Utah 4-H Pixelation Contest

In this contest, youth will use computational thinking strategies to make their own pixelation picture using a medium of their choice.

What is a Pixel?

Pixels are the individual building blocks of every digital photograph and most other digital images. In addition to pixels in a digital image, pixels can refer to pixels in a digital display, a digital camera sensor, and other devices.

Computational Thinking is a thought process of solving a problem. Computational Thinking is often associated with computers and coding, but it is important to know that Computational Thinking can be used in many other areas including sewing and crafts.

There are four parts to Computational Thinking.
o Pattern Recognition – analyze and look for repeating sequences
o Decomposition – break the problem down
o Abstraction – focus on important parts and remove unnecessary parts
o Algorithmic Thinking – use step by step directions
To learn more about Computational Thinking, visit:
https://teachyourkidscode.com/what-is-computational-thinking/

Use of Computational Thinking skills is a critical part of the Pixelation contest. Please include at least one sentence for each of the four parts of Computational Thinking to tell about how it was used in your project in your reflection paragraph. You may use the questions listed below, or create your own.

Components of Computational Thinking:

Pattern Recognition:

- How did you use Pattern Recognition in your Pixelation project?
- Are there patterns in your project?
- Do any patterns repeat?
- Is your project symmetrical or asymmetrical?

Decomposition:

- How did you use Decomposition in your Pixelation project?
- How did you break down the project from beginning to end?
- Were there parts of your project that were more difficult than others?

Abstraction:

- How did you use Abstraction in your Pixelation project?
- Which were the most important parts of your project?
- Were there any unnecessary parts to the project?
- Was there anything you eliminated to make this project easier or better?
- How did you organize your project while you were working on it?

Algorithmic Thinking:

- How did you use Algorithmic Thinking?
- Did you use step-by-step directions provided in the kit?
- What are the step by step directions you used in your own project?
  Did you skip any steps? What was the result?
- If someone else wanted to make your project what instructions or advice would you give?

Entry Requirements:

Project mediums may include, but are not limited to the following:
Graph paper
Perler beads
Cross stitch/Embroidery
Fabric
Quilting
Plastic Canvas
Legos
Diamond art
Paper
Photographs
Knit
Crochet
Rug hook
*Digital Art
*Minecraft - will be judged as a kit. Must be created from a “blank slate”
*for any online or digital projects, screenshots of the programming and process should be included with the submission.

Entries must be the work of one youth. Adult leaders may demonstrate a skill and help Junior age youth with equipment where safety is a concern, but the project should be the work of the youth. Projects may be entered in one of the following categories:

Kit category- In this category a store bought kit will be used for your project.
A kit would include an exact pattern, even if it is modified by the participant. If a kit is used, adjustments to the pattern may be made, but should be documented on the pattern and in the reflection paragraph.

Original Pixelation category- Participants may pattern their design after an existing picture or character, or they may create an original picture. Pixelate the picture on your graph paper by coloring squares on the graph paper using the same colors you are going to use in your finished project. An online pixelation maker or graph paper is acceptable. Following your design, make your project using the medium of your choice.
Extra points will be given for original designs.

What to turn in

1. 3-4 pictures of your project. Participant should be in at least one of the pictures. Include a picture of your whole project and some close ups. A ruler or coin can be included in some pictures to provide scale.
2. A written paragraph reflection on your project or a video reflection of your project. include how you used computational thinking to create your picture (see the sample questions provided.) How much time did you spend on this project? Describe the process you used to make your project.
3. Your graph paper design.
4. Include your name, age, grade, County, 4-H Club, and parent's contact information in your email.

Youth must register on ZSuite to participate. They should email the above to items utah4hstem@aggies.usu.edu to submit your project. Project due: February 15th.

At the State level, 4-H ribbons and prizes will be awarded to the top projects in each category by age division. Youth may enter more than one medium per category, but state prizes will be limited to one per person and will differ for each division and category.

ELIGIBILITY

1. Participants must be 4-H members currently enrolled and have an "active" status in ZSuite prior to entry.
2. All entries must have been completed within the past 12 months.
3. Age Divisions. Age divisions are determined by a participant's grade as of September 1st as follows: Junior: Grades 3, 4, or 5 *Must be at least 8 years old; Intermediate: grades 6, 7, or 8. Senior: grades 9, 10, 11, or 12. Participant entries will be judged using standard judging rules and will be eligible to earn a blue, red or white ribbon. If sufficient entries are received, a "Best of Show" entry will be chosen in each age category. The senior "Best of Show" winner will be eligible to receive a State Contest Winner jacket.
4. Eligibility of Entries. All entries must be the work of the participating 4-H member.
5. Original Work of 4-H Member. Entry must be the original work of the 4-H member.
6. Display and Future Rights Use Rights. By submitting an entry to the contest, the 4-H member grants permission to Utah 4-H and USU Extension the use, and rights associated with the use of the photographic likeness, in promotional publications, and other media, without compensation. Certain entries may be used for 4-H program and marketing uses.

Pixelations Judging Rubric

Name:		Category: Kit Original		Blue: 75-100pts	Red: 60-74pts	White: 0-59pts
Junior: 3-5th Grade	Intermediate: 6-8th Grade	Senior: 9-12th Grade				
Content	**Reflection Paragraph**	**Pattern**	**Creativity**	**Mastery of Medium**	**Complexity**	**Total**
Description	Summarizes project and answers at least one question from each Computational Thinking Category..	Final product follows pattern created by youth or provided in kit. Adjustments to kits are documented on the pattern and in reflection paragraph. .	Design is original and reflected in the patterns provided with the entry.	Pixelated design is recognizable and pleasing.	Complexity of design appropriate for age division	
Points Possible	**25 pts**	**25 pts**	**25 pts**	**15 pts**	**10 pts**	**100 pts**
Points Awarded						
Judge's Comments						

30 Hour Shoot Judging Rubric

Name:		Submission Time:		**Blue: 75-100pts**	**Red: 60-74pts**	**White: 0-59pts**
Junior: 3-5th Grade	Intermediate: 6-8th Grade	Senior: 9-12th Grade				
Content	**Required Elements**	**Storytelling**	**Creativity**	**Mastery of Medium**	**Formatting**	**Total**
Description	Entry include the required elements released at the beginning of the 30 hours.	Elements of videography are used to tell a story or convey a message.	Video is an original concept or story.	Videography, transitions and other aspects of the project are appropriate for the age of the youth.	Video formatting meets the contest requirements.	
Points Possible	**25**	**20**	**20**	**25**	**10**	**100 pts**
Points Awarded						
Judge's Comments						Late entry penalty: This is a timed event. Subtract 1 point per minute late. **Late penalty: Total Points Earned:**