

BUILD BEYOND



IMPERIAL



Royal College of Art

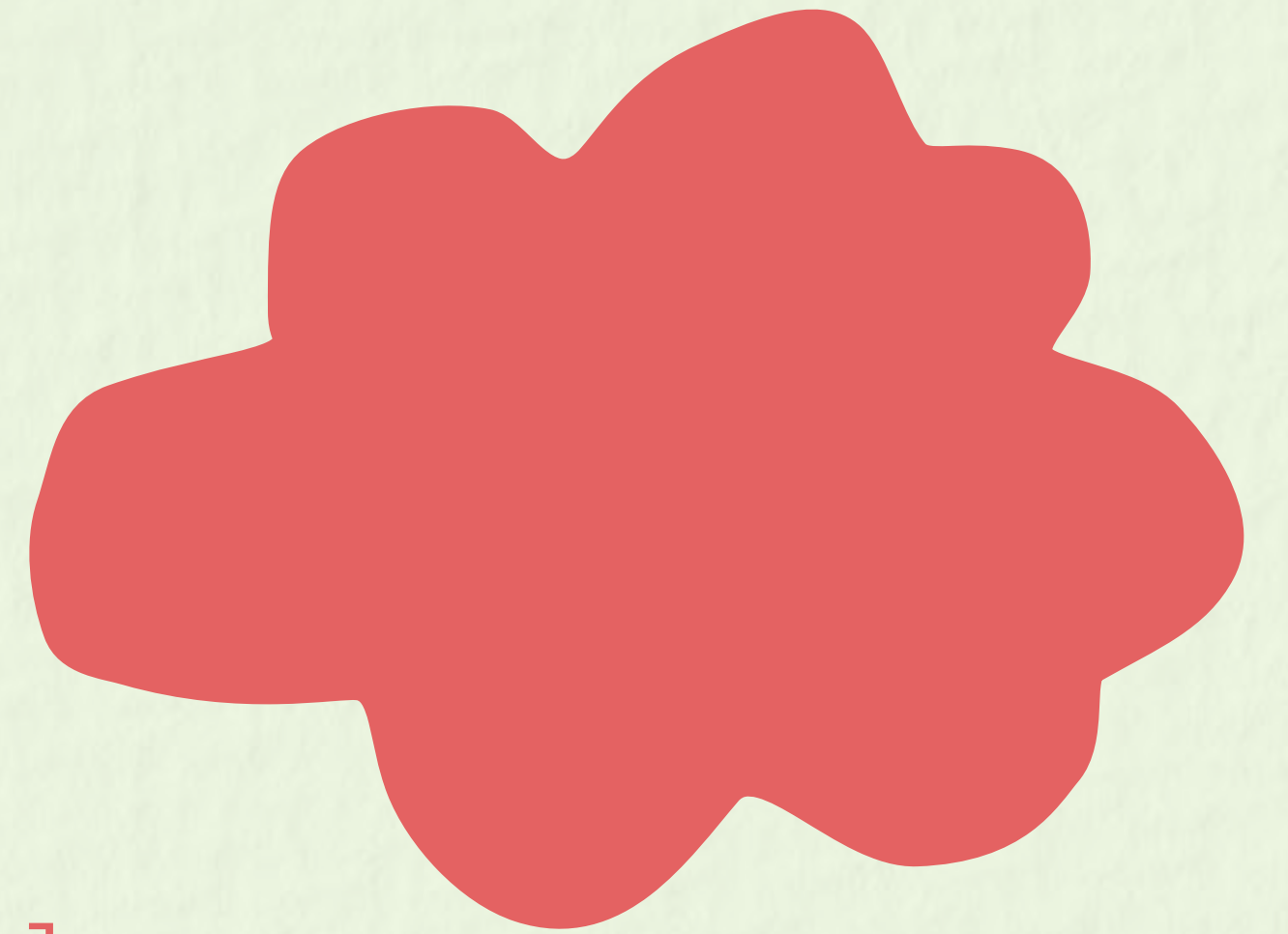
Rethinking instruction based play for opportunities to practice creative thinking, demonstrated with LEGO®.

