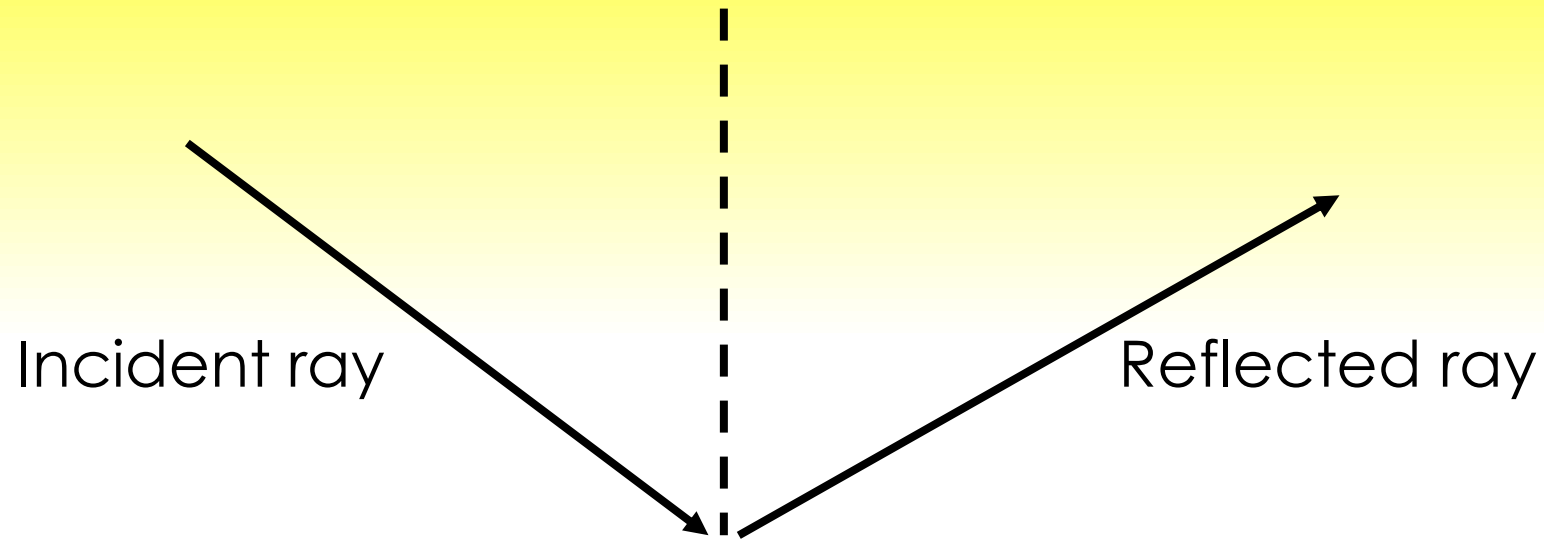


To understand refraction

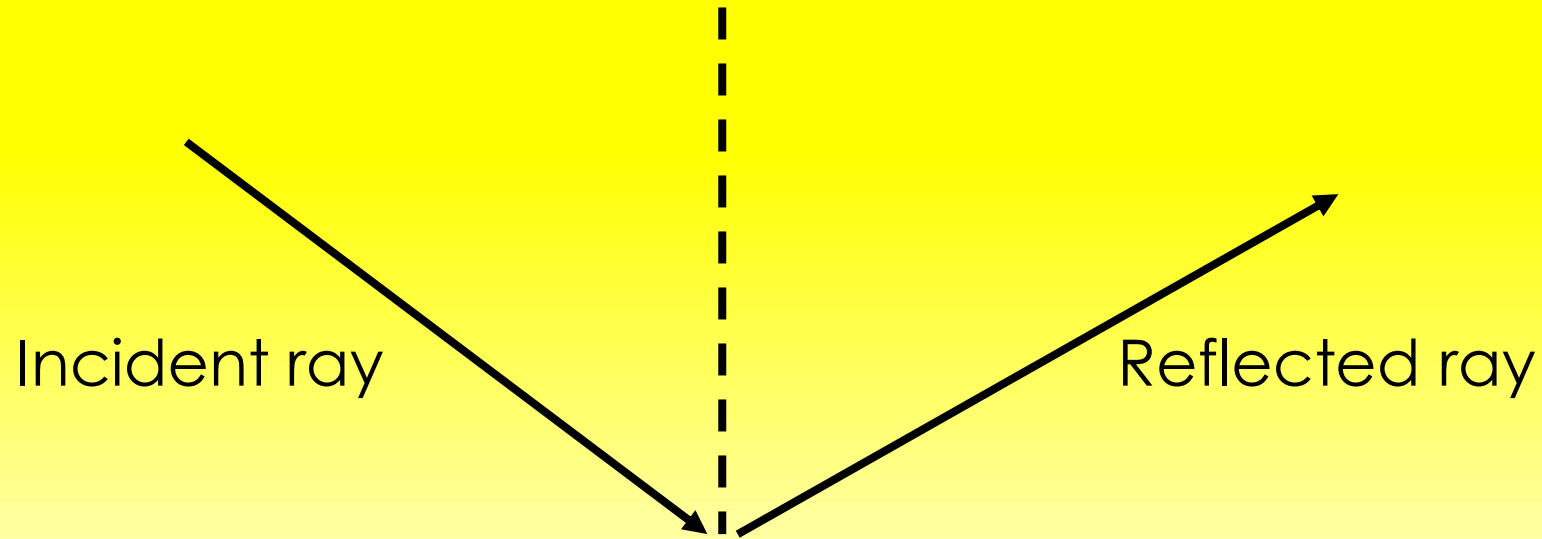
- **Know what refraction means**
- **Understand how light is refracted**
- **Understand how the direction of light changes**

Recap - Reflection

The light ray that hits the mirror or object is described as the incident ray. The ray of light that bounces off is known as the reflected ray.



Recap - Reflection



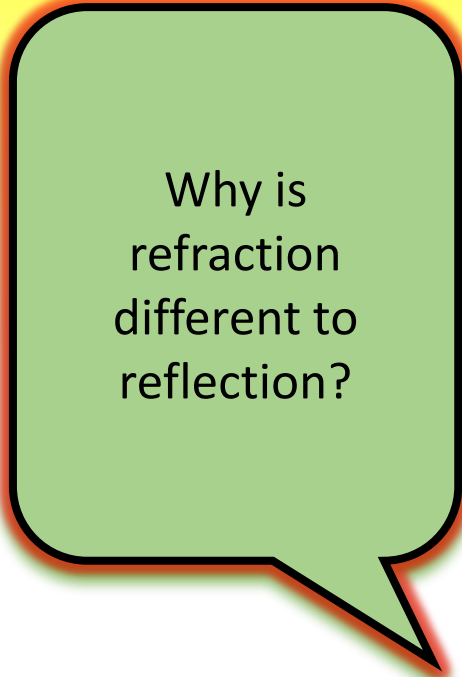
When rays of light reflect, they obey the law of reflection: The angle of incidence always equals the angle of reflection.

Vocabulary

What does the word refraction mean?

A pink speech bubble with a black outline and a drop shadow, pointing towards the bottom-left.

Use a dictionary

A green speech bubble with a black outline and a drop shadow, pointing towards the bottom-right.

Why is refraction different to reflection?

Vocabulary

Refraction – A change in direction as the light deflects, travelling at different speeds

