

# Sneak Peek!

## Press Start

Step up to the ultimate soldering challenge and wire your very own arcade-style reflex game from a raw printed circuit board! Battle your friends in a test of hand-eye coordination - who will be the fastest?

How can a frozen liquid...be hot? You'll explore this, and how to make invisible ink, in our chemistry lab. One ink to write with, one to reveal... What's the secret to the recipe?

## Hour of Chemistry

## Barbie Bungee

Become a physics engineer and design a high-stakes, death-defying bungee jump for a daredevil doll! Will your equations hold up during the ultimate high-altitude drop, or will your jumper face a catastrophic crash landing?

Our suspect claims they were never at the scene of the crime...but are they telling the truth? You'll become digital detectives to solve this mystery!

## Catch Me If You (S)can!

## Machine Learning Motions

We need a new, cutting edge security lock. Teach your computer to detect your special secret handshake and open the lock! How complex can you make it?

Ever wondered how a computer shows you images? Video games? Movies? You'll explore the language of binary code and logical rules to decode a spreadsheet matrix and watch the transformation take place!

## Matrix Masterpiece

## Plotting the Perfect Puddle

Agriculture meets Robotics in this engineering challenge! Design and program your rover to read a colour map and deliver water to the thirstiest plants in the field!

What makes crystals look different from each other? Explore this through a scavenger hunt in UW's Earth Sciences Museum.

## Of Quartz We Can Find It!

## Making Music From Thin Air

Have you heard of a theremin? It's an instrument that is played without touching it! Build your own and explore its musical range!

Optical illusions sure are fun, and we'll be taking them to the next dimension! You'll design your very own 3D optical illusion and print it into reality!

## Print a Shape Shifter

Become a Forensic Scientist and find the culprit! DNA and fingerprints are both unique ways to identify someone - which will work best for this investigation?

**Dusty Digits  
and Decoding  
DNA**

**Capillary  
Control**

Master the physics of capillary action and combine technology, biology and art to guide liquids through a complex 3D design. Will the separate streams be combined, or avoid each other?

Plastic bags have nothing in common with living cells...or do they? Explore the molecular gatekeeping of your cells with this colourful biochemistry experiment!

**Iodine  
Infiltration**

**Double  
Vision, Triple  
Dimension**

Step behind the scenes of virtual reality engineering and hack the human visual cortex to create stunning 3D illusions from flat, 2D images!

Do you feel that? It's an EARTHQUAKE! You need to build a foundation to keep our buildings safe! Will your design be up to the test?

**You're On  
Shaky  
Ground!**