i-Scream
Craft
Learn 3D modeling like it's a game

3D Modeling’s Educational Effectiveness

1 3D Modeling and its Educational Effectiveness

Q. What is 3D modeling?

3D modeling is creating 3D objects in a virtual space

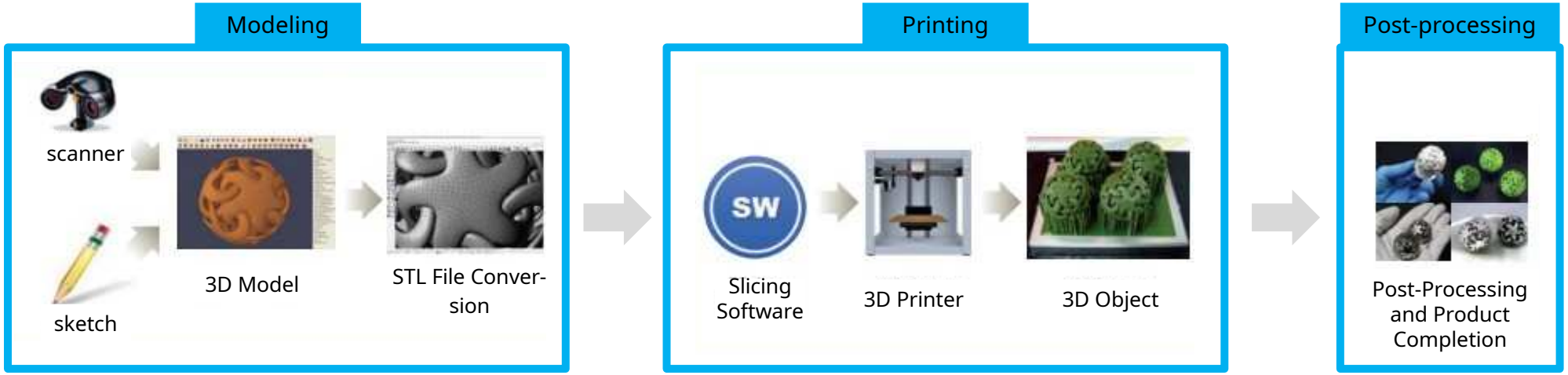
Q. What are the benefits of learning 3D modeling?

1. Ideas can be expressed in a 3D form, not in a flat screen.
2. Spatial awareness can be improved by creating 3D shapes.
3. Mathematical thinking, such as understanding units, volume, and length, can be enhanced through working with 3D shapes.

Ref. 3D Printing and Modeling

- 3D printing process

  : The process of producing three-dimensional shapes rather than printing flat text or images with a printer.



- What is 3D Modeling?

  ❖ The process of designing an object composed of points, lines, and surfaces in three-dimensional space, allowing it to be printed as a tangible object through a 3D printer.

  ❖ 3D modeling is carried out using 3D modeling software, and the created object is referred to as a 3D model.

Ref. Educational Benefits of 3D Modeling

- Benefits

Creativity and Problem-Solving Skills

Implementing ideas visually and physically enhances critical thinking and creativity.

→ Enhances students' creativity and problem-solving abilities

STEM Subjects

Integrating across STEM subjects enhances understanding of key concepts.

→ Strengthening Understanding of Knowledge Concepts

Practical Learning

Provides hands-on experience, enhancing practical problem-solving skills.

→ Provides practical learning experiences

Engagement and Sense of Achievement

Creating and printing their own models boosts student engagement and accomplishment.

→ Increased Engagement and Achievement

Reference

- https://medium.com/@mintcad/3d-printing-in-classroom-a-hands-on-approach-to-stem-education-125b9f1b720f
- https://iste.org/blog/harness-the-power-of-3d-models-in-the-classroom
- https://www.ejmste.com/article/the-effectiveness-of-using-3d-printing-technology-in-stem-project-based-learning-activities-5592

Product Introduction

2 Background of Product Planning

Combining three diverse activity experiences

3D Digital Making Activity

‘i-Scream Craft’

An online STEAM service combining virtual blocks to build essential items, enhancing digital and maker skills.

Digital Making (Craft Activity)

- Accessible anytime, anywhere with a mobile device – no materials or teacher assistance needed!

Enhance digital skills and abilities

- A service that unlocks the child’s digital skills for creativity, communication, collaboration, and problem-solving.

3D-Based Engagement Activities

- Offers children familiar 3D experiences, empowering them to move from consumers to active creators.

3 Product Goal

3D Digital Making Activity

1.

Develop creative senses

Fostering children's creativity through themed online craft activities.

2.

