

# Engineering And Robotics Learned Young

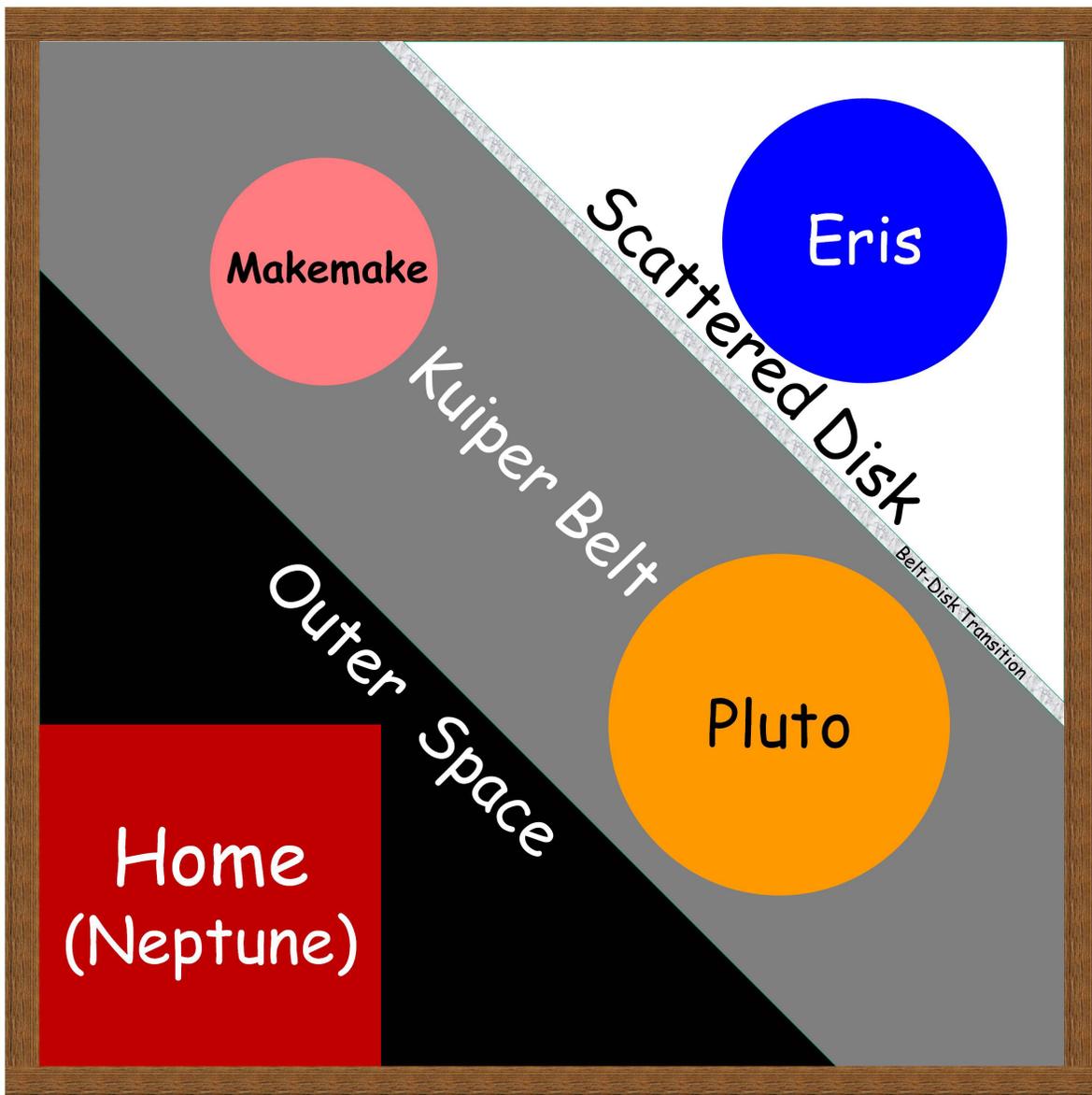
◆ EARLY ◆

## 2015-2016 Robotics Competition

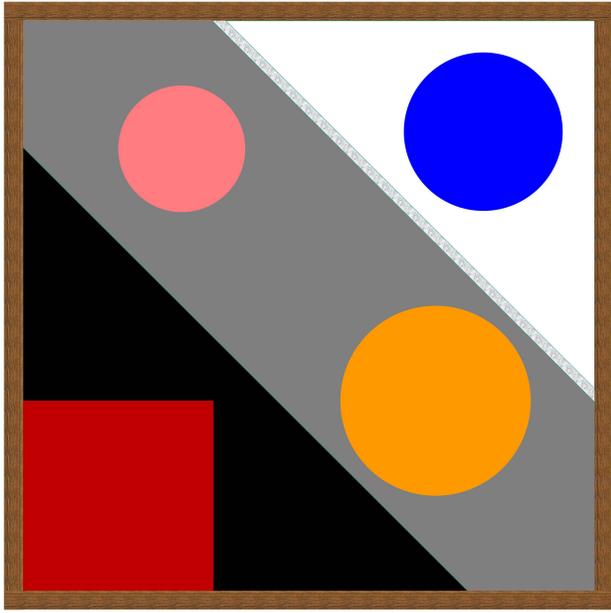
### Mission Field Details

The 2015-2016 EARLY Robotics Competition mission field, the **Trans Neptunian Space**, is a 4' x 4' field with a 2" x 4" border with various terrain features. The following information is provided for constructing the mission field.

