

MY SOLAR ECLIPSE BOOKLET

Below is the map of the Total Solar Eclipse. The lines represent the path of the eclipse across the United States.

Color in the states that the solar eclipse path covers. If you didn't color your state, then color it a different color.

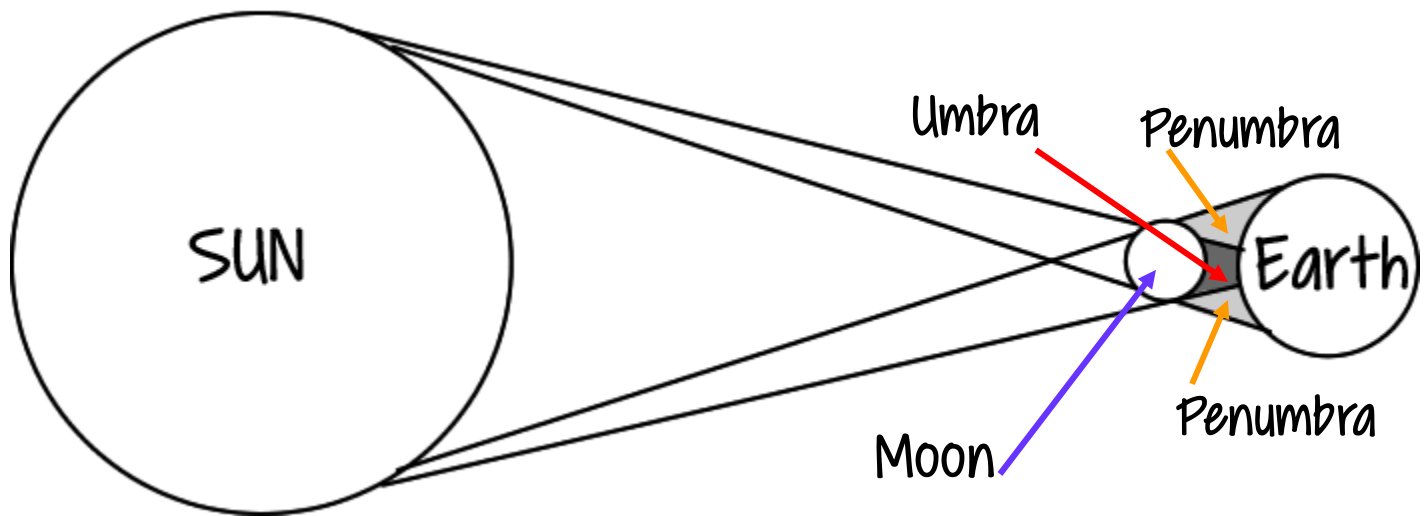


Where will you be during the Total Solar Eclipse?

Who will you be with?

What is a Solar Eclipse ?

Color the items on the diagram below.



A solar eclipse is when the moon blocks our view of the sun. This happens when the Moon is exactly between the Sun and the Earth.

NEVER LOOK AT THE SOLAR ECLIPSE without **protective glasses**. It is never safe to look at a partial or annular eclipse, or the partial phases of a total solar eclipse, without the proper equipment.



DO NOT try to create your own glasses - ONLY use glasses that are approved and has been specifically manufactured and sold as safe for direct solar viewing!

Definitions:

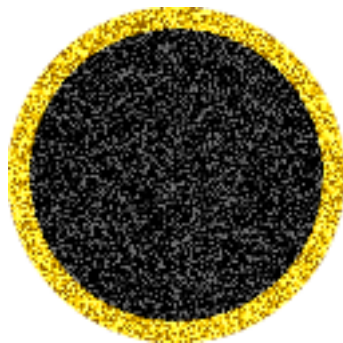
Penumbra - This is the area where you will see a partial solar eclipse. The area in which the shadow of the moon on the Earth is partial not totally covered.

Umbra - This is the area where you will see a total solar eclipse as shown on the path across the United States map. It is the area in which the shadow of the moon on the Earth is total.



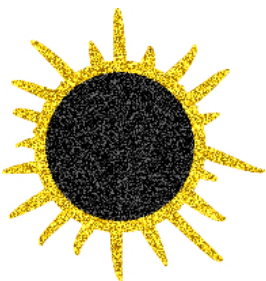
What happens when the solar eclipse begins? Depending on where you are you will see a partial or total eclipse. You can also view it on a TV broadcast as well.

