

NEF Scratch Coding Contest

EMAIL: scanning@nefuniversity to participate or ask questions.

Scratch is an online programming tool which uses a visual programming language to create animations and games. It also fosters a thriving community with users from all over the world sharing content. Scratch is a project of the MIT Media Lab, their aim is to “help young people learn to think creatively, reason systematically, and work collaboratively.” Citing that these are “essential skills for life in the 21st century.”

This year NEF will be hosting a competition which uses Scratch as it aligns with our STEM education goals. All of the services are online and free unless noted otherwise. The competition will consist of three tiers: local, state, and national level. Competitors do not need to compete in all three. Students can work in groups of 3-6. Depending on the number of submissions, groups may be judged based on grade level. They will be grouped as follows:

- Kindergarten-Second Grade.
- 3rd-5th grade.
- 6th-8th grade.

Scratch is browser based, meaning when complete contestants can send the URL of their project to anybody. In this case, contestants will fill out the form linked below:

<https://goo.gl/forms/y7LWsqJvOqfGWruV2>

Local Level: Beginner Skills

Prerequisite: Hour of Code

- Complete [Hour of Code](https://code.org) at code.org

Scratch

- Make a scratch account at <https://scratch.mit.edu/> (requires an email address)
- Browse other Scratch projects at <https://scratch.mit.edu/explore/projects/all>
 - Click “see inside” on the top right to see the code

Scratch Tutorial: “Getting Started with Scratch”

- Start a new project, and follow the “Getting Started with Scratch” Step-by-Step getting started guide on the right (13 Steps)

Scratch Tutorial & Contest Submission: “Animate Your Name”

- Complete the “Animate Your Name” tutorial, found under the Getting Started tutorial. This can also be located by clicking on “tips” in the menu at the top.
- The result of the “Animate Your Name” tutorial will serve as the contest submission for the beginner level.
 - Submissions due on December 1st
 - Teacher chooses winner by December 15th
 - Teacher may refer to the criteria listed for Intermediate and Advanced below or come up with his or her own
 - Winners earn certificates

State Level: Intermediate Skills

Scratch Tutorial: “Make It Fly”

- Complete the “Make it fly” tutorial
- Develop a storyboard which drafts an animated story, game, or interactive media project

- See more about storyboards below.
- Create a game or animated story which uses sound
 - Thematically aligned to presenting School Spirit.
 - Submit project by February 1st
 - See “How to submit” under “Further Explanations” below.
 - NEF chooses winner by February 15th
 - Winners earn \$100

Projects will be evaluated on:

Aesthetic Quality	25%
Continuity in animation or game progression	25%
Technically sound (Everything works)	25%
Originality (Of concept, of coding method, of story/game)	25%

National Level: Advanced Skills

- Develop a storyboard which lays out a draft for an animated story or game, or interactive media project.
- Create a game, animated story, or other types of interactive media which uses sound
 - May use resources (sprites, backgrounds sounds, built into scratch)
 - Thematically aligned to presenting State spirit
 - *Must* include outside or self created resources
 - Submit project by May 1st
 - NEF chooses winner by May 15th
 - Winners earn \$1000

Projects will be evaluated on:

Aesthetic Quality	25%
Continuity in animation or game progression	25%
Technically sound (Everything works)	25%
Originality (Of concept, of coding method, of story/game)	25%

Further Explanations:

What is a storyboard?

A storyboard is a tool used to assist a creator in visualizing story elements and dialogue. It also serves to assist a designer or programmer in synchronizing notes and code elements to specific story elements. In general it is a drafting tool usually done on paper to help a designer ensure continuity and consistency in design in a medium separate from the primary medium. Search the internet for storyboarding, one will see many examples, also see below for a template recommendation.

How is aesthetic quality judged?

Judgements will be made relative to the Principles of Design. In this case the elements are Contrast, Alignment, Proximity, and Repetition. Essentially a designer should be thinking about the following questions as they design, for the evaluators in turn will be thinking about the same:

1. Contrast

The idea behind contrast is to avoid elements on the page that are merely similar. If the elements (type, color, size, line thickness, shape, space, etc.) are not the same, then make them very different. Contrast is often the most important visual attraction on a page.

- Can you see the difference between your content, ads, headings, body copy and comments?

2. Repetition

Repeat visual elements of the design throughout the piece. You can repeat color, shape, texture, spatial relationships, line thicknesses, sizes, etc. This helps develop the organization and strengthens the unity.

- Do you have a consistent theme or brand throughout your site? Do you reuse the same color, shapes, blockquotes, formatting for all of your articles?

3. Alignment

Nothing should be placed on the page arbitrarily. Every element should have some visual connection with another element on the page. This creates a clean, sophisticated, fresh look,

- Does everything line up or have you got things centred, left aligned or out of place?

4. Proximity

Items relating to each other should be grouped close together. When several items are in close proximity to each other, they become one visual unit rather than several separate units. This helps organize information and reduces clutter.

- Can you find everything you need on your page easily? What is it that your visitors are looking for?

What is continuity in animation or game progression?

A story flows naturally as a story should - with a beginning, middle, and end. There are no unnecessary distractions or elements that do not add to the value of the animation, game, or interactive media. The overall progression of the project is consistent and logical.

What is "technically sound?"

The project works, in that there are no broken or incomplete elements.

Originality

The project demonstrates concepts that are unique and original. Understandably these concepts need to be relatable to be consumed by an audience and such will contain concepts and audience is familiar. However these concepts can still be presented in a unique and original way.

How to submit completed project?

Scratch is browser based, meaning when complete contestants can send the URL of their project to anybody. In this case, contestants will fill out the form linked below:

<https://goo.gl/forms/y7LWsqJvOqfGWruV2>

Grading Rubric:

%	0-7%	8-13%	14-19%	20-25%
Aesthetic Quality	Zero to very little attention is given to the POD (Principles of Design) listed above.	Some attempt made at adhering to the POD.	Good use of POD but some mistakes were made.	Very good use of POD. Very little mistakes. Content is high quality.
Continuity in animation or game progression	Zero to very little continuity. The project does not tell a story nor does the game follow logical progression.	Some attempt to maintain continuity in story and or progression, but there is little flow to the project.	Project demonstrates continuity but gaps in story or game progression are present.	Project tells a story, or follows logical game progression.
Technically sound (Everything works)	Nothing works.	A few things work.	Almost everything works.	Everything works.
Originality (Of concept, of coding method, of story/game)	Plagiarized or heavily copied work.	Only slightly changed the work of others.	Nearly all original work, some code, art, or sounds were taken from the work of others.	All content is original or created by the designer.

Storyboard example found here: <http://www.eslstudentpublications.com/storyboards/>

We encourage you to make your own, you can use this example as a reference.

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Name:

Examples of well done Scratch projects:

<https://scratch.mit.edu/projects/116280741/>

<https://scratch.mit.edu/projects/57645002/>

<https://scratch.mit.edu/projects/72303326/>