Lucy Tam 2026

Modern day LEGO® is a paradox.

It's one of the most intuitive creative mediums ever designed, and yet most people who own it have never actually created a model of their own.

As AI tools begin to automate every problem that comes with instructions, the value of LEGO® to foster human creativity is more important than ever before.



The background of the slide is a dark, textured surface featuring faint, semi-transparent images of various LEGO bricks and parts. These elements are scattered across the top and bottom portions of the slide, creating a subtle, thematic backdrop for the text.

Redesigning the 'open-ended' LEGO® play experience for shorter attention spans in the modern age - how might we push people to practice creative thinking and *build beyond* the instructions?

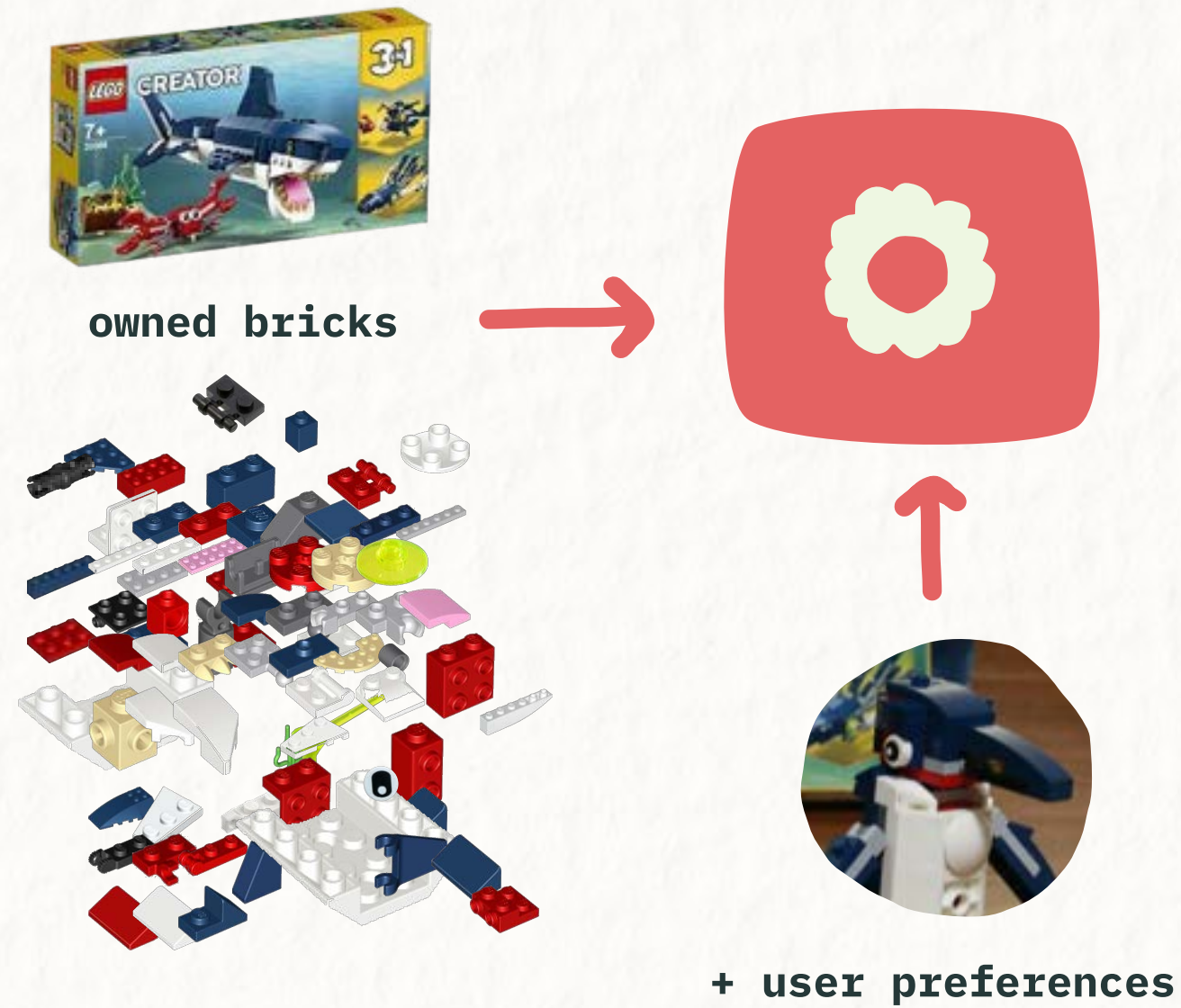


What is... **BUILD BEYOND**

Scaffolded MOC building challenges generated using the bricks you already own, designed to practice and develop creative thinking one small win at a time.

