square with the sticky tape.

STEP FIVE

Take the camera into a dimly lit room and turn on a lamp.

STEP SIX

While standing about 1.5-metres from the lamp, cover your head and most of the "pinhole camera" (but not the pinhole end) with a blanket.

STEP SEVEN

If you hold the camera at arms-length from your face and aim it at the lamp, what can you see?

ITEMS YOU WILL NEED

- Shoe box
- Wax paper
- Sticky tape
- Blanket
- Sharp pencil
- Craft knife
- Scissors
- Ruler

EARN TWO HOURS IN YOUR PASSPORT



What does
the Latin
word camera
obscura
mean?



How cameras work

THE first cameras took a long time to take a single, blurry photograph.

Improvements came with the use of a lens rather than a pinhole, and mirrors to project a right-side-up image.

All modern cameras are still a box with an opening, or aperture, to allow light in.

A shutter opens and closes the aperture, so light is only allowed in for a certain amount of time.

The light passes through one or more lenses, which bend the light rays so they are redirected to a single point.

When those light rays meet together on film or more often now, on a digital camera chip, a “sharp” image is created.



Film is coated with chemical which reacts to the light and records an image.

The film can then be removed from a camera in a dark room and more chemicals are used to create an image which can be printed on paper.

A digital camera chip is a light sensor which turns the image into electrical signals to create images that can be viewed immediately or stored on a memory card.

Movie, video cameras, or digital camcorders work much the same way, they just take many still pictures each second.

Our eyes also work much like a digital camera.

The pupil is a hole that allows light into our eyes, a convex lens behind the pupil focuses images, and the retina - a light-sensitive surface near the back of the eye - acts like the digital sensor in a camera.

The nerves of the retina collect all of the electrical impulses, which travel through the optic nerve to our brain.

A camera’s focusing system allows photographers to move the glass lens closer or farther from the sensor or film so that the object is sharp.



Portrait photography

HOW cool is the photo, above, taken by Richard Jupe of Hobart Hurricanes' star Ben McDermott?

We don't expect you to create images that look anything like this, but we are going to challenge you to take some portrait photos.

Richard has lots of knowledge, experience and high-tech camera equipment at his disposal.

But with time and practice, you can also take some great photos with an inexpensive camera, or most likely a phone camera.

Here are some tips to think about when you are taking your portrait photos.

COMPOSITION

This is what you choose to leave in and leave out of a photo.

Move around.

Try a few steps forward or backward, kneel down or take your camera to higher ground.

Zoom in and zoom out.

Small changes can make a big impact.

LIGHT

Experiment with light.

Try taking photos at different times of the day, and see what works and what doesn't.

Place your subject so that you have light behind you.

THE RULE OF THIRDS

You don't have to place your subject in the centre of the photo.

In fact, if you use an interesting background, blank space can be a

really good thing for photos.

BACKGROUNDS

Try different backgrounds - against walls or curtains indoors, or head outside and use a more interesting background.

You could also include props, objects or clothing that make the portrait unique, or even hang a sheet and set up your own studio.

Your challenge is to ask permission from an adult family member, or more than one, to be your subject and take five different photos, either on five different days, or in five different locations.

You can earn **three hours** in your passport for this activity, at the discretion of your school/ hub coordinator.

Framing your view

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YOUR
PASSPORT

MOST photo frames are rectangular, and some are oval shaped.

Frames change how a photo looks, by setting the picture apart from its surroundings.

Look at a photo in a frame and then an unframed photo.

A frame helps us to focus on the image, and the size, shape, design and colour of a frame impacts how we view the image in different ways.

