Stats/Perms and Combs Math Video Project

For Shalom 1 and 2 I decided, unless you’d rather do a test because that’s allowed to, to make a music video project for you. See below for the wicked cool details!

**\*\*Options are as follows:**

* Math music video
* Short film about math(documenaty style or anything like)
* Live performance in class related to math (skit)
* Math comic book (at least 10 different pages)

**RESTRICTIONS: The FCC won’t let Eminem be, and the same goes for you. There will be absolutely NO profanity (if you think it might be an inappropriate word… it is!), inappropriate material (alcohol, tobacco, etc.), or inappropriate innuendos (do not use ANYTHING of sexual nature) of any kind in these videos. If any of these items are present, an immediate 0 will be given for the entire group and further write-ups will ensue**. Students are free to use any music genre they choose (rap, rock, country, emo, jazz, etc.), except for hardcore, screamo, nu-metal, type of music. Essentially, your music must be easily understood by anyone. Students can use other music as a guide or create their own melody. If you choose to do a song/movie, all members of your team must appear in the video. If you choose to do a live performance, all members of your team must have an active role.

* Videos and skits must be at least 2 minutes long and no longer than 8 minutes.
* Videos must be edited; Skits must be performed live in front of the class. Videos must be submitted on either a CD/DVD or a flash drive for me to save on my computer.

**SUGGESTIONS:** Use props or costumes to make your music video look more legit. Do a few practice runs of your music before your group tries to record it. Get organized with your group members early about working on specific parts of the project and about possible out of school meetings. Do NOT waste class time or wait until the last minute. Make sure all your math information is accurate and makes sense. Most of all, HAVE FUN!!!

**Math Music Video Timeline**

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| **Date** | **Task** |
| Monday, April 27 | Watch examples of videos |
| Tuesday, April 28 | Pick your groups, class time, Specific topic is approved by Mr. Caddy |
| Thursday, April 30 | Lyrics are submitted and idea for video are approved by Mr. Caddy |
| Wednesday May 6 | Music video is submitted no later than 5pm |

**Math Content: The following is what needs to be mentioned in your video (see rubric for how much of each)**

1. **Interpret and assess the validity of odds and probability statements:**

* Provide examples of statements of probability and odds found in fields such as media, biology, sports, medicine, sociology and psychology.
* Explain, using examples, the relationship between odds (part-part) and probability (part- whole).
* Express odds as a probability and vice versa.
* Determine the probability of, or the odds for and against, an outcome in a situation.
* Explain, using examples, how decisions may be based on probability or odds and on subjective judgments.

1. **Solve problems that involve the probability of mutually exclusive and non–mutually exclusive events.**

* Classify events as mutually exclusive or non–mutually exclusive, and explain the reasoning.
* Determine if two events are complementary, and explain the reasoning.
* Create and solve a problem that involves mutually exclusive or non–mutually exclusive events.

1. **Solve problems that involve the probability of two or more events:**

* Compare, using examples, dependent and independent events.
* Determine the probability of an event, given the occurrence of a previous event.
* Determine the probability of two dependent or two independent events.

1. **Solve problems that involve the fundamental counting principle.**

* Represent and solve counting problems
* Generalize the fundamental counting principle, using inductive reasoning.
* Identify and explain assumptions made in solving a counting problem.

1. **Solve problems that involve permutations.**

* Represent the number of arrangements of *n* elements taken *n* at a time, using factorial notation.
* Determine, with or without technology, the value of a factorial.
* Solve an equation that involves factorials.
* Determine the number of permutations of *n* elements taken *r* at a time.
* Determine the number of permutations of *n* elements taken *n* at a time where some elements **are not distinct.**
* Explain, using examples, the effect on the total number of permutations of *n* elements when two or more elements are identical.

1. **Solve problems that involve combinations.**

* Explain, using examples, why order is or is not important when solving problems that involve permutations or combinations.
* Determine the number of combinations of *n* elements taken *r* at a time.
* Generalize strategies for determining the number of combinations of *n* elements taken *r* at a time.

**Math Music Video Project Rubric/Checklist**

Math content is well thought out, informative and accurate(see rubric) 28 Points

Spent April 27th watching videos 5 points

Spend April 28th making group and starting project 5 points

Had video idea ready and start on lyrics for approval by April 30 5 points

Project done May 6th 5 points

Every group member is visibly participating in entire process,

which includes fully participating in music video 5 Points

Music video is professional, audible, and enjoyable to watch 10 Points Total: 63 Points