BUILD 0103

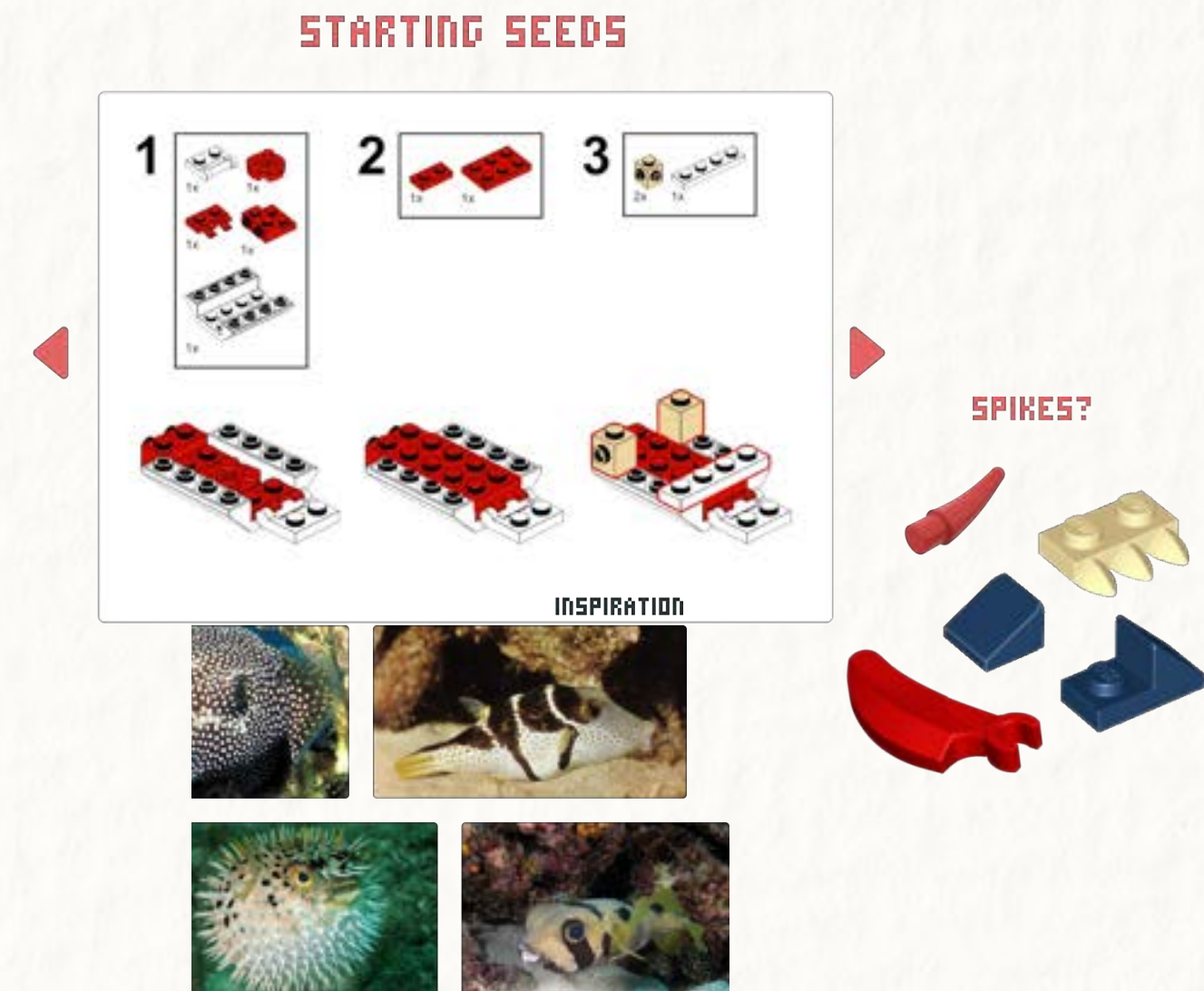
1. setup activity engine



2. create challenge



3. complete activity with scaffolding



4. record and share



5. see your progress!



PLAYFLOW framework.

The current system uses existing LEGO® Creator sets, which have known parts lists.

Future iterations could use a photo to recognise parts similar to the BrickIt app.



OFFICIAL
SET MODELS



+
Shapes

+
Number / type
of joints

+
Colours



+
Symmetry