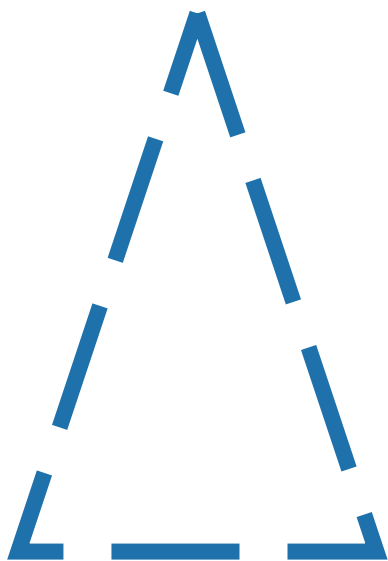
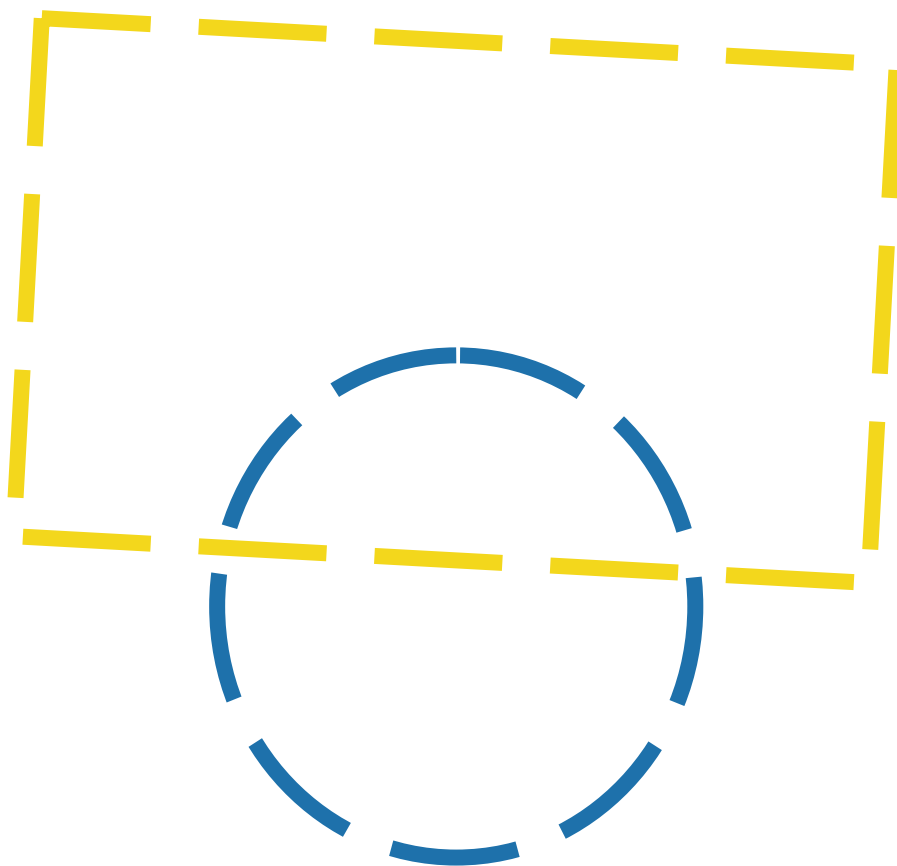
Using five or more A4 pieces of paper, draw and cut out different shapes.

Then use each piece of paper as a frame, and hold it up to various objects or views - a photograph if you like.

Move the frames close to your face and then an arm's length away.

How do the frames change what you see?

You can earn **one hour** in your passport for this activity, at the discretion of your school/ hub coordinator.



Scavenger hunt

THREE
HOURS IN
YOUR
PASSPORT

There are great photos to be taken all around you, so we are challenging you to head out on a scavenger hunt walk with an adult family member, in your local area or somewhere you like to visit, and find and photograph the below items.

Each item is worth a point so tick them off as you go.

You can earn up to **three hours** in your passport for this activity, at the discretion of your school/ hub coordinator.

A place where people gather <input type="checkbox"/>	A large machine <input type="checkbox"/>
Something that is flat <input type="checkbox"/>	A long line <input type="checkbox"/>
An interesting pattern <input type="checkbox"/>	Something that starts with the first or last letter of your name <input type="checkbox"/>
Animals <input type="checkbox"/>	Something that is green <input type="checkbox"/>
A plant that provides food <input type="checkbox"/>	A local shop <input type="checkbox"/>
A bridge <input type="checkbox"/>	Colour contrasts <input type="checkbox"/>
Playground equipment <input type="checkbox"/>	Numbers <input type="checkbox"/>
A cool sign <input type="checkbox"/>	Beauty from trash <input type="checkbox"/>
Something that is tall <input type="checkbox"/>	Something that is tiny <input type="checkbox"/>
A really old object <input type="checkbox"/>	Movement and action <input type="checkbox"/>

Landscape exhibit

LANDSCAPE photography highlights beautiful spaces.

The photos might be a dramatic bush setting - like the amazing photo, right, by Richard Jupe - or something really small like a flower, or a butterfly.

There are lots of colourful fungi on display in Tasmania at the moment, for example.

Generally landscapes capture nature, and the amazing colours of autumn are all around us at the moment.

But sometimes they can be a photograph of a human-made structure.

The way an old barn, or even a very modern structure, looks within a natural landscape can make for a very interesting image.

Once again, we don't expect you to create images that look anything like the one taken by Richard, but we are going to challenge you to try landscape photography.

We would like you to head outdoors and take some landscape photos of anything that captures your imagination.

If you are out-and-about on the scavenger hunt, keep an eye out for something special.

You can earn **one hour** in your passport for this activity, at the discretion of your school/ hub coordinator.



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Share your pics with the CU team

The Children's University Tasmania team would love to see the landscape photos you take for this challenge.

Please email scanned copies of your photos to CU.Tasmania@utas.edu.au

We are considering ways we might display the work of our members at this year's Children's University Tasmania graduation ceremonies.