Expand Digital Thinking

Building digital making skills to express thoughts confidently, fostering a positive self-image.

3.

Enjoy 3D

Kids today love 3D movies and games, bringing 3D items to life with their own creativity.

4 Product Information

i-Scream Craft’s Vision

“Providing Opportunities to Imagine, Create, and Share”

Service Target

All Elementary students (also suitable for 3D Design Beginners, including Adults)

Product Type

Android Application (Tablet Only / Android 13 or higher, 10-inch tablet recommended)

Payment Method

Google Play

In-App Purchase (Google Play Store)

5 Product highlights

The world's easiest way to learn 3D modeling

"If you've ever played with blocks, learning it will be easy-peasy."

3D block-based

Stack 3D blocks in virtual space to create
3D modeling tools to create the shapes you want

Easy to use

Easy and intuitive
UI/UX makes it easy for everyone

Courses by difficulty level

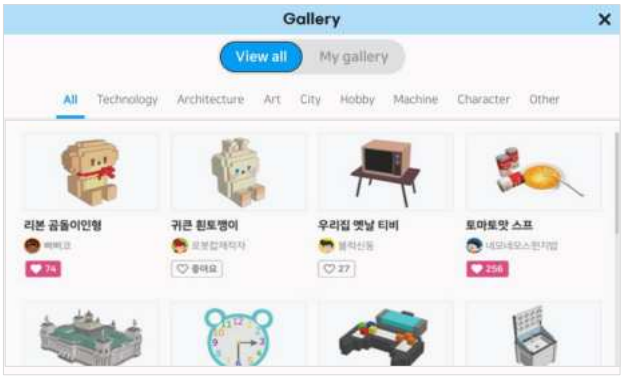
Provide hands-on activities
with varying levels of difficulty

