



LESSON 1: CREATIVE EXPLORATION & TEAM BUILDING

OVERVIEW:

The first session in the series begins with an open-ended exploration of the Group Maker Kit. Students will get to know the parts independently, with only minimal guidance. As the lesson progresses, they'll work together in small groups to design and build a shared model.

FOCUS:

This lesson is all about **getting to know the parts**—feeling them, testing how they connect, and learning what each one can do.

There is **no pressure to build something identical** or to finish a model. The goal is to **experiment, try things out**, and enjoy the process of discovery.

Use the **OffBits Part Index** to support students as they explore and recognize the parts and how they function.



MATERIALS:

2 Group Maker Kits

[OffBits Parts Index](#)

[OffBits Story Video](#)

[Informational Video](#)

Work tables


TIME:

90 minutes

(2 academic hours)

Objective:

To become familiar with the parts and their characteristics, nurture creativity and teamwork, and introduce engineering concepts through hands-on play.

 It's important to emphasize that this session is all about **hands-on exploration** and **playful discovery**. There is **no pressure** to complete a finished model.

Background for the Teacher:





The OffBits are emotional, character-driven robots that speak directly to each child's imagination.

Each OffBit is different—living in its own environment and influenced by different things—but they're united by emotion and imagination.

The OffBits were created from the belief that in order to help children translate feelings and imagination into real-life problem-solving skills, they need access to a **"toolbox"**.

From the moment a child encounters The OffBits, they engage in both a **motor-building process** and a **mental, emotional journey**—ultimately allowing them to connect with themselves.

The kits are made from parts we see in everyday life. That familiarity creates a sense of safety and sparks an internal dialogue. As students explore and build, they naturally develop **emotional intelligence** by asking themselves:

-  How do I feel when facing something familiar or unfamiliar?
-  How do I respond to challenges and frustration?
-  What role do I take in a team?
-  How did I feel after completing the build?

This process encourages **self-reflection** and helps children build emotional resilience.





Key Developmental Benefits:

Choosing parts and colors

Young learners develop decision-making skills and begin to trust their judgment, building independence and confidence.

Building and assembly

Hands-on creation helps children build self-efficacy and feel a sense of mastery. They learn that every challenge can have multiple solutions.

Collaborative building

Working together fosters communication skills and a sense of belonging—an essential foundation for personal growth and confidence.

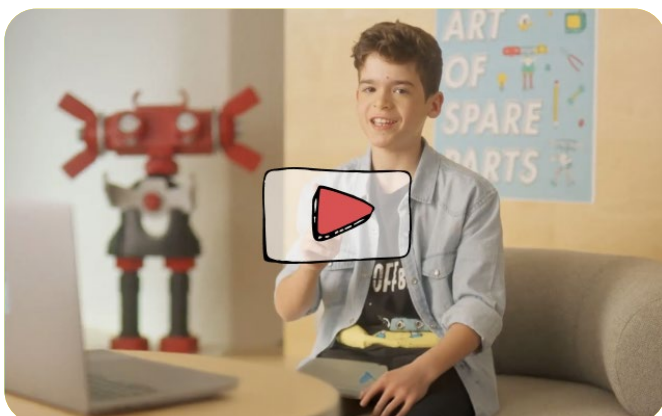
Student Introduction:

Who are The OffBits?

Start by introducing the OffBits characters. You can share some of the background above and watch the introductory video together:



[Watch the video here](#)



OBJECTIVE:

Explore the Group Maker Kit, understand the role of each part, possible uses for each part, how to use them, and the assembly methods.

PREPARATION:

- ✓ Play the OffBits video and ensure the projector works.
- ✓ Arrange the classroom to allow easy access for many students to the kit—either a large central work table or an open floor space with chairs in a half-circle around the area.
- ✓ Organize the kit in a way that highlights the uniqueness of each part.
- ✓ Prepare the OffBits Parts Index, which details each part and its uses.
- ✓ Consider bringing a few pre-assembled models for demonstration, though be cautious as this might limit creativity and encourage copying.





LESSON 1

PLAN:



Introduction

30 min

Briefly introduce the Group Maker Kit and watch the “OffBits Story” [video](#) together.

Show the different types of parts and explain how they connect or screw together. - [video](#)

Provide a detailed explanation and demonstration of how to use the SUPER TOOL, an essential tool for assembly.

Place the kits in the center of the classroom on a large shared work table or even on the floor.

Guide the students to explore and investigate the parts. Allow independent exploration and creation of a simple, individual model.

Group Activity

30 min

If the students naturally divide into groups, allow them to take the lead in this stage. If some prefer to continue working alone, that’s fine too.

