

# Sea Star Surface Craft

## Parts and Tools Lists

**DRAFT**

These lists have been compiled in order to assist you in building the Sea Star Surface Craft in your classroom and in ordering the necessary parts and tools. Please consult the construction manual and reference your training to verify what you will need.

The suggested vendors have been selected for convenience, price, and/or ease of use. Many of the items may be available at lower cost from other sources, or may be already available at your school (especially tools). Many vendors have significant quantity discounts available, and some may have educational discounts. Please let us know if you order items from other vendors, and how they work out, so that we can evaluate our recommendations.

### Key

Qty.	Quantity - number of items needed for 1 kit, or length needed for items such as wire.
Size	Size or amount of item required, or unit of measure.
Item	Description of item.
Suggested Vendor	Suggested source for purchase of items.
Cat.No.	Catalog Number of item in suggested vendor's catalog
Per Package Cost	Cost of minimum order.
Order Quantity (# Pack.)	Number of packages of minimum order size needed for 1 kit.
Cost	Cost of quantity needed to order
Notes	Additional information, including quantity discounts and alternative sources

This list was last updated in September, 2005. All items were available from the suggested vendors at that time, but availability may change.

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<u>Qty.</u>	<u>Size</u>	<u>Item</u>	<u>Suggested Vendor</u>	<u>Cat. No.</u>	<u>Per Package Cost</u>	<u>Order Quantity (# Pack.)</u>	<u>Cost</u>	<u>Notes</u>
<b>Parts</b>								
2-4	large sheets	Design Paper	anywhere					same size as foam block is nice
1	~12"x30"x4"	Foam Block (large - size variable)	*(see note below)					
1	~6"x4"x1/4"	Transom Plate (plastic or wood, size variable)	scrap bin or hardware store					
1		Motor Kit (Hobbico EB1 Outboard Unit)	Tower Hobbies	LXHMR9	\$ 69.99	1	\$ 69.99	
1		R/C Kit (Futaba 2DR 2-Channel AM / 2 S3003 Servos)	Tower Hobbies	LXGRM7xx	\$ 39.99	1	\$ 39.99	in Cat. No., xx=frequency
1		Motor Controller (Traxxas Nautica or XL-1)	Tower Hobbies	LXJM29 or LXJM28	\$ 39.99	1	\$ 39.99	Nautica designed for boats but has no reverse.
1	7-Cell	Battery (T.H. 1900mAh 8.4v 7-cell Flat Std.)	Tower Hobbies	LXDNY1	\$ 18.99	1	\$ 18.99	Extra batteries are handy
1		Battery Charger (T.H. 420 AC/DC 6-7 Cell Charger)	Tower Hobbies	LXJC34	\$ 29.99	1	\$ 29.99	Only one needed for several batteries
12		AA Batteries	anywhere					
4	6-32, 3/4"	Screws (6-32, 3/4in.)	any hardware store					
4	6-32	Nuts (6-32)	any hardware store					
4	#6	Washers (#6)	any hardware store					
1		Glue	hobby shop or hardware store					
1	~3 ft	Electrical Tape	any hardware store					
1	~6"x6"x2"	Plastic Dry Box (tupperware type, size variable)	any grocery store					
1	~1 ft strip	Velcro strips with sticky backs	any hardware store					
1	~1ft	Antenna Mast (any plastic stick)	any hobby shop					Use your imagination... anything will do.
<b>Total for Parts</b>							<b>\$ 198.95</b>	

<b>Tools</b>								
1		Pencil	anywhere					
1		Eraser	anywhere					
1		Ruler	anywhere					
1		Scissors	anywhere					
1		Felt-tip marker	anywhere					
1		Foam cutting tools **(see note below)	Hotwire Foam Factory	#K16	\$ 74.95	1	\$ 74.95	#K16 = Crafters AC 2-In-1 Hot Knife/Sculpt Kit
1		Fine Sand Paper	hobby shop or hardware store					
1		Saw - fine tooth, without ridge in the back	hobby shop or hardware store					
1	#26	Xacto #26 whittling blade (long)	Tower Hobbies	LXKY39 (Pack of 5)	\$ 4.89	1	\$ 4.89	
1	#2	Xacto #2 fine point blade	Tower Hobbies	LXKY25 (Pack of 5)	\$ 2.39	1	\$ 2.39	One of these blades comes with the handle below
1	B	Xacto Type B Knife Handle (for larger blades)	Tower Hobbies	LXKY73	\$ 3.99	1	\$ 3.99	
1		Needle Nose Pliers	any hardware store					
1		Screw Driver (appropriate size for screws above)	any hardware store					
1		Drill	any hardware store					
1		Drill Bit for #6 screws	any hardware store					
<b>Total for Tools</b>							<b>\$ 86.22</b>	

\* We have not yet found a convenient supplier of large foam blocks. The one we used has a minimum order quantity of \$250, and is rather inconvenient. Larger pieces of foam can be made by gluing together (laminating) thinner sheets, such as those used in building insulation. In fact, it might be easier if each sheet is partially shaped before gluing together.

\*\* We had limited success with the Hotwire foam cutting tools. They have many different kits available, but the tools we found most useful were the Hot knife and the Sculpting tool, both of which are included in the #K16 kit. HotWire also has more powerful tools in their Pro Kits section. Other options for cutting foam include a saw or large thin knife. Let us know if you experiment with other methods.