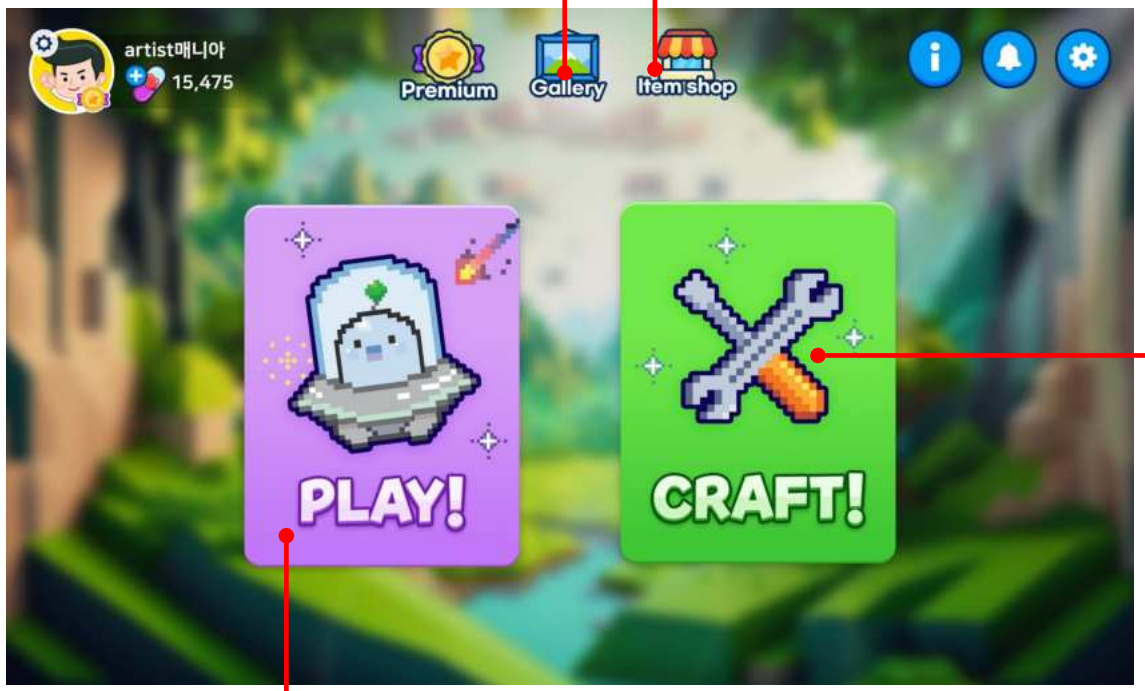
5 Product highlights

Key functions on the App main screen

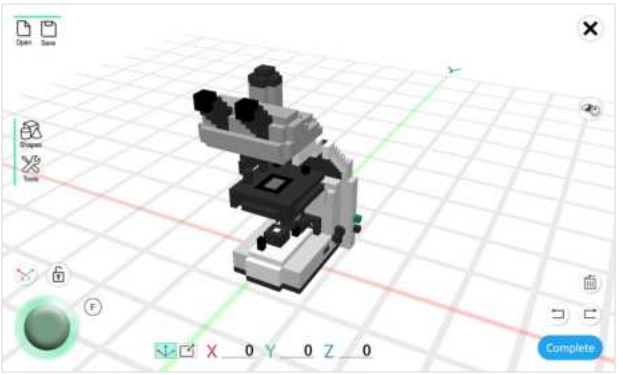
Premium 3D item store

Display user-created 3D items on gallery





Freely create & express



Access learning curriculum

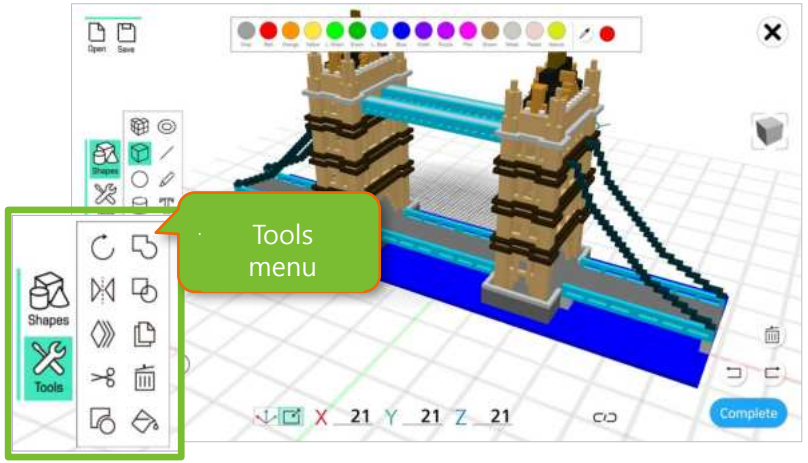
5 Product highlights

SIMPLE

FUN

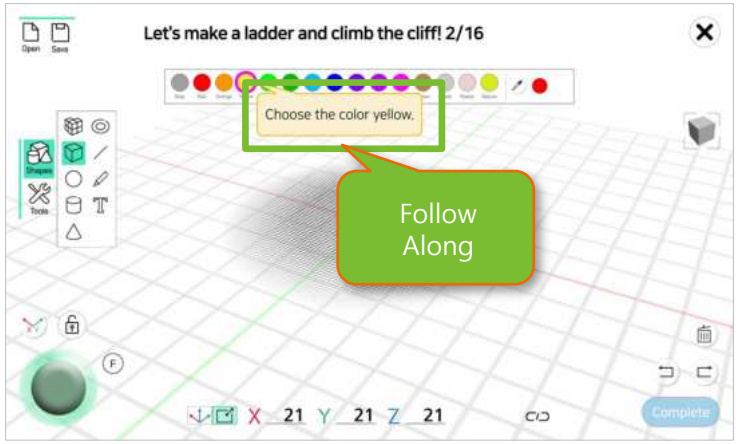
EASY

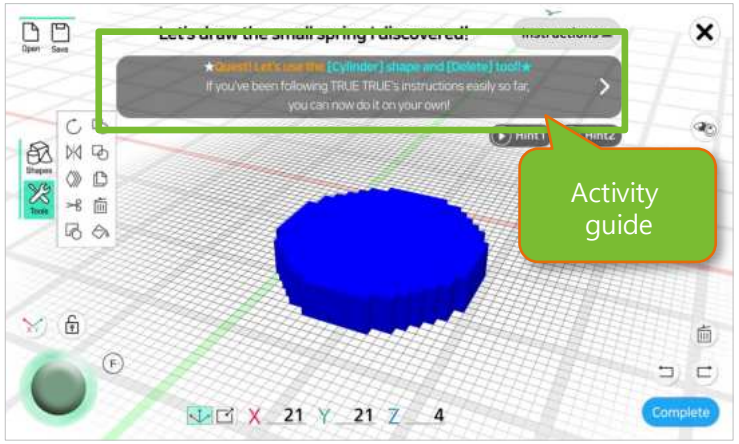
Intuitive editor



- Just stack various shapes and use tools to shape them as desired!

Just follow ‘Follow Along’ and ‘Activity Guide’, 3D modeling will be easy





- Use the 'Follow Along' feature to practice the editing functions and production procedures.
- If you get stuck while creating an item, click on the 'Activity Guide’ to get hints!

