

Catch the Penny

Question: Why do humans and a lot of animals have two eyes instead of one

We use both eyes most of the time and so using one eye causes our brains to become confused. Your brain uses the information it receives from both eyes to create a 3D image of what you see. When only one eye is used, our depth perception is skewed.

Materials: Stones, Cup

Method:

- Split into pairs for this experiment.
- Place the cup about 2 feet away from your partner.
- Get your partner to cover one eye.
- Wave a coin around slowly higher above the cup.
- Ask your partner to tell you when to drop it.
- Your partner has to try to get to coin into the cup.
- Now try with both eyes open.
- Compare the two options and decide which is easier.



Blind Spot

Question: How can you find the part of your eye that literally has a 'blind spot'?

On the back of your eye, your 'retina', you have cells called rods and cones that catch light and send messages to your brain along your nerves, which are like wires. All your nerves go through your retina in just one spot. In this spot, there are no rods and cones. Since you don't have any rods and cones there to catch light, you can't see with that part of your eye.

Materials: Your eyes, your hand, Blind Spot card

Method:

- Hold the **Blind Spot card** in front of you and close your right eye.
- Look at the X. Even though you're looking at the X you should be able to see the dot out of the corner of your eye.
- Slowly move the paper in front of you. Try moving it left and right or closer and farther away. Remember to keep looking at the X. At a certain point, the dot will seem to disappear out of the corner of your eye. This is your blind spot. As you keep moving the paper towards you, it will reappear.



X

Learning to See



Question: How does your eyes and brain learn to see?

A huge part of your brain is dedicated to your sense of sight. In this activity, you will discover that your brain still has to learn how to see things it has never seen before.

Method:

Look carefully at the photograph below. Can you see what it is? Not many people see it straight away.

DON'T SAY WHAT YOU THINK IT IS OUT LOUD!!



The amazing thing about this photograph is that once your brain learnt to see it properly, it will never have trouble seeing it again. If you look at this photograph one year from today, you will recognise it almost immediately. Your brain has LEARNED to see the photo.

Learning to See



In this activity, you will learn a how to see one image correctly first, and then apply the same rule to a new image.

Method:

Look carefully at the shapes below. Do they mean anything to you?



DON'T SAY WHAT YOU THINK IT IS OUT LOUD!!

Now that you know 'how to see' the image above, look at the next set of shapes. Can you see what this means?



Happy or sad?



Learning to See

Look at the dots in the centre. Which one is bigger?

