**Particle Lab Test Cases:**

|  |  |  |
| --- | --- | --- |
| Input | Outcome | Completed Test |
| Can you paint over another particle? | You should be able to paint over other particles. | Pass |
| Does the code draw from the update method? | Updates the array with new colors based on the number in the array. | Pass |

**Particle Tests:**

**General:**

|  |  |  |
| --- | --- | --- |
| Do particles annihilate each other? | No | Pass |

**Metal:**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a gray dot | Pass |
| Does it move how it’s supposed to? | Metal should not move. | Pass |
| Does it stack properly? | Metal should not move so it shouldn't stack | Pass |
| Does it wrap down? | No metal should not wrap | Pass |
| Does it wrap up? | No metal should not wrap | Pass |
| Does it wrap left? | No metal should not wrap | Pass |
| Does it wrap right? | No metal should not wrap | Pass |

**Sand:**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a yellow dot | Pass |
| Does it move how it’s supposed to? | Sand has a small spread and falls fast | Pass |
| Does it stack properly? | Sand should stack into a pyramid. | Pass |
| Does it wrap down? | When it hits the bottom of the screen it appears on the top as long as there isn't something there stopping it. | Pass |
| Does it wrap up? | When it hits the top of the screen it appears on the bottom as long as there isn't something there stopping it. | Pass |
| Does it wrap left? | When it hits the left side of the screen it appears on the right side as long as there isn't something there stopping it. | Pass |
| Does it wrap right? | When it hits the right side of the screen it appears on the left side as long as there isn't something there stopping it. | Pass |
| Does sand pass through substances less dense than itself? | Sand moves through less dense materials and does not stack on top of them. | Pass |

**Water:**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a blue dot | Pass |
| Does it move how it’s supposed to? | Water has a wide spread and falls slowly | Pass |
| Does it stack properly? | Water should seek level in any container. | Pass |
| Does it wrap down? | When it hits the bottom of the screen it appears on the top as long as there isn't something there stopping it. | Pass |
| Does it wrap up? | When it hits the top of the screen it appears on the bottom as long as there isn't something there stopping it. | Pass |
| Does it wrap left? | When it hits the left side of the screen it appears on the right side as long as there isn't something there stopping it. | Pass |
| Does it wrap right? | When it hits the right side of the screen it appears on the left side as long as there isn't something there stopping it. | Pass |
| Does water pass through substances less dense than itself? | Water moves through less dense materials and does not stack on top of them. | Pass |
| Does water seeks its own level | Water will become level over time. | Pass |

**Oil:**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a black dot | Pass |
| Does it move how it’s supposed to? | Oil has a wide spread and falls slowly | Pass |
| Does it stack properly? | Oil should seek level in any container. | Pass |
| Does it wrap down? | When it hits the bottom of the screen it appears on the top as long as there isn't something there stopping it. | Pass |
| Does it wrap up? | When it hits the top of the screen it appears on the bottom as long as there isn't something there stopping it. | Pass |
| Does it wrap left? | When it hits the left side of the screen it appears on the right side as long as there isn't something there stopping it. | Pass |
| Does it wrap right? | When it hits the right side of the screen it appears on the left side as long as there isn't something there stopping it. | Pass |
| Does Oil pass through substances less dense than itself? | Oil moves through less dense materials and does not stack on top of them. | Pass |
| Does oil seeks its own level? | Oil will become level over time. | Pass |

**Generator:**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a green dot | Pass |
| Does it move how it’s supposed to? | Generator will stand still and not move | Pass |
| Does it generate how it's supposed to? | It will generate the object above it. | Pass |
| Does it generate in the correct location? | The new obejct will be made bellow it | Pass |
| Does it overide other objects? | It will not overide any objects. | Pass |
| Does the objects made have there effects to them? | The objects made will reacte to the enviorment how their suppost to | Pass |