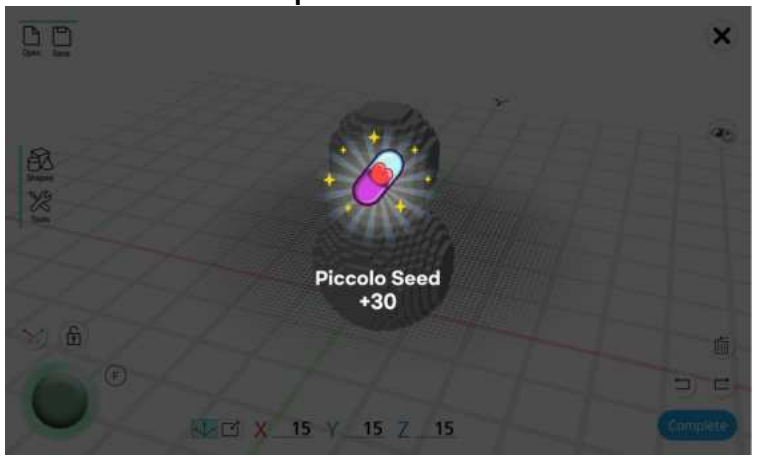
5 Product highlights

SIMPLE | FUN | EASY

As you progress through stories and missions, your 3D design skills will improve significantly.

- Provides a story-based learning curriculum
- Increases the fun of learning with various episodes

Reward points are awarded upon successful completion of missions.



- Awarded upon completion of major mission activities
- Additional service purchase available through points

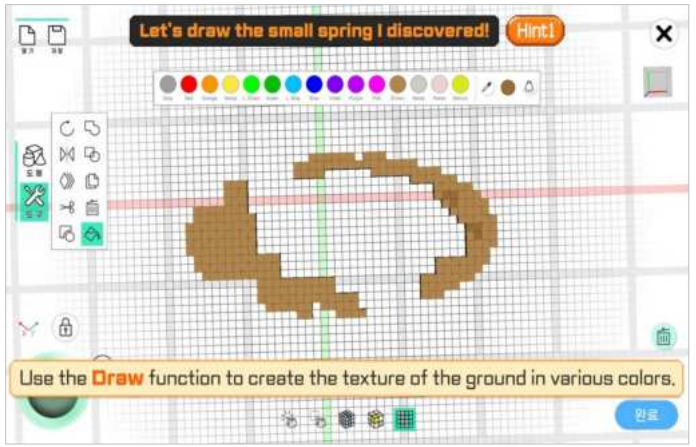
5 Product highlights

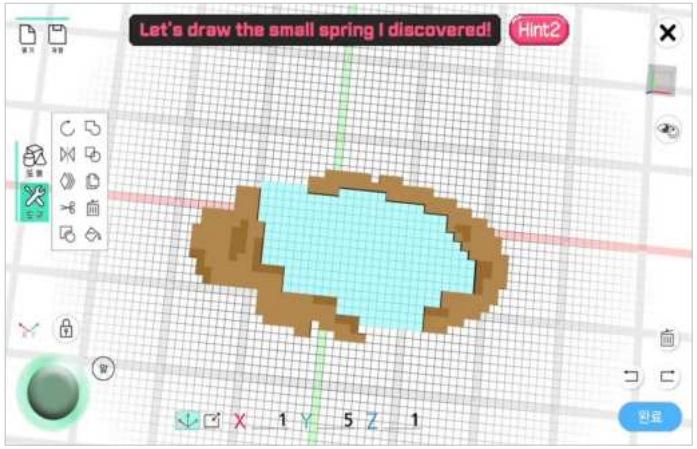
SIMPLE

FUN

EASY

Provides manuals and hint videos optimized for beginners.





- Offers tutorial videos that help to understand the editor functions.
- Provides hint videos to help clear each mission.

Ref. Scope of Learning Contents

Scope of learning

LEVEL 1

Tablet-Based Interactive Activity

Understanding Basic Modeling Activities in 3D Space

LEVEL 2

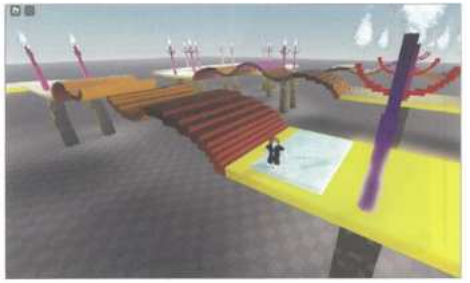
Tablet-Based Interactive Activity

3D Space Building Activities Using Combination and Tool Functions

LEVEL 3

Tutorial Video Provided

Conducting Application Activities to Use Self-Created Items in AR/VR and Metaverse environments



6 Product features

Learn 3D modeling and have fun!