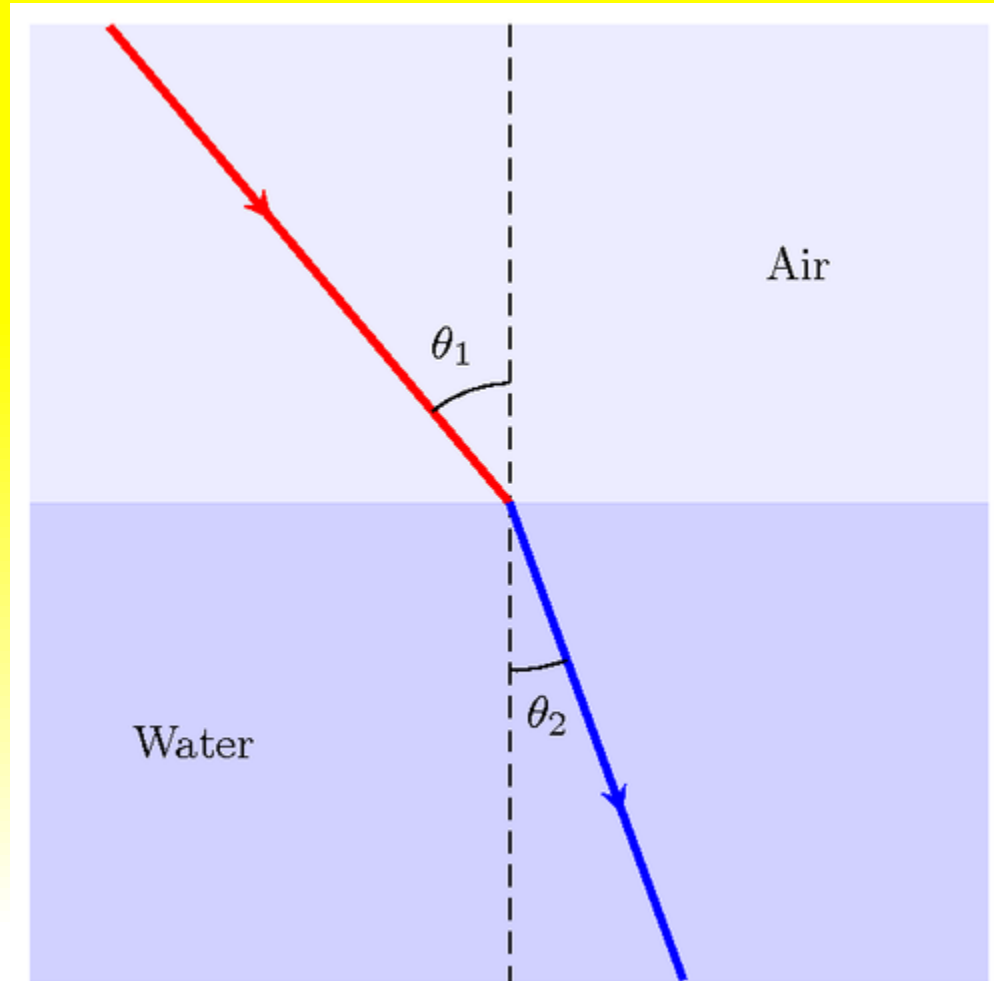
What is refraction?