Divide the class into groups of four, and each group will create one shared model using the kit parts. You may suggest a challenge, such as:

- Build the tallest and most stable model
- Build the longest model
- Build a model that can move or roll

Allocate 5 minutes for gathering parts, brainstorming, and sharing ideas.

Give 10 minutes for the group to assemble and create the shared model.

Encourage teamwork and ensure that all group members are actively involved.

Keep track of time to make sure the group has enough time to complete their model.

Practical Exploration

20 min

Allow students to explore freely the creations of other groups.

Encourage them to identify unique features and share ideas.

Presentations, Summary, and Reflection

10 min

Each group will present their model to the class.

Ask students to describe their process, from the idea stage to completion.

Encourage them to share challenges they faced, decisions they made, how they worked together, and how they chose their parts.

Recap the lesson’s goal: exploring the kit and collaborative building. Highlight what you observed in the working process.





LESSON 2: THE STORY OF THE OFFBITS

OVERVIEW:

In this lesson, students will dive into the imaginative world of The OffBits by exploring the backstory of the characters and discovering each one's unique personality and living environment. Each group will receive a specific character to assemble, and then reimagine and invent the life and surroundings of that character.

OBJECTIVE:

To foster a deep connection with the OffBits characters, encourage creative thinking, spark imagination, and build narrative skills. Students will explore the characters' personalities and environments through storytelling and play, promoting emotional and mental engagement as well as openness to diverse ideas.

Meet the OffBits Characters:

InfoBit – The Researcher Robot

The curious one who knows it all! Always investigating and discovering new things, InfoBit loves answering questions—from the tiniest bolt to the best way to build an amazing machine. To her, the whole world is a mystery waiting to be solved.

ArtBit – The Artist Robot

The coolest inventor! Full of imagination and quirky ideas, ArtBit turns bolts and nuts into surprising inventions. Always thinking outside the box, ArtBit sees creativity everywhere—because, to him, even a tiny screw can become a magical work of art.

JoyBit – The Joyful Robot

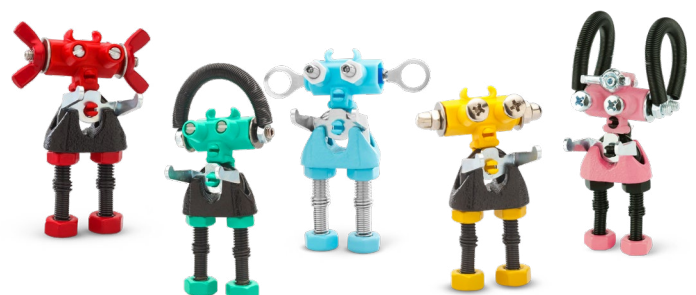
The happiest robot around! With a bouncy head, a big smile, and endless imagination, JoyBit turns every moment into an adventure. He's always dancing, laughing, and adding color to every task—because to him, life is one big party!

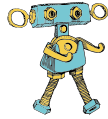
BabaBit – The Spiritual Robot

The wise and calm member of the crew. BabaBit believes every problem has a solution—if you just pause, breathe, and see things differently. With a special gut feeling, BabaBit doesn't just fix things—he helps others feel calm and see the big picture.

CareBit – The Caring Robot

The robot with the biggest heart! Always ready to help, fix, and tighten any loose screw. With a wrench in one hand and a toolbox full of smiles in the other, CareBit makes sure everything runs smoothly—while reminding everyone that things work better when we work together.





MATERIALS:

Character info sheets for the teacher

[Character cards for students](#)

Two full Group Maker Kits

[Origin story of The OffBits video](#)

Paper and writing drawing tools (pencils, colored pencils, markers)

PREPARATION:

- ✓ Print character info cards with images/diagrams for each group.
- ✓ Organize OffBits parts by type for easy access for students.
- ✓ Set up individual workspaces for each student's group.

🕒 TIME:

90 minutes
(2 academic hours)

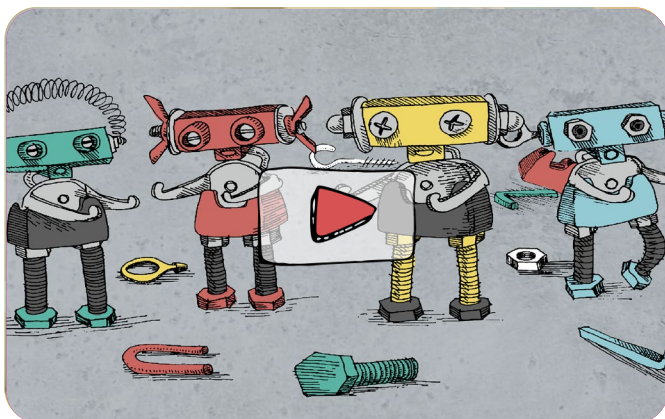
Opening:

The Story of the OffBits

🕒 20 min

Read aloud or watch the origin story of The OffBits with dramatic narration:

📺 [Watch the origin story of The OffBits](#)

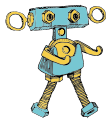


- 🔧 “Boys and girls—meet The OffBits!
- 🔧 Once, on a faraway planet called Planet-Bot, lived gray and boring robots. They did what they were told, never thought creatively, and under BigBot’s rule, creativity simply didn’t exist.

- 🔧 But then, something magical happened!
- 🔧 From a pile of spare parts, the OffBits came to life—colorful, curious, and full of imagination! They brought fresh ideas and showed the gray bots that it’s possible to invent, play, and create!
- 🔧 BigBot was furious. He disassembled the OffBits, packed them into tiny boxes, and launched them far away... or so he thought.
- 🔧 The OffBits landed on Earth, and here, children like you rebuilt them—and brought them to life. Now, every child can be an inventor and give the OffBits a brand new world of imagination!”

Engage students by asking how they would feel in different parts of the story (e.g., “How would you feel if BigBot controlled your world?”).

Introduce the characters and divide students into groups. Assign each group one character and give them a character card with an image, diagram, and personality description.



Character Building Activity 50 min

Distribute Character Cards - Each group receives one [character card](#).

Observation and Discussion:

The group reads and observes the details on their character card. Together, they imagine and discuss:

- ? Describe the character type of personality?
 - What is their role or job?
 - Where do they live?
 - What does their environment look like?
 - Do they have pets?
 - What do they enjoy doing?

Documenting Ideas:

One member of the group should write down or draw the group's ideas.

Important: Make sure to keep this documentation for the next lesson!

Building the World Around the Character:

Each group assigns building roles based on the character description they created:

Building the World Around the Character:

Each group assigns building roles based on the character description they created:

One child builds the character.

The other children create surrounding elements such as a structure, a vehicle, a pet, or accessories—based on the group's vision.

Sharing Creations, Summary & Reflection 20 min

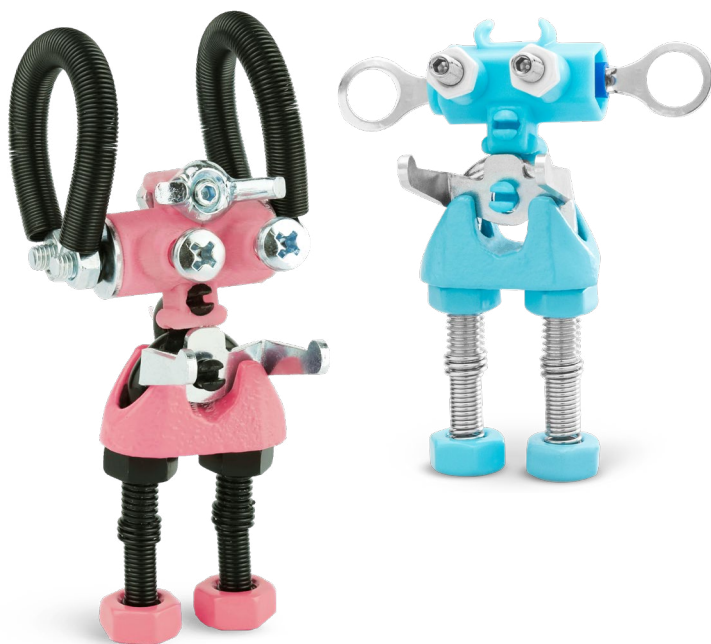
Presentation:

Each group presents their character and story:

- ? Where does the character live?
 - What are their favorite things?
 - What adventures might they experience?

Reflection Discussion:

- ? How was the process of working together?
 - Did you face any challenges? What were they? Were they individual or group-related?
 - What helped you overcome them?
 - How did it feel getting to know your character?
 - What did you learn and want to take with you into the next steps?





LESSON 3: STORYBOARD & PREPARING FOR ANIMATION

OVERVIEW:

In this lesson, students will build on their previous character work by developing short narrative scenes and creating a storyboard. This process combines creative writing with visual planning and design, helping students translate their ideas into a visual and conceptual structure.

OBJECTIVE:




To write story scenes featuring the group's character and collaboratively design a creative layout for the animation set. This stage promotes high-level abstract thinking and teaches students how to bridge imagination with visual and narrative expression.