" Is it a game or 3D modeling education? "

Gamified learning

Gamified learning to boost motivation, creativity and sense of achievement.

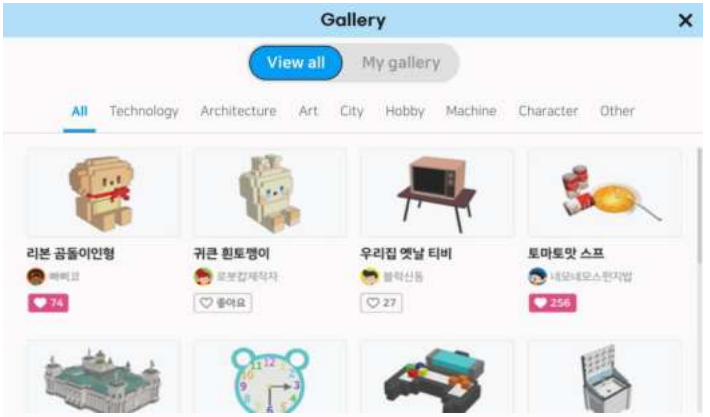
Rich 3D animations to drive learning.

Storytelling

Play with Home-Learn Friends characters that kids are already familiar with.

Based on kid-friendly stories

Provides problem-solving courses (like ‘deserted island escape’).



Creator Platform

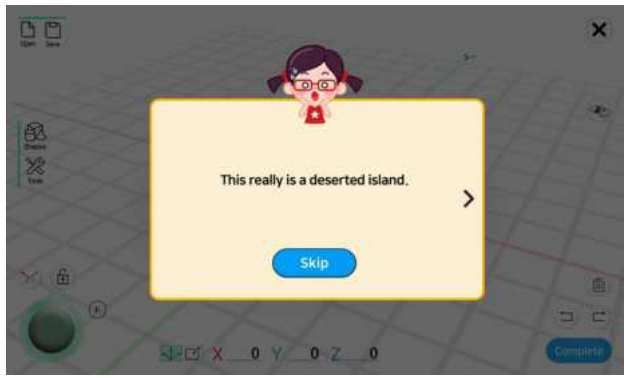
Share completed works with other users.

Purchase premium 3D items and apply them to creative activities.

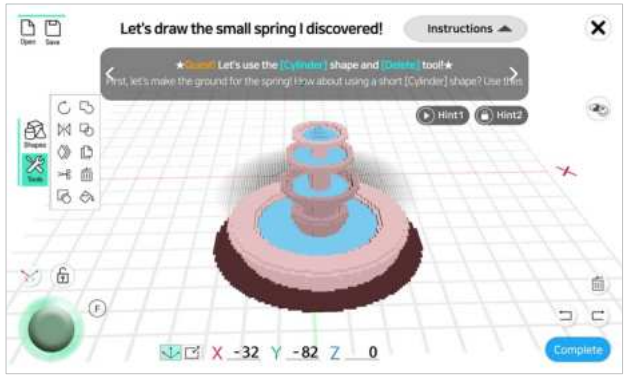
6 Product features

Providing Self-Directed Learning Contents

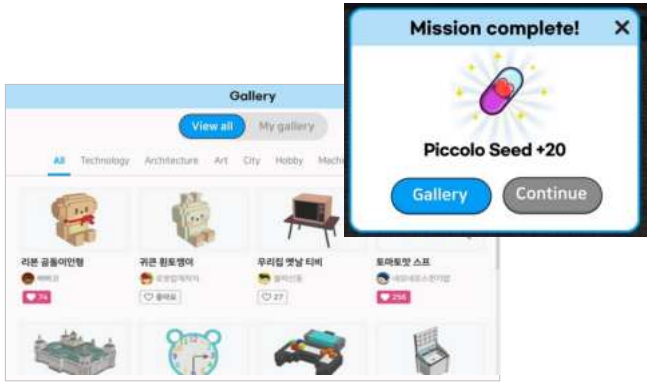
"You can learn on your own without a teacher directly teaching you."