31088 - Flying Fish
by Seabie



• OTHER SEA CREATURES

• INSECTS



Stag Beetle
by cameling



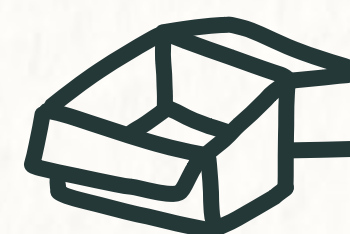
31088 Spinosaurus aegyptiacus
by Foosbubs

• REPTILES

• OBJECTS



31088 - Lawn Mover
by KlintIsztvud



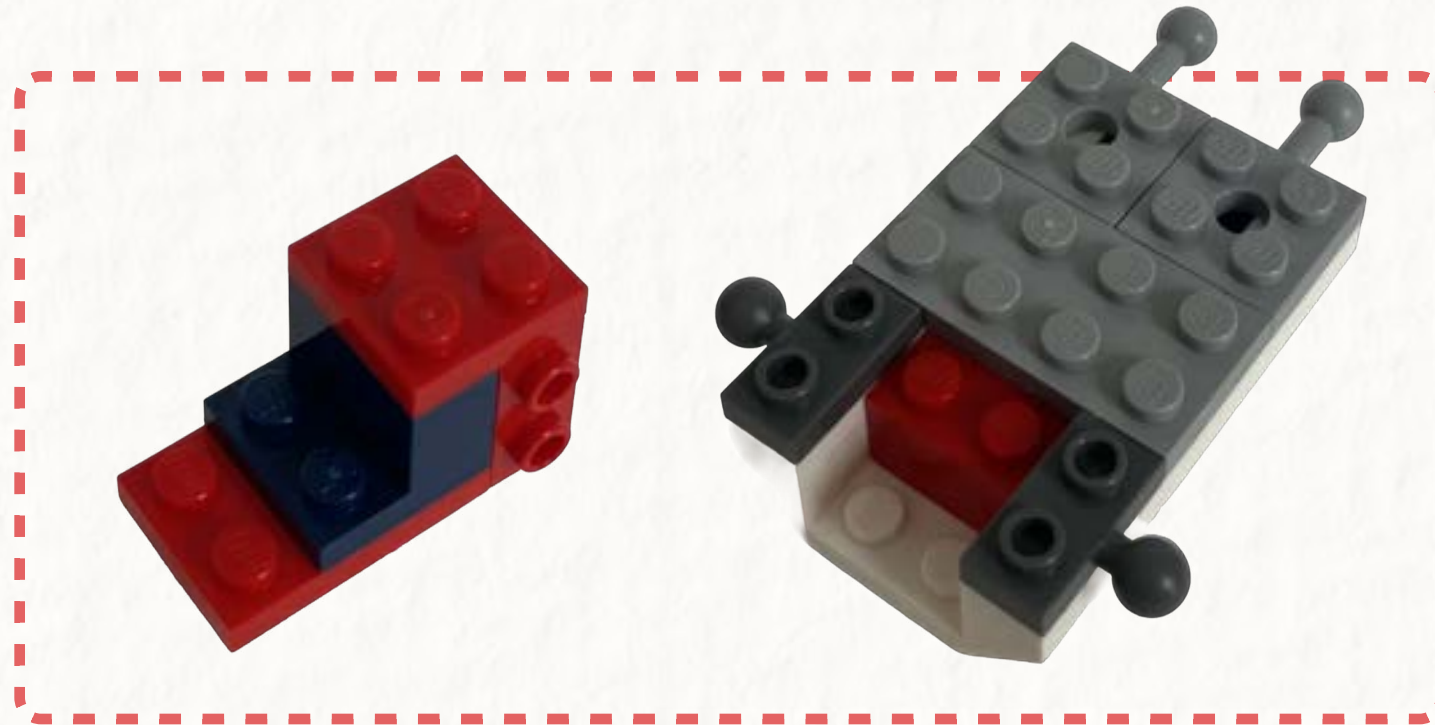
The ACTIVITY ENGINE uses part affordances to generate specific MOC challenges that are feasible to build from the bricks that the user owns, but without pre-scripting how the user will do so.