<https://www.bbc.com/bitesize/clips/zqg3cdm>

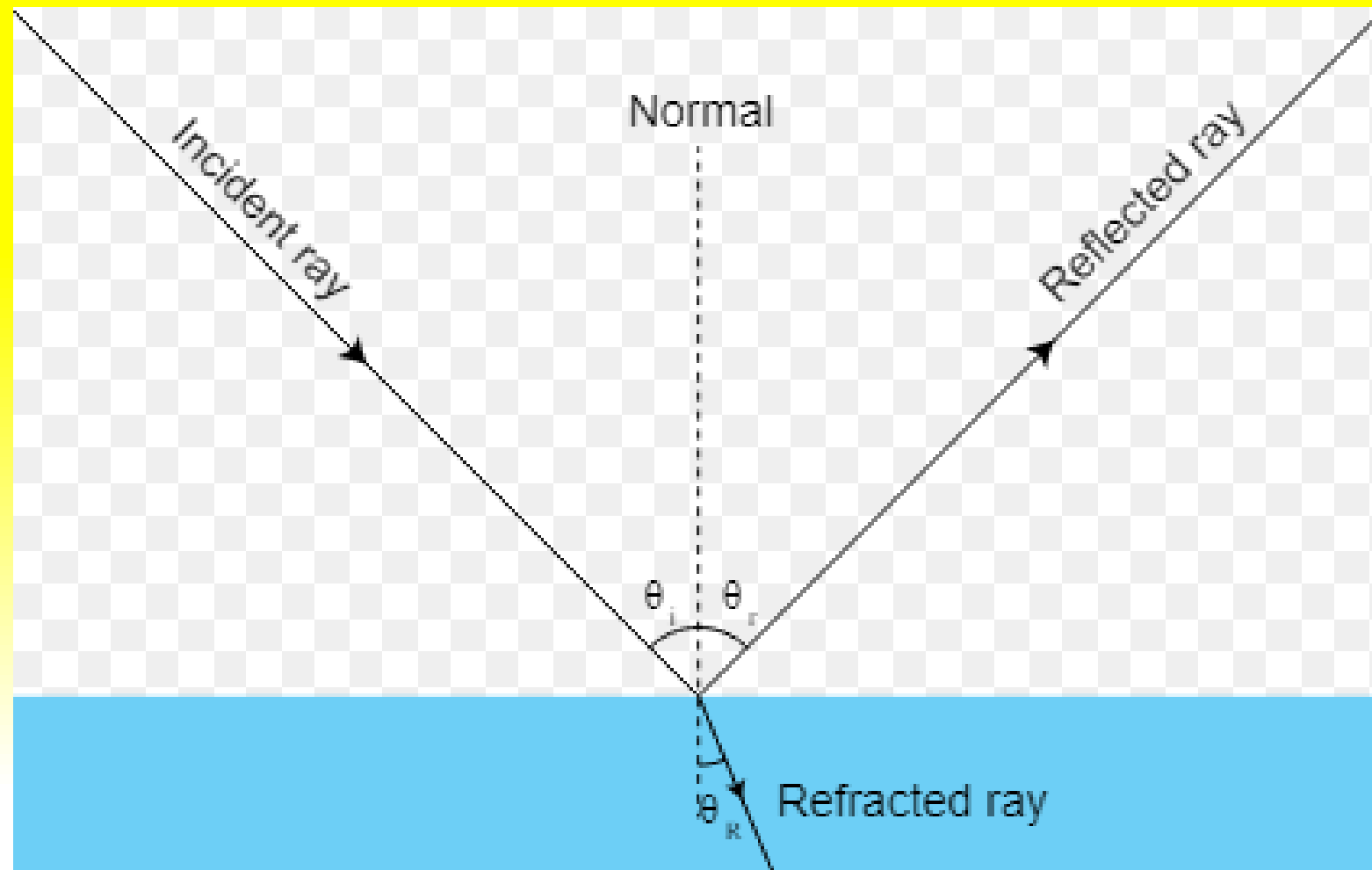
What is refraction?

Light waves travel at a different speed when they go through other transparent materials, such as water or glass. This causes the rays of light to change direction and bend which is also known as refraction.

The refraction of light helps create illusions. Because light bends when it travels between air and water or glass, objects seen through these materials look bent or misshapen.