- **Presenting Learning Objectives**



- **Students can independently engage in creative practice using learning guides and hint videos, without direct support from the teacher.**



- **Points are awarded, and the learning session ends upon completing a mission.**
- **Items are saved in the gallery.**

6 Product features

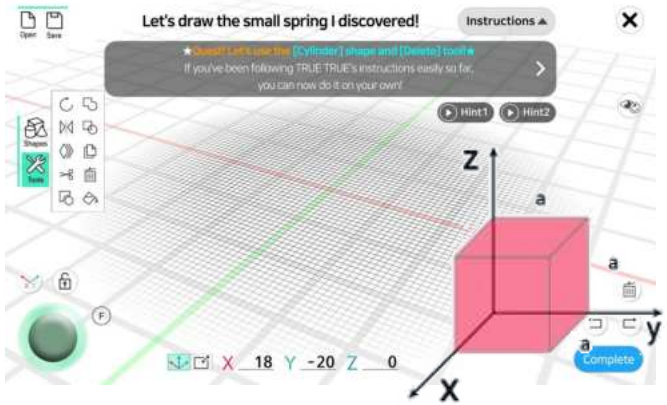
Key learning concepts are aligned with elementary and secondary education curriculum.

" Learn key academic contents through 3D modeling. "

Elementary Arts/ Practical Arts

Express ideas and refine shapes

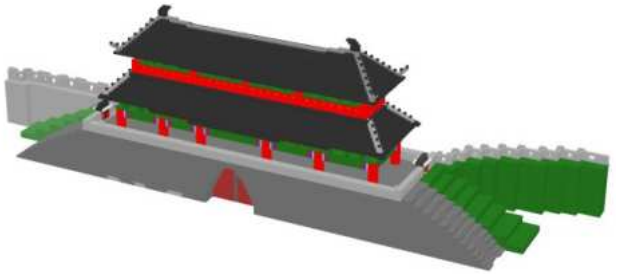
#sculpture creation #architectural design



Elementary/Secondary Math

Understand and practice the concept of 3D solids/shapes

#stackable activities #understanding coordinate axes



Elementary Social Studies/ History

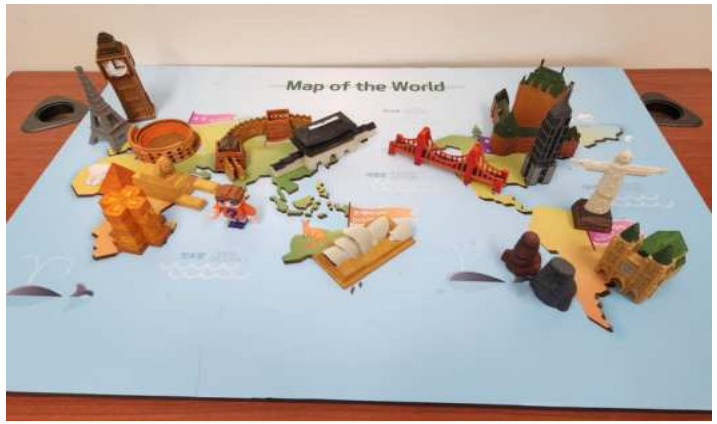
Offer 3D creation activities for historical and cultural assets

#History interest #Cultural heritage interest

6 Product features

The various applications of my creations

"Why don't we do something new? "



Integrate with 3D printing

Make 3D creations and print them with a 3D printer for personal collection.

Compatible with existing metaverses

The 3D creations can be imported and used in existing sandbox game platforms.

VR / AR

My 3D creations can be imported and used on VR/AR platforms like 'CoSpaces.

7 Competitiveness

Category	i-Scream Craft (KOR)	TinkerCAD (US)	Blender (US)	Fusion360 (US)
Service BI				
Primary Audience	Teenagers	Teenagers	20s-30s	20s-30s
Time to Master Basic Usage	20-30 minutes	3 hours	Over 30 hours	Over 30 hours
Modeling Difficulty	Very easy	Easy	Very difficult	Very difficult
Main Features	Extremely easy to use, allowing anyone to stack or attach blocks with ease.	Challenging to create original shape objects rather than using the given basic shapes.	Provides a very extensive set of interfaces and tools aimed at advanced users; relies more on user's sense rather than a structured modeling method.	Primarily used for industrial design purposes.
In-House Curriculum Availability	O(provides mission-based content)	X	X	X
Supported Platforms	Android	Web	Windows, MacOS, Linux	Web, Windows, MacOS
Classroom Management System	- (Possible future provision)	O	X	X
Price (KRW)	86,400 KRW/year	Free	Free	800,000 KRW/year
Other	Designed for continuous use even by beginners (no game-like elements)	-	-	-