## Trans Neptunian Space



2015-2016 EARLY Mission Field



Mission Field Rendering



Mission Field Image

**Field**  
48" x 48"  
 $\frac{1}{2}$ " Plywood

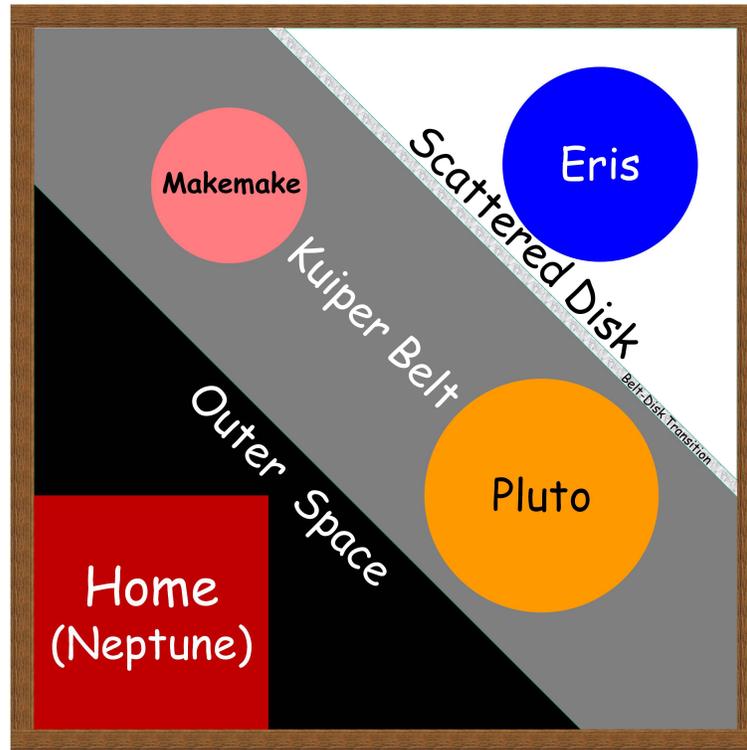
**Field Perimeter**  
2" x 4" Boards

**Makemake**  
10" diameter  
 $\frac{1}{2}$ " Plywood  
 $7\frac{1}{2}$ " from Left Border  
5" from Top Border

**Kuiper Belt**  
10" of Left Border  
15" of Top Border  
15" of Right Border  
10" of Bottom Border

**Outer Space**  
35" x 35"

**Home (Neptune)**  
15" x 15"



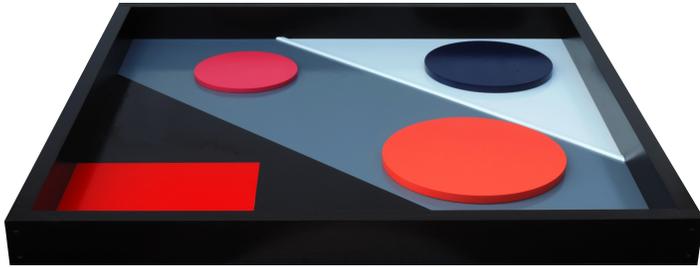
**Eris**  
 $12\frac{1}{2}$ " diameter  
 $\frac{3}{4}$ " Plywood  
 $2\frac{1}{2}$ " from Top Border  
 $2\frac{1}{2}$ " from Right Border

**Scattered Disk**  
30" x 30"

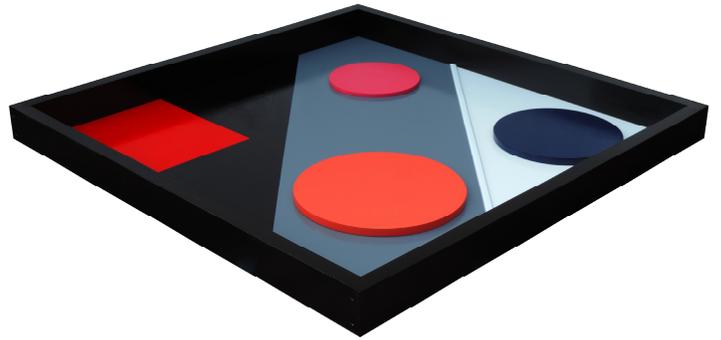
**Belt-Disk Transition**  
 $\frac{3}{4}$ " x  $\frac{1}{4}$ " Molding