The first flicker you will see is Baily's Beads. As the moon moves in front of the sun, bright points of light shine around the moon's edges. These are light rays from the sun streaming through the valleys along the moon's horizon.



The 2nd view you will see is called the Diamond Ring. The moon continues to move, the baily beads disappear, until there is only a bright spot of the sun visible around the moon. It begins to look a like a giant diamond ring. It is still not safe to look at the sun at this point!

The 3rd View is called Totality. It is the part of an eclipse when the moon entirely blocks the Sun. It lasts for just a few minutes or up to eight minutes depending on your location on Earth.



Make sure you still have your safety glasses on for this next step of watching the eclipse before the first flash of sunlight appears around the edges of the moon. The moon continues to move across the face of the sun, a crescent will begin to grow larger on the opposite side from where the Baily's Beads shone at the beginning.

This is your signal to make sure you have your safety glasses on. Once your eyes are protected again, you may continue to watch the final stages of the eclipse.

You will once again see a diamond ring and then the Baily's Beads, before the entire sun is once again visible.

Never look directly into the sun!





Solar Eclipse

I H Y S X S H D S U F B O N B
F X A G D C C J Z U F Z C T P
E A Q G L A S S E S N X G H R
S G R E A T A M E R I C A N O
N O T B M P N N D L L C U W T
Y Z L L M E L N O B I A G J E
T Z I A A U O A A O S B U R C
I E X R R M N I N A M V S A T
L J T X A E L E N E Z F T T E
A H Y I M Y C Y P P T E V S Y
T W D A B N A L U F M S X C E
O V I E W T T S I T N E I C S
T U A Q J R U H M P H J T X A
Q D A R B M U U F U S J Q B P
S G I D D T X N W Y I E J I W

AUGUST
EARTH
MOON
PLANETS
SOLAR ECLIPSE
TOTALITY

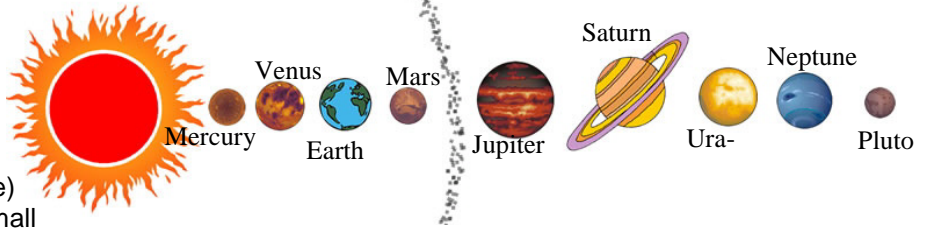
BAILY BEADS
GLASSES
NASA
PROTECT EYES
STAR
UMBRA

DIAMOND
GREAT AMERICAN
PENUMBRA
SCIENTIST
SUN
VIEW

Recipes

Solar System Cake

Cake Mix
Round cake pan
White icing, in a tub
Red and yellow food coloring (to make orange)
Assorted colored Marshmallows, large and small



Assorted decorations for the planets: Licorice whip for the rings on Saturn, chocolate dip some of the marshmallows and roll them in crispy cereal or nuts to represent the rocky area, experiment with other colored frosting by using some of the white icing and coloring it different colors, take a toothpick and swirl the frosting on the colored marshmallows.

Bake a round cake according to the directions on the box. Mix the food coloring in the tub of icing to create an orange color. Frost it with the icing. Start with a small marshmallow to represent Mercury. Then decorate the remainder of your marshmallows according to size, texture and colors using ideas of your own or the suggestions decorations above.

The other option is just to place colorful marshmallows in different sizes on the cake without decorations. Once the marshmallows are lined up like planets then you can place them on the cake in order. Serve you fun cake.

Moon Rock Cake

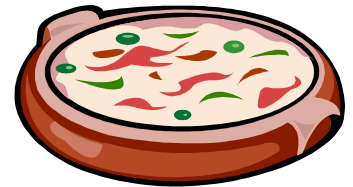
Angel food cake, found in your local bakery
Whip cream, in a tub located in the freezer section
Granola



Purchase an angel food cake at your local grocery store. Let your whip cream defrost in the refrigerator. Cover the cake with the whipped cream. Sprinkle the granola on the top to make it look like moon rocks. You can also have each person decorate their own cupcake and sprinkle granola or other yummy treats on top.