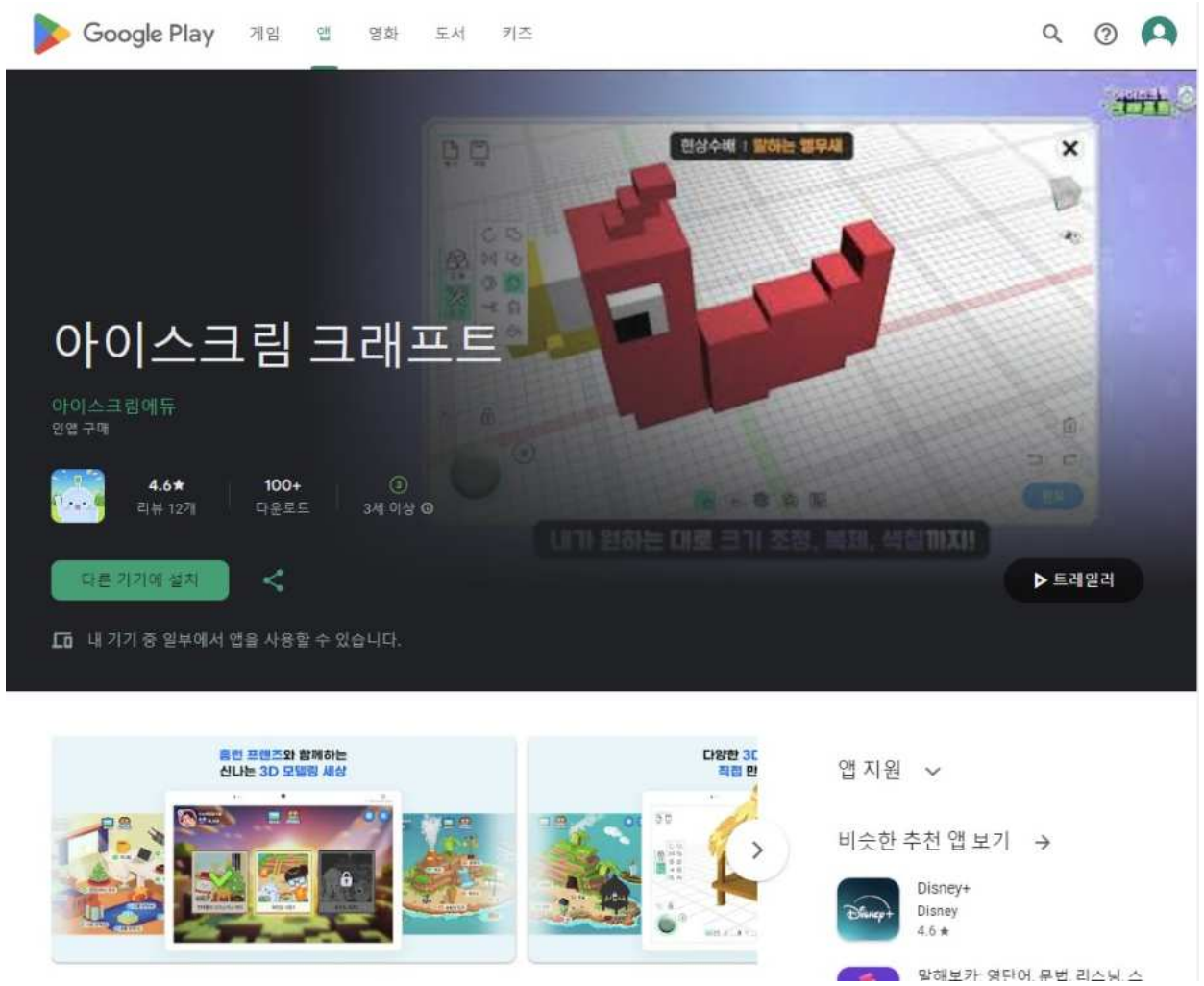
8 Distinctive Features

- Distinctive Features

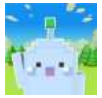
Category	i-Scream Craft	Competitor Products
Target Audience	Specialized for beginner users	Wide user range, from beginner to advanced users
Service Purpose	All-in-one service for modeling practice and educational curriculum	Focus mainly on modeling practice programs
Direction	Provides content that users can engage with continuously (mission-based content, includes game-like elements)	Continuous use may be difficult for all users
Dedicated Educational Curriculum	Provides self-study curriculum, tutorial videos (e.g., creating basic items, 3D architecture)	No educational curriculum provided
UX / UI	Easy Editor for anyone to learn quickly	Editor UI/UX challenging for beginners
Other	Focus on essential features for modeling activities (library, Metaverse compatibility, 3D printing support, etc.)	Includes additional features beyond 3D modeling activities

9 Supported Platforms

[Tablet only] Released on Google Play Store (The app is currently searchable only within South Korea.)