**Destoryer:**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a purple dot | Pass |
| Does it move how it’s supposed to? | Destoryer will stand still and not move | Pass | | |
| Does it destory objects? | It will destroy objects next to if its not metal or empty. | Pass | |
| Does it produce vapor? | Yes, when an object gets destoryed it gets turned into vapor. | Pass | |

**Vapor:**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a white dot | Pass |
| Does it move how it’s supposed to? | Vapor has a wide spread and moves up slowly | Pass |
| Does it stack properly? | Vapor should seek level | Pass |
| Does it wrap down? | When it hits the bottom of the screen it appears on the top as long as there isn't something there stopping it. | Pass |
| Does it wrap up? | When it hits the top of the screen it appears on the bottom as long as there isn't something there stopping it. | Pass |
| Does it wrap left? | When it hits the left side of the screen it appears on the right side as long as there isn't something there stopping it. | Pass |
| Does it wrap right? | When it hits the right side of the screen it appears on the left side as long as there isn't something there stopping it. | Pass |
| Does vapor pass through substances less dense than itself? | Vapor moves through less dense materials | Pass |
| Does vapor delete itself? | There is a chance that vapor will delete itself when moving and it will delete itself when it toughches a surface | Pass |

**Choice #1 (Ice):**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a blue dot | Pass |
| Does it move how it’s supposed to? | Ice has a small spread and moves down | Pass |
| Does it stack properly? | Ice will stack | Pass |
| Does it wrap down? | When it hits the bottom of the screen it appears on the top as long as there isn't something there stopping it. | Pass |
| Does it wrap up? | When it hits the top of the screen it appears on the bottom as long as there isn't something there stopping it. | Pass |
| Does it wrap left? | When it hits the left side of the screen it appears on the right side as long as there isn't something there stopping it. | Pass |
| Does it wrap right? | When it hits the right side of the screen it appears on the left side as long as there isn't something there stopping it. | Pass |
| Does ice pass through substances less dense than itself? | Ice will only move through water and air. It will stop at any other liquid | Pass |
| Does ice freeze water? | Ice will turn water into Ice as a sheet in the top. It will then sink in other liquids | Pass |

**Choice #2 (Dirt/Mud):**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a light/dark brown dot | Pass |
| Does it move how it’s supposed to? | Dirt/mud has a small spread and falls fast | Pass |
| Does it stack properly? | Dirt/mud stacks into a pyramid. | Pass |
| Does it wrap down? | No, it will not wrap down, this helps with setting up a floor. | Pass |
| Does it wrap up? | No, it will not wrap up. This gelps with setting up a floor. | Pass |
| Does it wrap left? | When it hits the left side of the screen it appears on the right side as long as there isn't something there stopping it. | Pass |
| Does it wrap right? | When it hits the right side of the screen it appears on the left side as long as there isn't something there stopping it. | Pass |
| Does sand pass through substances less dense than itself? | Dirt/Mud moves through less dense materials and does not stack on top of them. | Pass |
| Does dirt become mud when near water? | Dirt will change to mud when it’s 2 pixels away from water. Then it will consume that water. | Pass |

**Choice #3 (Grass/Seed):**

|  |  |  |
| --- | --- | --- |
| Does it draw to the screen? | Produces a light/dark green dot | Pass |
| Does it move how it’s supposed to? | Seeds will fall down and wrap and grass will not. | Pass |
| Does it stack properly? | Seed will stack into a pyrimid and grass will not | Pass |
| Does it wrap down? | Seed will wrap, grass will not | Pass |
| Does it wrap up? | Seed will wrap, grass will not | Pass |
| Does it wrap left? | Seed will wrap, grass will not | Pass |
| Does it wrap right? | Seed will wrap, grass will not | Pass |
| Does sand pass through substances less dense than itself? | Seed moves through less dense materials and does not stack on top of them. Grass will not as it doesn’t move. | Pass |
| Does seed become grass? | Seed will turn into grass if it’s near two mud pixels. It will then thurn mud or water into dirt or empty and start to grow. | Pass |
| Does grass break? | If the ground under grass is ruined the grass will fall apart as it’s roots will be ruined | Pass |