Moon Pizzas

Prepared pizza crusts
Mozzarella cheese
Pizza sauce
Olive and pepperoni slices



Spread a thin layer of pizza sauce on prepared pizza crusts. Sprinkle shredded mozzarella cheese over sauce. Add olive and pepperoni slices on top to resemble the moons craters. Place on ungreased baking sheet and bake as directed on pizza crust packaging.

Other Space Themed Treats

- Prepare sandwiches and cut them using star-shaped cookie cutter.
- Create star sugar cookies and place sparkly sprinkles on them.
- Cut Swiss cheese in squares and place on crackers to represent the moon crater.
- Use small bite size bagels and push chocolate candies in the top for lights on a space ship. Spread cream cheese in the middle to hold it together. For extra, you can add food coloring to make the cream cheese green.
- Add seltzer water or lemon-lime soda to grapefruit juice to a punch bowl. Finish with ice and serve your black hole punch. For extra, have star shaped ice cubes floating in the bowl.
- Donut holes covered with sprinkles or assorted nuts etc. placed on skewer to represent the planets.
- Gummy candies shaped in rockets, aliens, stars or various space related shapes.
- Space cupcakes. Decorate the cupcakes with stars, gummy shapes or fondant shapes to represent the space theme.
- Moon cupcakes. Decorate the top with frosting, granola, graham cracker crumbs and wafers to look like craters.



Solar Eclipse Card Game

The game cards are located on the next page. Please make sure you print out all **four pages** of the cards. Copy them on cardstock if possible. If not, glue them on index cards so the players can not see through them.

Solar Eclipse Card Game- cards depicting items that remind you of Juliette Low or a celebration.

Card templates (located on the next **FOUR** pages)
4 pieces of cardstock or index cards
2-3 players
glue stick /scissors

Preparing the game:

If you have **more than 3** participants then you will need to copy **more cards**, according to the size of the group. Create separate playing areas for the groups and distribute the cards accordingly.

Print out the templates on cardstock or regular paper. You need to print all four pages for each game variation. If you copy them on regular paper then you will need cut them out and glue them on index cards. Otherwise, they players will be able to see through the cards. Wait for the glue to dry and then begin to play.

If you copy them on cardstock, then you should make sure that all the card stock is the same color or the participants will remember what item is on what color card.

Playing the game:

Variation # 1

Best if played with 3-4 players. Form a circle around a table or on the floor. Each player gets **three** cards each, **five** each for only two players. The remaining cards are placed face down in a stack in the middle of the playing area.

The person that sits to left of the dealer goes first and play continues clockwise. The object is to make pairs and when the pairs are created they are placed face up in front of the players.

The first person asks, "Do you have a "sun"? to the person to their left. If they do not have a sun card, then they must draw a card. They draw the top card of the stack, if they make a match then they can lay it down.

If the person has the card then they have to give it to the person asking.

The game ends when someone matches all their cards or there are no more cards left in the stack. The person with the most matches wins.

Variation # 2

Memory Game. Best if played with 2-3 players because waiting can get frustrating with younger children.

The object of this game is to find the matching cards. To start the game a player turns over two cards. If the cards match, then they keep the matches and continue to play. If the cards do not match, then it quickly moves to the next player. the end of the game all matches are counted for each player. The player with the most matches wins.