**Pluto**  
15" diameter  
 $\frac{3}{4}$ " Plywood  
5" from Right Border  
 $7\frac{1}{2}$ " from Bottom Border

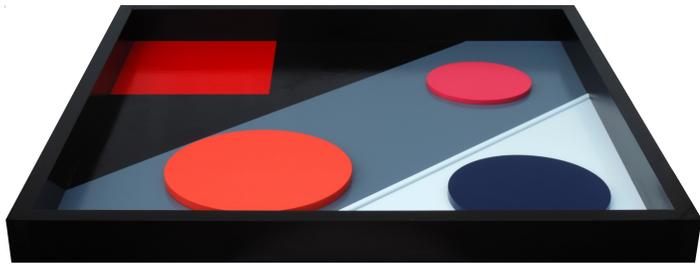
## Trans Neptunian Space



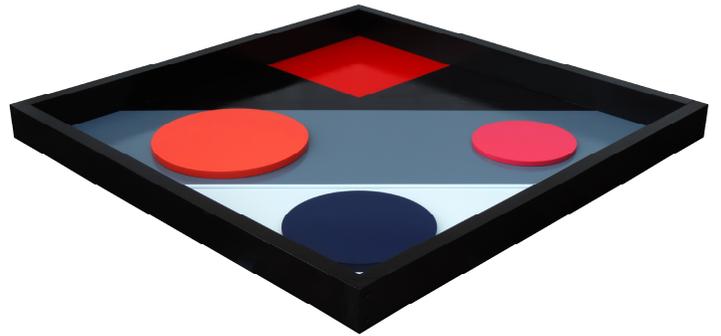
View from HOME (NEPTUNE) & PLUTO



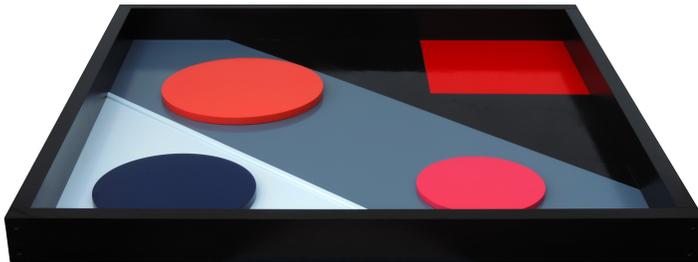
View from PLUTO



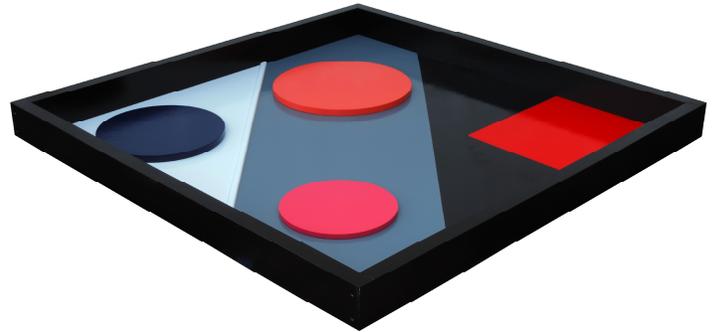
View from PLUTO & ERIS



View from ERIS



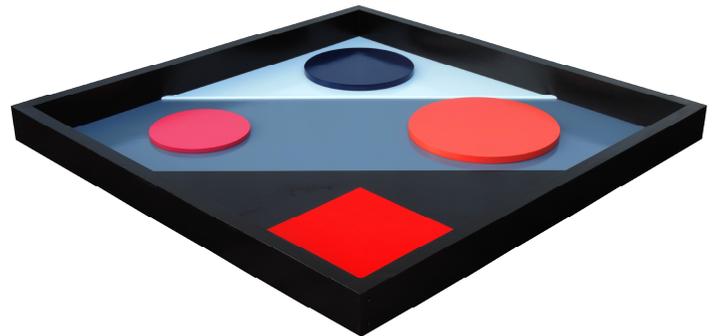
View from ERIS & MAKEMAKE



View from MAKEMAKE



View from MAKEMAKE & HOME (NEPTUNE)



View from HOME (NEPTUNE)

- The bottom of the mission field is a 4' x 4' sheet of  $\frac{1}{2}$ " plywood.
- The outer boundary of the mission field is made of 2x4 boards (actual dimension of  $1\frac{1}{2}$ " x  $3\frac{1}{2}$ ") and is *black*. The side of the 2x4 board that is  $1\frac{1}{2}$ " is attached to the plywood with glue, nails, or screws.
- **HOME (NEPTUNE)** is a 15" by 15" flat area and is *red*.
- **OUTER SPACE** is a 35" by 35" triangular flat area and is *black*.
- The **SCATTERED DISK** is a 30" by 30" triangular flat area and is *white*. The **SCATTERED DISK** includes the **BELT-DISK TRANSITION** that is made from one  $42\frac{1}{4}$ " strip of  $\frac{3}{4}$ " x  $\frac{1}{4}$ " screen molding; the molding is fastened to the mission field with glue, nails, or screws. The screen molding can be purchased at Home Depot (part # 927-139).
- The **KUIPER BELT** is a 45" by 45" flat area and is *gray*.
- **PLUTO** is a 15" diameter piece of  $\frac{3}{4}$ " plywood and is *orange*. **PLUTO** is positioned  $7\frac{1}{2}$ " from the bottom border and 5" from the right border.
- **ERIS** is a  $12\frac{1}{2}$ " diameter piece of  $\frac{3}{4}$ " plywood and is *navy blue*. **ERIS** is positioned  $2\frac{1}{2}$ " from the top border and  $2\frac{1}{2}$ " from the right border.
- **MAKEMAKE** is a 10" diameter piece of  $\frac{1}{2}$ " plywood and is *rose*. **MAKEMAKE** is positioned 5" from the top border and  $7\frac{1}{2}$ " from the left border.
- The *gray* color can be made by mixing 1 part black paint with 1 part white paint.
- The *orange* color can be made by mixing 1 part red paint with 2 parts yellow paint.
- The *rose* color can be made by mixing 1 part red paint with 1 part white paint.

Please contact [Mission.Control@EARLYrobotics.org](mailto:Mission.Control@EARLYrobotics.org) with any questions or comments.

Thank you for maintaining the spirit of the game!