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Starting seeds offer adaptive scaffolding for each challenge → just enough structure to get your build started, without dictating where it goes.

Penguin: Head Seed

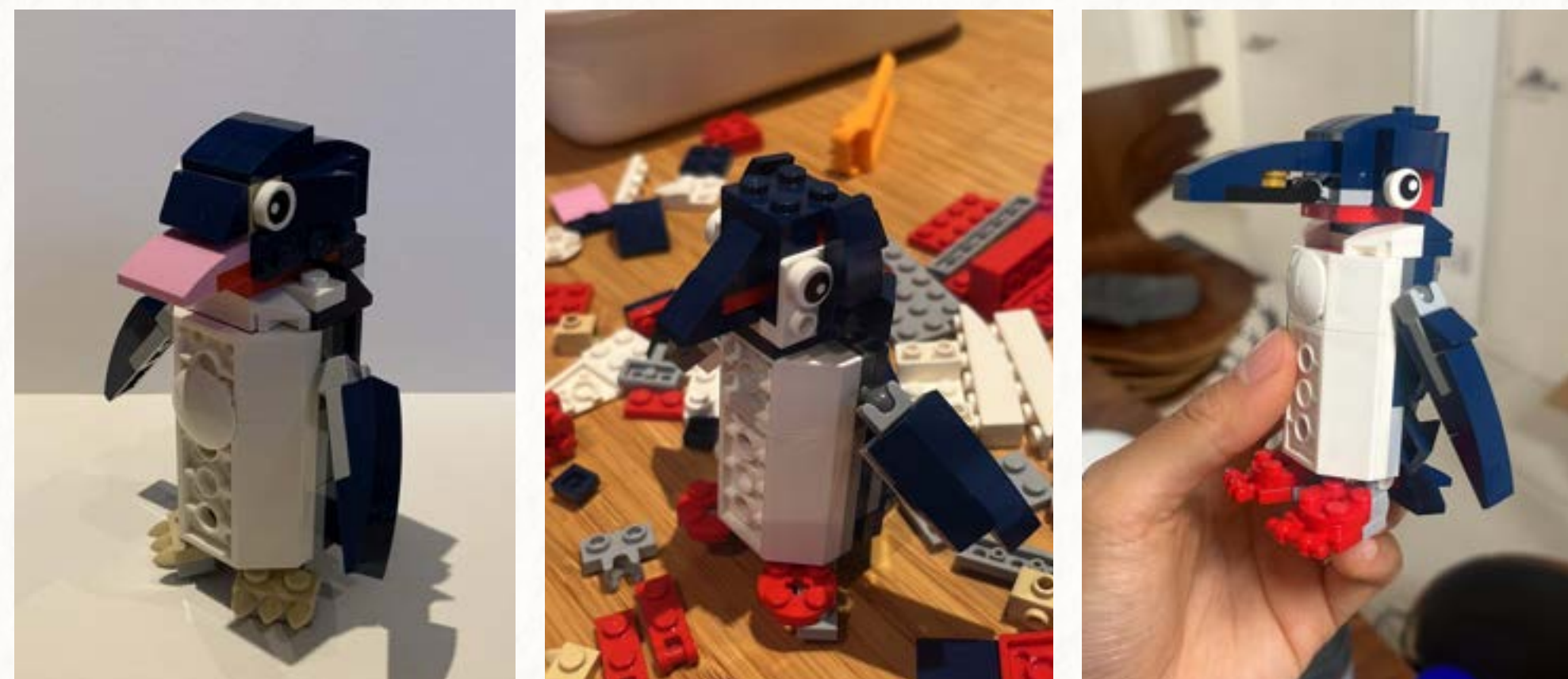
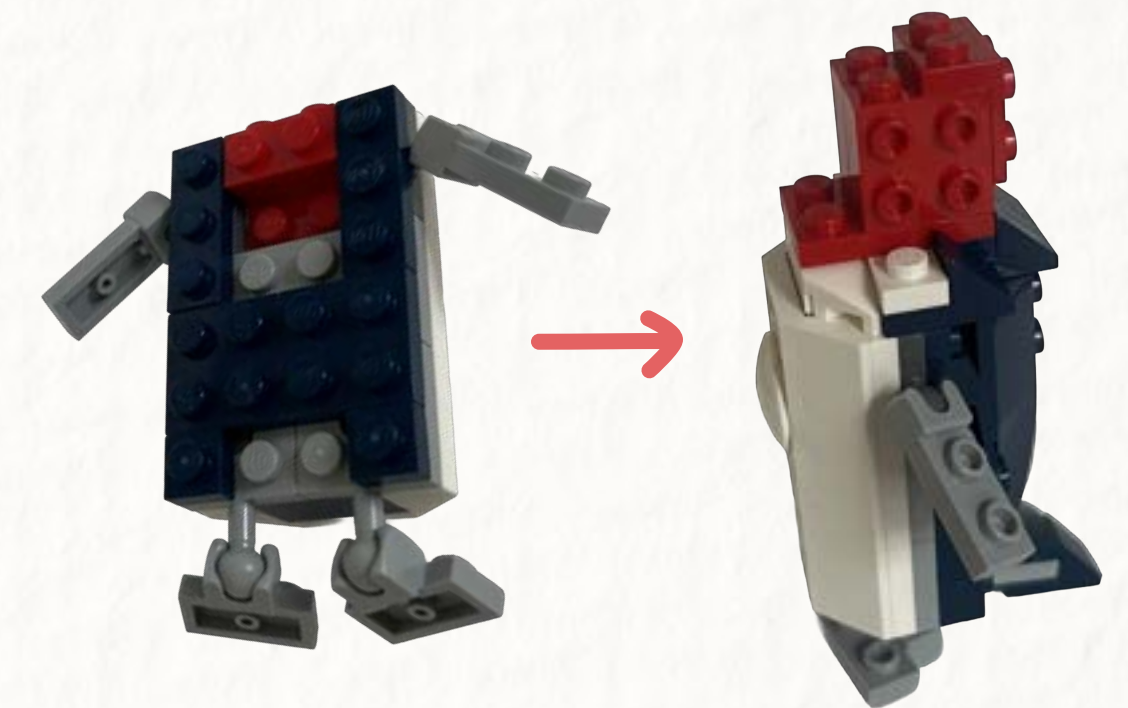


Penguin: Torso Seed



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maximum scaffolding provided for penguin challenge (generous)



Seeds for creativity.

