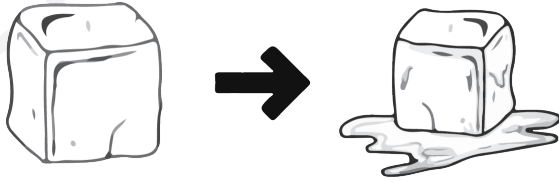


Date: _____

Name: _____

Coding Reversible and Irreversible Processes!

This activity was created by Shannon.



Reversible



Irreversible

Background

Everywhere you look, things are constantly changing. These changes can be defined as either *reversible* or *irreversible*.

- A change is **reversible** if the change can be undone and you can get back the original substances you started with. The substance might look or feel different, but during the process no new materials are created.
>>> Example: Melting ice forms water, but water can be frozen to form ice.
- A change is **irreversible** if it cannot be changed back to how it was before. In an irreversible change, new materials are always formed.
>>> Example: When you burn a piece of wood, it turns to ash and smoke. You can never get the wood back.

Let's define whether the following processes are reversible or irreversible. To do this, we're going to use Boolean Logic and create some conditional statements. It may sound scary, but all you have to do is state whether the change is reversible or irreversible!

Take a look at our example below: the **variable** is the *substance* that we are looking at, and the **function** (*in_the_brackets*) is the change that is happening. In the scenarios on page 8, record whether the change on the substance is reversible or irreversible on the line provided.

Example Scenario:

```
Variable = iron
```

```
>>> if iron is (melted)
```

```
    then _____ Reversible
```

```
>>> else if iron is (rusted)
```

```
    then _____ Irreversible
```

Date: _____

Name: _____

Scenario 1: Let's Bake a Cake!

```
Variables = butter, egg, batter, cake
```

```
>>> if butter is (melted)  
    then _____
```

```
>>> if egg is (cooked)  
    then _____
```

```
>>> if batter is (placed_in_the_oven)  
    then _____
```

```
>>> if cake is (frozen_for_later)  
    then _____
```

Scenario 2: Piece it all Together

```
Variable = paper
```

```
>>> if paper is (cut)  
    then _____
```

```
>>> else if paper is (folded)  
    then _____
```

```
>>> else if paper is (burned)  
    then _____
```

```
>>> else if paper is (drawn_on_with_markers)  
    then _____
```