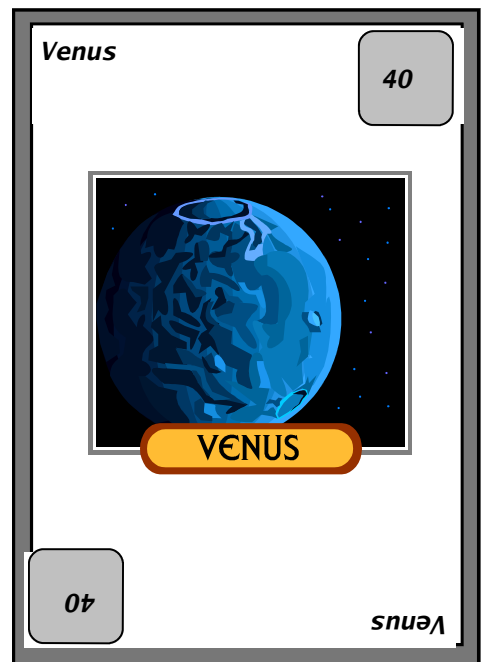
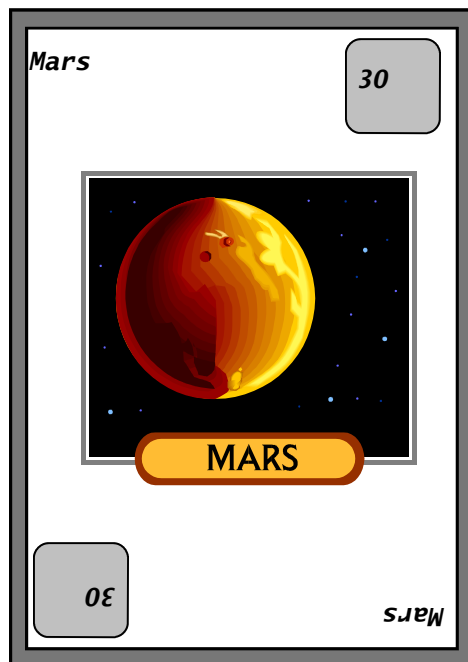
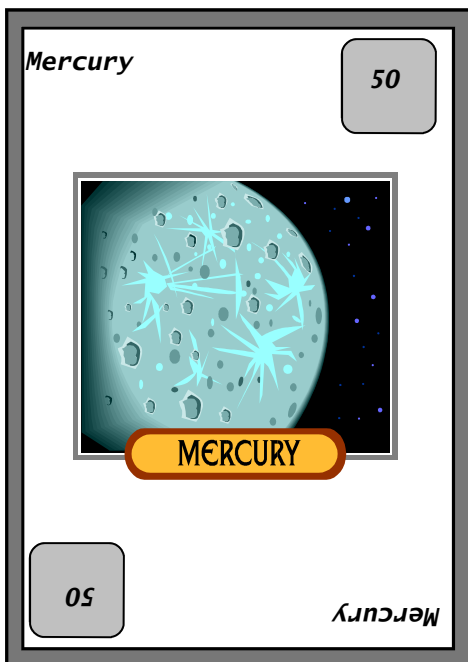
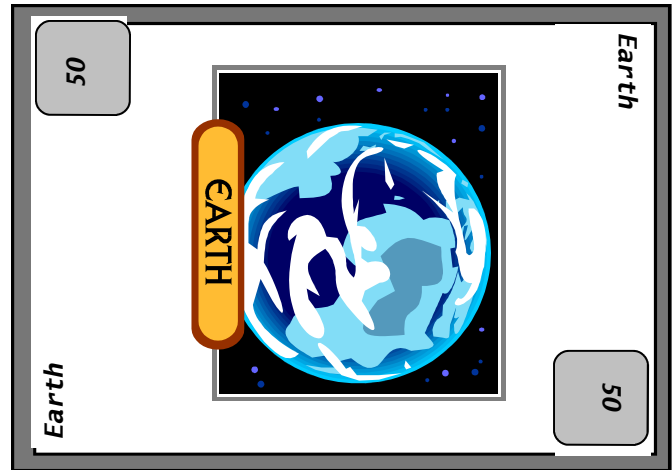