These guide users to form coherent outcomes, along with increased feelings of **ownership over their builds**, additionally developing **confidence**.

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demo : example challenge

 **RESTART DEMO**

INSPIRATION



PUFFERFISH

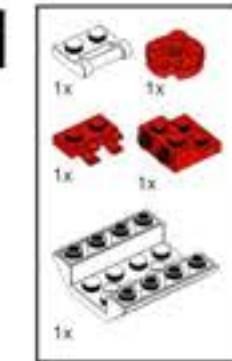
These creatures look innocent until threatened, where they will inflate to multiple times their size to scare away predators!

sea creature

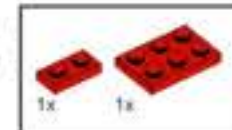
mini-build

STARTING SEEDS

1



2



3





Tap for full screen.


I NEED MORE SCAFFOLDING

I'M FINISHED
Add my build to the scene!

SPIKES



FEATURE HINTS

FACE



ROUND BODY



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Once completed, take a photo with the app and add your build into a shared scene with others who completed the same challenge.

+ create scenes with friends!



Keep track of your builds over time and revisit your past MOCs!



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Who is this for?

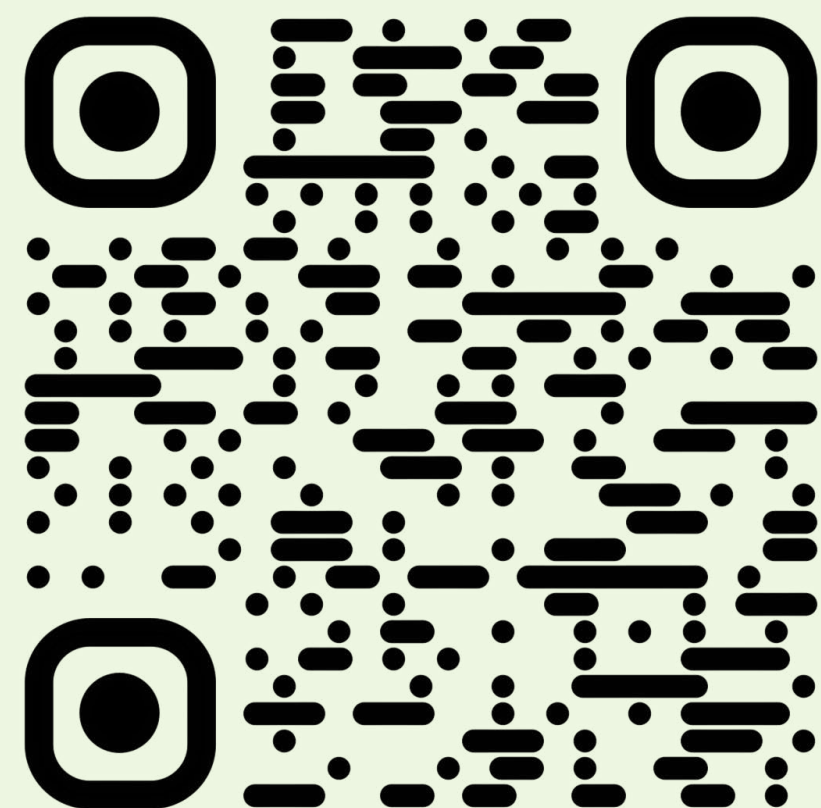
Anyone who wants to develop their creative thinking abilities in a fun, hands-on way.

Children/ adults who have finished building through instructions, who want to begin making their own models but aren't sure where to start.

Facilitators/ teachers/ parents.



Build Beyond



DEMO
build-beyond.vercel.app

Go to exhibition mode for
more info.



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Two young children using my pufferfish starting seeds!
(Photo taken with permission from parent)