Background: What is Storyboarding?

Storyboarding is a bit like creating a picture book for your ideas.

When you want to tell a story, make a film, or create a fun video, you can draw a series of small images that show what happens step by step.

A **storyboard** is like a comic strip that helps plan a movie. It shows:

-  Where the characters are
-  What they are doing
-  What the camera will see

Each image represents a scene.

For example, if the scene is about a dog running in the park, the storyboard might show a dog with trees, grass, sunlight, and a bench in the background.

Storyboarding acts like a map for creating a film. It helps everyone involved understand the order of events and work together to bring the story to life.

MATERIALS:

Assembled characters and idea sheets from the previous lesson

Pencils, erasers, sharpeners

Colored pencils and markers

Super Tool (helpful for cardboard construction)

Lined writing paper

Storyboarding sheets

Full OffBits kit (for props, structures, objects, or additional characters)





PREPARATION:

- ✓ Arrange the classroom so each group can work around a table.
- ✓ Distribute each group's character and their written ideas from the previous session
- ✓ Set up a supply station or distribute materials at the tables

⌚ TIME:


90 minutes
(2 academic hours)


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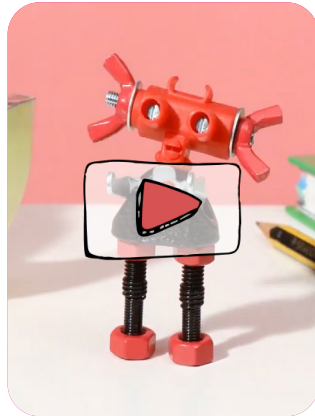
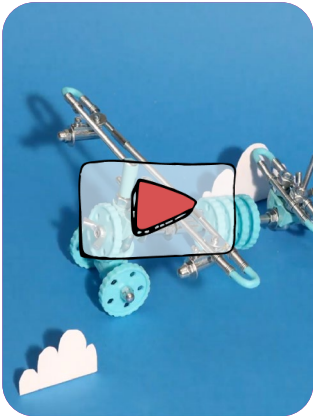
⌚ 10 min

Begin with a brief review of the previous lesson: remind students of their characters and the background stories they created.

This reflection may spark ideas for group collaborations or connecting plotlines between characters. Show example:

 [Show AirBit video example](#)

 [Show ArtBit video example](#)



Introduce the concept of **storyboarding**:

-  What it is
-  How it's structured
-  Why it's used
-  How to fill it out

Story Development:

⌚ 60 min

Each group writes short scenes featuring their character.

Encourage collaboration and creativity. Invite students to write with rich, descriptive language and adjectives that translate into visual scenes.

Groups then create a storyboard outlining their story's plot along a timeline. This helps them organize the story in a logical, chronological order, preparing them for filming in the next session.

⚠ Note: The storyboard **should include** a symbolic illustration of each scene — not a detailed drawing or full text description. The goal is to capture the essence of the moment, not to fully script or illustrate it.


Presentations,

Summary, and Reflection: ⌚ 20 min

Each group presents their storyboard to the class.

Use this time to give feedback or jot down notes about storylines, sequencing, or other insights to carry into the next lesson.

Reflect together:

-  What challenges came up during the process?
What helped you overcome them?
How has your connection to your character changed through this stage?
- Did any groups collaborate?
What made it possible?
- What would you like to keep or improve in the next session?



LESSON 4: BUILDING THE SET AND REHEARSING

OBJECTIVE:

To creatively design and build visual environments (photo booths or sets) and props that reflect the stories students developed. This hands-on activity strengthens visual thinking, spatial planning, teamwork, and translating ideas into tangible designs.

Background:

What is a Photo Booth?

A photo booth is a small, themed space for taking photos or filming. It often includes props like hats, glasses, or costumes that match the setting.

What is a Set (Scenery)?

A set is the visual environment where a story takes place — like a castle, a forest, or a jungle. In stop-motion animation, it's the background and stage where the characters and props are placed to bring the story to life. You can build it using cardboard, fabric, toys, or any stable materials that won't move during filming.

MATERIALS:

- Blank papers, cardboard (various sizes)
- Masking tape, scissors
- Markers (thin and thick), pencils, erasers, sharpeners
- Large plain fabric sheets
- Fishing wire (transparent string)
- Props or toys from home or school
- The OffBits kits -
(for building accessories and props)
- Tripods -
[Built yourself according to the pictures.](#)





PREPARATION:

- ✓ Arrange the classroom for group work
- ✓ Distribute the character sheets and idea pages from the previous session
- ✓ Set up a materials station (or distribute to group tables)

 **TIME:**

90 minutes
(2 academic hours)

Opening:

 **20 min**

Quick recap of the previous lesson: character development and story creation. Introduce the concepts of photo booths, sets, and props.

