

# Stay at Home Science



## Invisible Glass

### What You Need

Wesson canola oil  
Large clear glass bowl  
Pyrex glass container (small enough to fit inside bowl)  
Plastic or rubber gloves (optional)

### What You Do

**Tip:** Prepare steps 1 and 2 out of view of children, so they can be surprised!

1. Carefully place a small Pyrex container in the bottom of a glass bowl.
2. Pour enough canola oil into the bowl to fill and cover the Pyrex container. The Pyrex container should appear nearly invisible, with only a ghostly outline visible.
3. Look carefully together at the bowl and talk about what you observe.
4. Carefully reach into the oil and lift out the smaller dish – watch everyone's surprise!

### Questions to ask

- What do you see in the bowl?
- Did you know anything was in the oil?
- Why do you think you couldn't see the smaller bowl?

### What's the Science?

Have you ever looked through a glass of water and noticed that the objects on the other side appear distorted? When light passes through any material, it slows down and bends slightly. The amount that light slows and bends in any material is called its refractive index. Pyrex glass has a very similar refractive index to canola oil, which means light passes through them at almost the same speed. Since light passes through the Pyrex at the same speed as the oil surrounding it, the Pyrex appears invisible.

### Try This

**Use science vocabulary:** Use related science words such as speed of light, reflect, refract, visible and invisible as you talk and play together.

**Extend your experiments:** Follow your curiosity! What happens if you place the Pyrex back in the oil without letting any of the oil inside? What if you use water instead of oil? Try different combinations to see what you can discover.

### Keep in Mind

- Children are natural scientists; let them lead the way in their experimentation!
- Encourage them to ask questions and make suggestions only when they are stuck/discouraged.
- The order suggested is not the only right or perfect way. Adjust the activity based on the age, ability, and interests of the children.

### Additional Resources

*Light: Shadows, Mirrors, and Rainbows* by Natalie M. Rosinsky  
*Light and Dark* by Julie Murray

