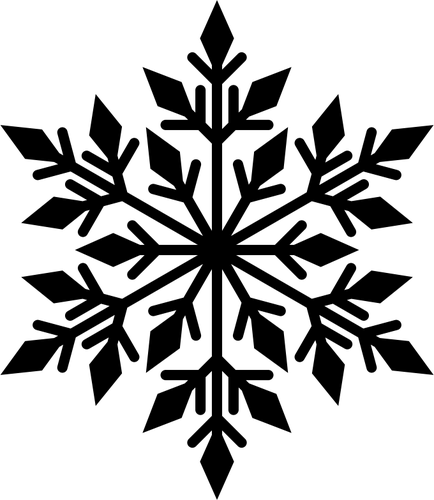
**Our Algebra II Winter Wonderland**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Class Period: \_\_\_\_\_\_\_\_\_\_\_

Math is everywhere around us. How can we use functions to create beautiful pieces of artwork that show attention to detail and creativity? We will create a winter wonderland right here in our classroom, using our knowledge of functions and function notation.

Your task is to design and create a snowflake or snow globe scene using functions and function transformations on Desmos. Once your Desmos design is complete, you will also create a physical version of your creation to display in the classroom.

Honors: You will be required to complete the snowglobe scene.

You will turn in:

* Sketched design of snowflake or snowglobe scene with function types labeled
* Peer review of sketch
* Desmos image (either snowflake or snowglobe scene) containing 6 or more new functions.
* Transformations page - describing the transformations and function type of each function you’ve added to your image
* Final physical creation for display
* Reflection of the project and process

**Desmos Project Calendar**

| M 12/11 | T 12/12 | W 12/13  Project introduced | Th 12/14  Project introduced | F 12/15  **Sketched draft due beginning of class**  **Peer review due end of class**  Start Desmos |
| --- | --- | --- | --- | --- |
| M 12/18 | T 12/19 | W 12/20  **Draft #1 due in Desmos for feedback** | Th 12/21  Winter break | F 12/22  Winter break |
| M 1/1  Winter break | T 1/2  Winter break | W 1/3 | Th 1/4 | F 1/5  Last in class work day  **Final desmos draft due** |
| M 1/8  **Final project due - all pieces** |  |  |  |  |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Algebra II Desmos Project Rubric

| Learning Target | 4.0 - Mastered | 3.0 - Proficient | 2.0 - Approaching mastery |
| --- | --- | --- | --- |
| **Academic Learning Targets** | | | |
| I can identify parent functions and sketch their graphs. | * 5 or more different function types * All function families correctly identified | * 4 different function types * 4 different function families correctly identified | * 2 or 3 different function types * 2 or 3 function families correctly identified |
| I can identify transformations of functions given the graph or equation. | * All transformations identified >90% accurate   Contains all of:   * Vertical translation * Horizontal translation * Dilation * Vertical reflection * Horizontal reflection | * Most transformations identified 70-90% accurate   Contains 4 of:   * Vertical translation * Horizontal translation * Dilation * Vertical reflection * Horizontal reflection | * Some transformations identified less than 70% correct   Contains 3 of:   * Vertical translation * Horizontal translation * Dilation * Vertical reflection * Horizontal reflection |
| **HOW/HOM Learning Targets** | | | |
| **Timeliness** - I can complete and submit work on time. | * All project parts turned in on time | * No more than 1 day late | * Turned in more than 1 day late |
| **Quality** - I can create high quality work that pays careful attention to neatness, detail, accuracy and professionalism. | * Final product is presentable, neat, and unique * Final product has evidence of creativity and self expression * Transformations page is complete and is >90% accurate | * Final product is mostly presentable and neat * Final product has some evidence of creativity and self expression * Transformations page is complete and is 70 - 90% accurate | * Final is difficult to follow and somewhat presentable * Final product is too simple and has little to no evidence of creativity * Transformations page is incomplete or less than 50% accurate |
| **Revision** - I can produce multiple drafts of my work, compare each draft to examples and rubrics to improve my work, and use feedback and critique to revise my work to a high standard of quality. | All project parts are completed and turned in.   * Sketched Draft * Peer Review * Any submitted Desmos drafts * Final Desmos * Transformations page * Final product * Project reflection * Clear evidence of implementation of peer review in final draft | No more than 2 parts missing.   * Sketched Draft * Peer Review * Any submitted Desmos drafts * Final Desmos * Transformations page * Final product * Project reflection * Some evidence of implementation of peer review in final draft | 3 or more parts missing:   * Sketched Draft * Peer Review * Any submitted Desmos drafts * Final Desmos * Transformations page * Final product * Project reflection * Little evidence of implementation of peer review in final draft |