10 Configuration Status and Device Specifications

Category	i-Scream craft launcher app.	i-Scream craft editor app.
Icon		
role	Supports running i-Scream Craft and accessing all content.	Supports 3D Modeling Activities
Apk files Download Path	Url : https://bit.ly/3NKjMxZ (file name : [i-Scream_craft] global sample_launcher.apk)	Url : https://bit.ly/3NKjMxZ (file name : [i-Scream_craft] global sample_editor.apk)
OS information	Compatible with Android versions 7 to 13, but optimized for version 13 and above. (minSdkVersion = 24, compileSdkVersion = 33, targetSdkVersion = 33)	Compatible with Android versions 8.0 to 13, but optimized for version 13 and above. (API level 26 to API 33) minSdkVersion 26 targetSdkVersion 33
Resolution Information	• Compatible with all Android devices • Designed based on WQXGA resolution (2560 x 1600). • Optimized for devices 10 inches and larger, and compatible with 16:10 ratio tablets.	• Installable on all Android devices and designed based on WQXGA resolution (2560 x 1600). • Optimized for devices 10 inches and larger and compatible with tablets in a 16:10 ratio.
RAM/eMMC	Optimized for 4G RAM / above 64GB	Optimized for 4G RAM / above 64GB

Thank you

Ref. 3D Modeling and Education

- Classroom Application
  - ❖ Integrating 3D modeling into school lessons can help support a better understanding of concepts that are difficult to approach in the classroom.

  - ❖ Examples of Application by Subject

Subject	Examples
Math	Assisting in visualizing graphs and mathematical models
Geography	Creating models of terrain formations and population density
History	Restoration activities for ancient artifacts
Science	Creating cross-sections of organs like the heart or molecular models in chemistry
Engineering	Manufacturing of robot parts
Design engineering	Prototyping creative works
Graphic design	Visualizing product designs
Architecture	Printing designs of existing architectural structures

Ref. Cases of 3D modeling application

- UK
  - ❖ 3D modeling is included as a required part of the national curriculum for students aged 5 to 16.

Grade	Contents
1~2	• How to make a structure and strengthen it with stability
3~6	• Electrical devices such as more complex structures, circuits, and motors
7~9	• Advanced design techniques, 3D model-ing, and mathematical models to create real designs using 3D print

[Key Content of 'Design and Technology' subject Curriculum by Grade]

- USA
  - ❖ The National Science Teacher Association (NSTA) has developed a STEM educational program that integrates 3D printing to be implemented in schools

(https://www.nsta.org/)

[Scence 2.0: Teaching STEM with 3D printer]

Key Content	• Introduces methods for creating learning tools through 3D printing and strategies for integrating them into science lessons, • providing a guide to help teachers effectively utilize this technology.

Ref. Learning Contents Evaluated by Professional Group(2022)

※ This was prepared based on empirical evaluation data of the Ice Cream Craft editor software conducted by the joint developers of this service, 3D Tada Co., Ltd., and the IN SOO RAE System.

[Introduction to the Evaluation Agency]

<IN SOO RAE>

❖ IN SOO RAE System: An accreditation system for advanced educational technology (EdTech) products operated by the Chungnam Office of Education in South Korea.
❖ Mission : It empirically evaluates educational usefulness and system usability, providing EdTech 'lesson ideas' to support High-Touch High-Tech classroom innovation.

- Degree of alignment with the learner's level

❖ Unlike other 3D modeling programs, it provides a simplified design and user environment, making it easily accessible for young learners.

❖ With design activities that use familiar blocks, students can learn various areas from simple designs to 3D modeling, allowing lessons to be adapted to their learning level.

❖ It is designed so that upper elementary students can use the program with ease by following instructional materials.

- Quality level of the learning contents

❖ It supports 3D printing, making it useful for seeing one's own designs as physical products.

❖ There are default 3D objects provided, and users can freely modify them by adjusting size, rotation, symmetry, and colors.

❖ The quality and finish of the blocks and design elements are relatively high.

Ref. Learning Contents Evaluated by Professional Group(2022)

※ This was prepared based on empirical evaluation data of the Ice Cream Craft editor software conducted by the joint developers of this service, 3D Tada Co., Ltd., and the IN SOO RAE System.

- Alignment with curriculum standards

❖ It can also be applied and utilized in designing three-dimensional models in art classes.

❖ It closely aligns with achievement standards and supports technical problem-solving and engineering design lessons in vocational programs

❖ Students can model 3D shapes from the geometry curriculum and view them from various angles.

❖ This enables students to understand the properties of solid figures and develop spatial awareness.

- Level of proficiency in using the system

❖ Intuitive icons make the service easy to use, even for beginners in 3D design.

❖ The level of operation in the program is quite similar to TinkerCAD.

❖ Beginners can achieve desired operations quickly.