

# TEALS MINECRAFT PROJECT

Lecture 2: Modding Minecraft Items

# WHAT'S A MINECRAFT ITEM?



Items are things like plants, tools, eggs and other objects that can be found in the world.

# MINECRAFT ITEM OBJECTS

All items extend the Minecraft `Item` class.

There are multiple base classes that extend the `Item` class:

`ItemArmor`: items that the player can wear

`ItemFood`: items that the player can eat

`ItemTool`: items that the player can use to modify the world

Items have the following properties:

A maximum stack size → the number of items that can combine in one slot of your inventory.

A creative tab → the location in the creative inventory of the item.

# ITEM STACKS

A player's inventory has 36 slots. The "hot bar" has nine slots (1–9). Each slot holds an "item stack".

A stack of items is just a certain number of items of a single type. For example, an item stack of five calculators, or an item stack of 64 sand blocks.

An inventory slot can be empty (null in the code).

The item count is stored in the `ItemStack` `stackSize` field.

The inventory pop-up has multiple tabs. These are called "creative tabs". Each tab holds blocks and items of a certain category.

# CREATING CUSTOM ITEMS

To create a custom item, you need to

- Extend the `Item` class,

- Add code in the `Item` constructor to
  - set the maximum stack size with `setMaxStackSize()`, and
  - set the desired creative tab with `setCreativeTab()`.

- Register the item in your `ItemsModule` `onLoad()` method.

# EXAMPLE ITEM CODE

## ITEM CLASS

```
package tealsmc.mods;

import net.minecraft.creativetab.CreativeTabs;
import net.minecraft.entity.player.EntityPlayer;
import net.minecraft.item.Item;
import net.minecraft.item.ItemStack;

public class AntiBurnItem extends Item {
    public AntiBurnItem() {
        // Set up item defaults.
        setMaxStackSize(16);
        setCreativeTab(CreativeTabs.tabDecorations);
    }

    @Override
    public boolean onDroppedByPlayer (ItemStack item, EntityPlayer player) {
        // If the player is on fire, stop them from burning.
        if (player.isBurning())
            player.extinguish();

        return super.onDroppedByPlayer (item, player);
    }
}
```

# EXAMPLE ITEM CODE MODULE CLASS

```
package tealsmc.mods;

import org.tealsk12.tealsmodloader.module.Module;

public class ItemsModule extends Module {

    public void onLoad() {
        // Create Item Instances
        AntiBurnItem antiBurn = new AntiBurnItem();

        // Register Instances
        parentMod.itemRegistry.newInstance(
            "anti_burn_item", antiBurn, "Anti Burn Item");
    }
}
```

# ITEM LAB

For the item lab, we will implement a new Minecraft item: a rock sifter.

The rock sifter item will find all sand blocks in your inventory, and for each one will have a 10% chance of finding a gold nugget. When the sifter is finished, sand blocks in your inventory will be replaced with a random amount of gold nugget items.