

Learn to Blueprint

What you'll need

- Pencils with good erasers
- Several pieces of paper with at least one side blank
- Three items to blueprint (good items are coffee mugs, simple toys, soup cans)
- A ruler or two

Introduction

In this activity, you and your child will learn all about blueprinting, and blueprint objects from around your house.

What is blueprinting?

When engineers decide to make something, they don't start with building right away. First, they make a plan. This plan is called a blueprint or a design, and it shows **exactly** how to make the thing the engineer invented.

There are several important pieces of good blueprints.

- They show the object from several sides (top view, front view, side view, etc.)
- They have measurements to show how big an object is
- They have labels to show what the object is, and what it's made of

Discuss with your child: What if you had to make a coffee mug (or some other object on hand), but you had no idea what a coffee mug was, and had never seen one? If someone gave you blueprint to build a coffee mug, what would need to be on it so you could make a good mug?

As you discuss, begin creating a blueprint of the mug on the paper. Ask your child what's missing, and try to encourage them towards the answers through questions like "if I'd never seen a coffee mug, how would I know how big to make it?"

Now, explain the list of important parts of blueprints above to your child. Once finished, watch the video below, which explains more clearly how to draw objects from different views:

"Topic 12.2 Views of Solids" on YouTube: <https://youtu.be/lfcXpWbHyYc>

Do it!

Now, you and your child will get to practice blueprinting on several objects.

Set out the objects, and then either work with your child (or allow them to work on their own) to blueprint the other objects you collected.

Once finished, each of you pick a different item in the room without telling the other, and blueprint it. Once finished, trade blueprints and see if you can figure out what the item is.

If you want, you can gather more items of different difficulties and continue blueprinting.

Adaptations	Vocabulary	Fun facts
<p>For Younger children Pick simpler items that are made of simple shapes: boxes, cups, etc.</p> <p>For An Extra Challenge Pick more complex items that will need views from more sides and require more detail.</p>	<p>Blueprint: A plan that shows exactly how to make an object. Might also be called a design.</p>	<p>Example blueprints: Below is an example blueprint. You can also search google images for “blueprint” and get plenty of cool examples!</p>

Blueprint example