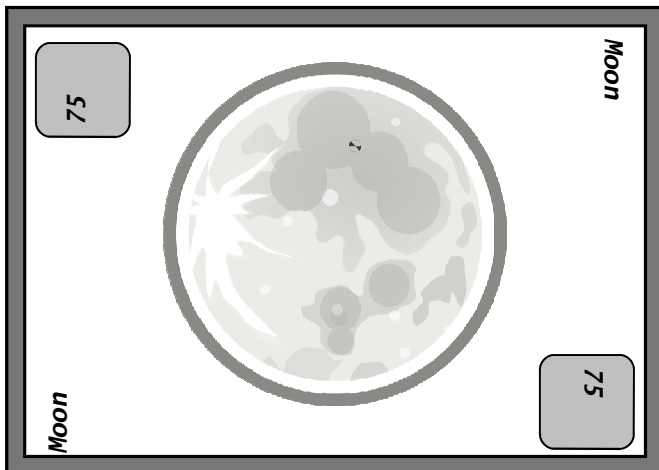
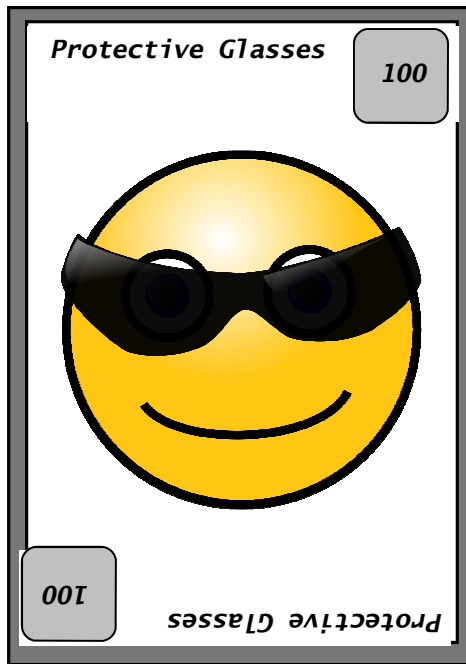
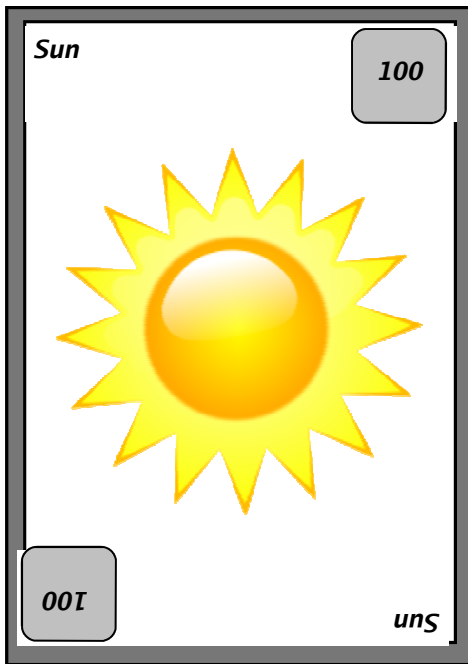