Explain today's task: building the background and props for filming. Emphasize time management and the importance of following their storyboard plans.

Set & Prop Creation

 **50 min**


Each group breaks into teams to build their set. Teams review their storyboard and decide what materials and tools they need. Assign a team leader to help keep things on track. Begin creating the set and props using available materials. Encourage students to use their individual strengths and collaborate.

Presentations, Wrap-Up & Reflection:

 **20 min**

Each group presents its completed set.

Reflect together:

 How was the teamwork?

What creative ideas worked well?

Any challenges? How did they overcome them?

Did they collaborate with other groups?

If needed, assign finishing tasks as homework.

Encourage students to bring additional props from home for the next class (filming day).





LESSON 5: STOP-MOTION ANIMATION

OBJECTIVE:

Create a short stop-motion animation using The OffBits characters. Learn how to use the Stop Motion Studio app. Practice planning, visual storytelling, and collaborative creativity.

Background:

Stop-motion animation is a technique that creates the illusion of movement using still objects. In stop-motion, students take multiple individual frames of static objects, slightly moving them between each frame. When played in sequence, the result is a lively animation where inanimate objects seem to come to life.


Animation, by definition, is the art of bringing objects or characters to life on screen. Stop-motion is a century-old technique that has been used in classic films (like King Kong) and is still popular today in advertisements, music videos, and independent animation projects.

Unlike computer-generated animation, stop-motion requires real physical objects and lots of patience. However, it offers a unique hands-on experience that allows students to explore camera angles, size illusions, and a wide range of visual effects.

The real creative power of stop-motion lies in the preparation: idea development, storytelling, set design, and materials. The focus should be on artistic and visual storytelling.

Why stop-motion?

This technique offers educational benefits:

 **Accessible:** Simple apps like Stop Motion Studio (free and paid versions) make it easy to get started using any smartphone or tablet.






MATERIALS:

The OffBits characters and parts (each group uses its own models).

Props and scenery materials.

Phones or tablets with the Stop Motion Studio app installed.

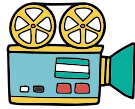
If available: Tripods, phone/tablet holders, or the tripod assembled in the previous lesson.

-  **Built-in editing:** Easily delete or re-add frames within the app.
-  **Mistake-friendly:** Mistakes are part of the process — and fixable.
-  **Creative collaboration:** Students can work individually or in groups, sharing ideas and dividing roles.
-  **Visual thinking:** Enhances the ability to express ideas through visuals rather than words.
-  **Structured workflow:** Students practice brainstorming, planning, and executing creative ideas step-by-step.

We recommend using the Stop Motion Studio app, available for free or at a low cost. The basic version is usually sufficient, while the paid version adds options like green screen and special effects.

Encourage students to start with simple ideas, use just a few objects, and keep their visual message clear. Since there's no sound or speech in the animation itself, any written messages should be added directly into the frame.

The OffBits parts and models are perfect for stop-motion! With just a few small movements, students can bring their characters to life and tell compelling stories through animation.



PREPARATION:

- ✓ Ensure phones/tablets are fully charged.
- ✓ Confirm that the “Stop Motion Studio” app is installed and working on each device.
- ✓ Set up the classroom into small “studio spaces” for each group.

TIME:

90 minutes
(2 academic hours)

Opening:

20 min

Brief explanation of stop-motion and its history (5 min).

Demonstration: Show how to use the app to create a simple animation (5 min).

Emphasize that mistakes (e.g., a hand in the frame) can be fixed later — don’t stop filming.

Filming:

50 min

1. Divide into groups and assign production roles:

- Director
- Camera operator
- Animators (move the characters)
- Prop/Set manager

2. Set up scenes using props and OffBits models.

3. Film the animation: Focus on smooth movement and visual storytelling.

- Remind students to only take a photo once everything in the frame is ready and their hands are out of the shot.

4. Edit (if time allows): Delete unwanted frames, preview, and finalize the animation.

Presentations, Wrap-Up & Reflection:

20 min

At the end of this unit, take time for reflection. Consider individual and peer feedback, group discussions, or teacher-led assessment.

Focus on:

Participation: Were there active contributions and collaboration among the different teams?

Creativity: How original were the characters, stories, and animations?

Collaboration: How well did group members work together?

Self-expression: How confidently and clearly did students share their ideas and experiences?