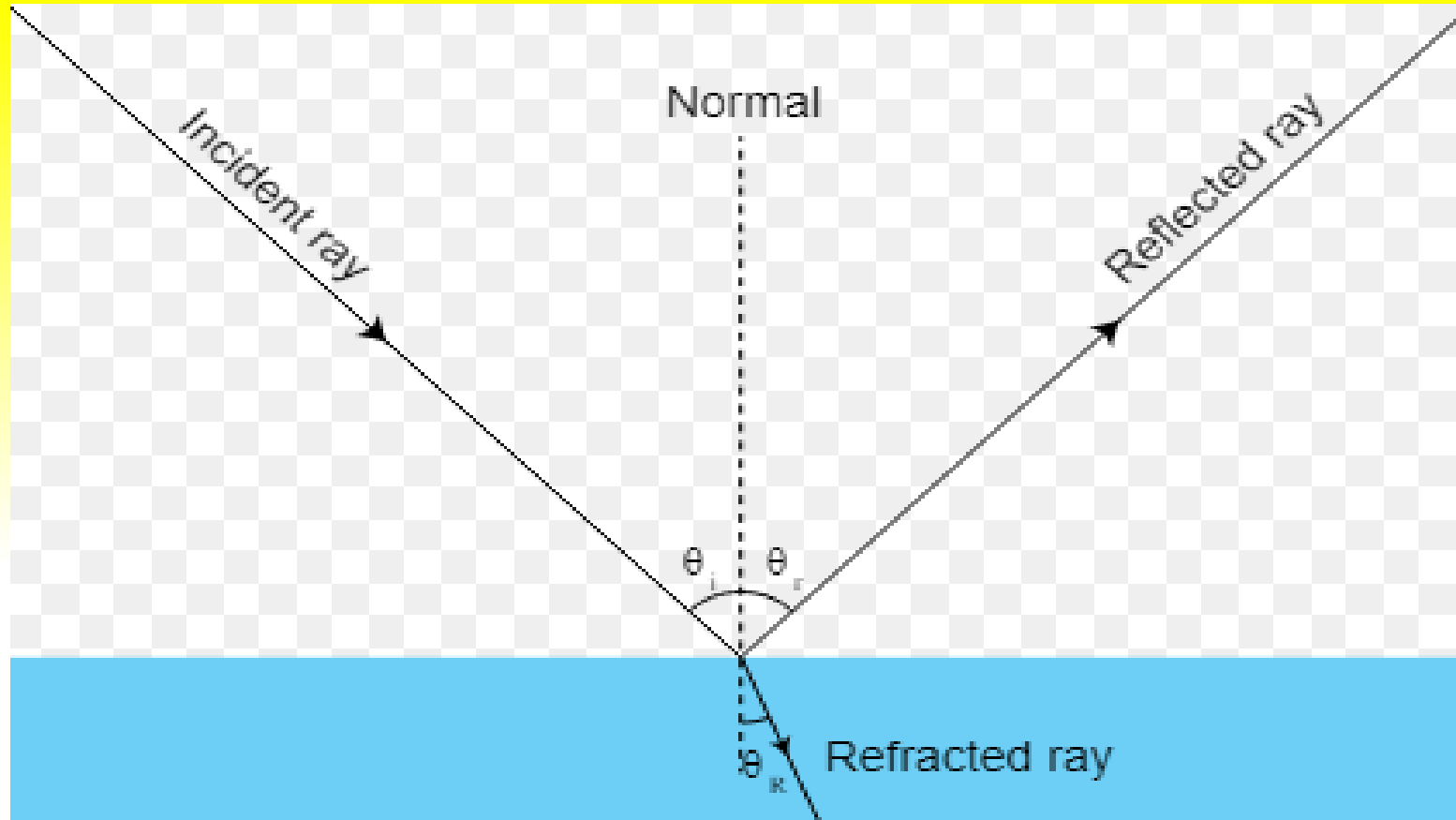
What would happen if the light was being reflected?





Activity 1

Explain what is happening in the image below and how reflection and refraction are different from one another.



Activity 2

Draw a small picture on a piece of paper.

Place an empty glass over the top of the picture and look at your image through the side of the glass.

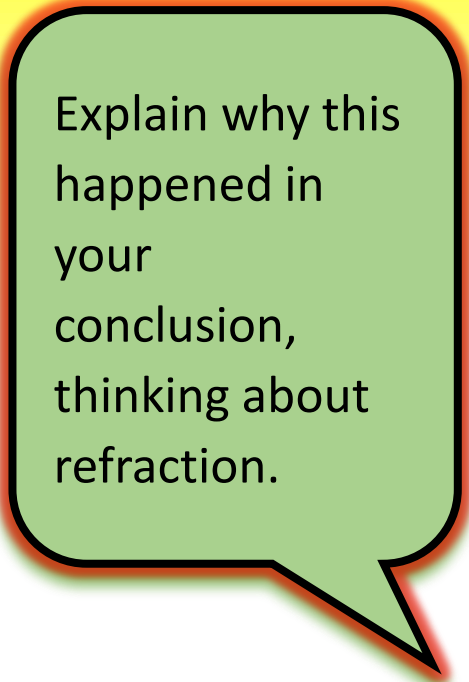
Fill the glass with water.

When the glass is full, you should cover the top of the glass.

What do you predict will happen?

What do you observe?

What happened to the image you drew?



Explain why this happened in your conclusion, thinking about refraction.