Cards for Solar Eclipse Game

You will need **both pages** to play this game.

You can match the cards or play other card games.

You can glue the cards on index cards or print these cards on Cardstock so that they are more sturdy and they will not be able to see through them.

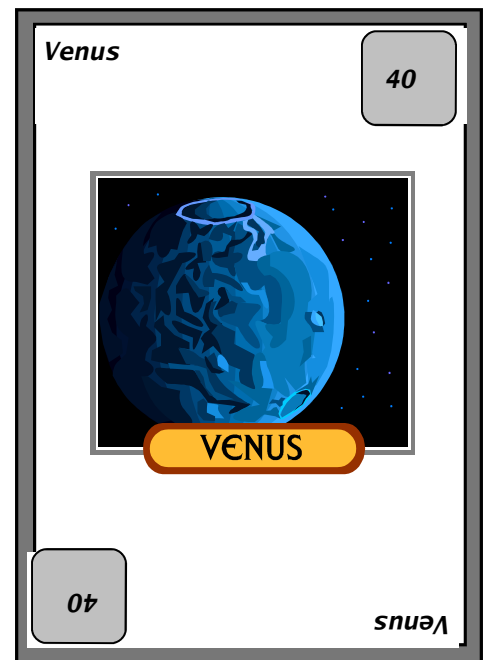
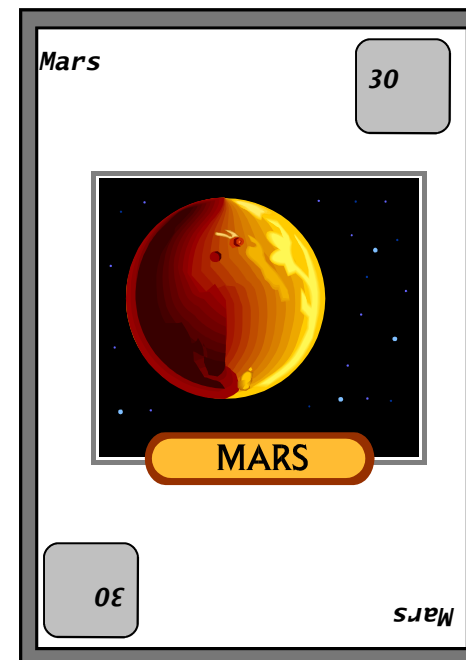
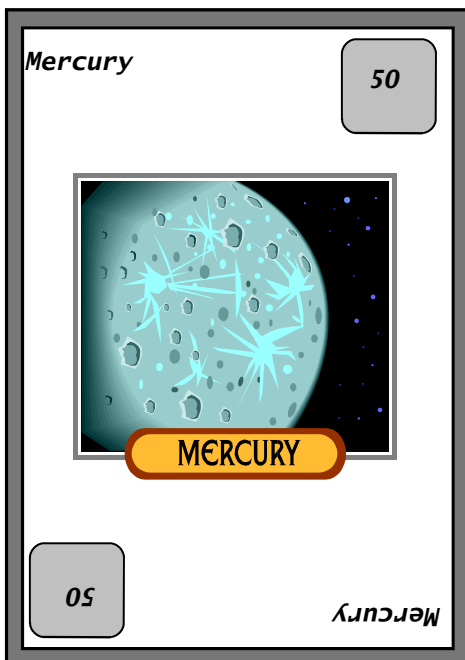
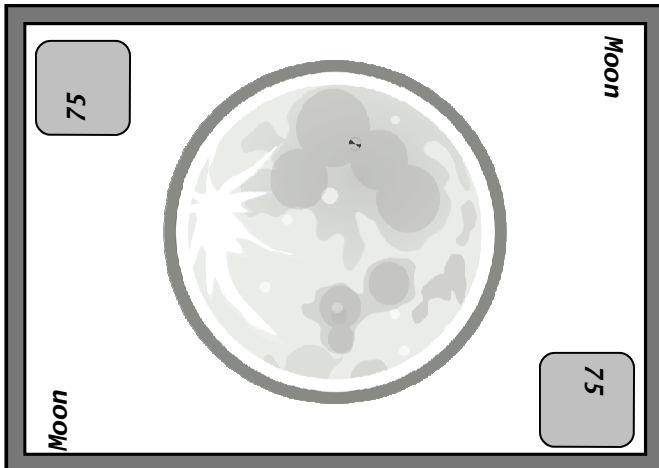
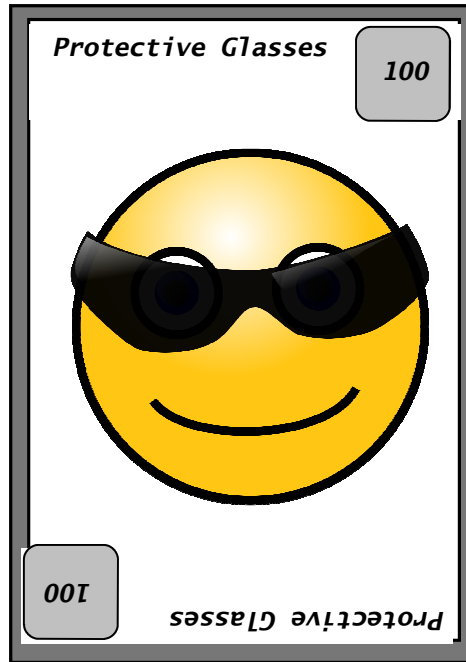
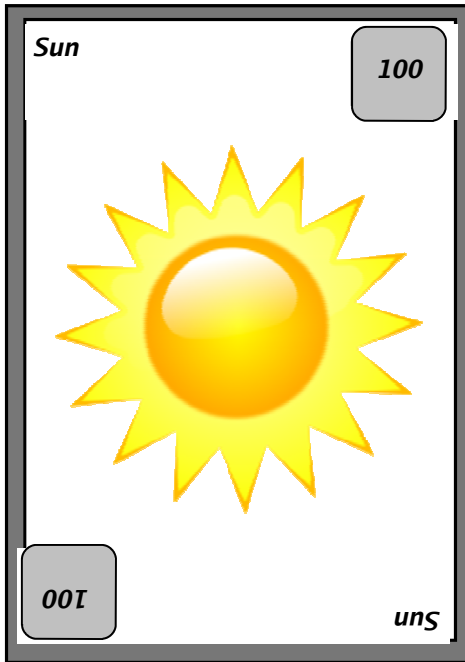


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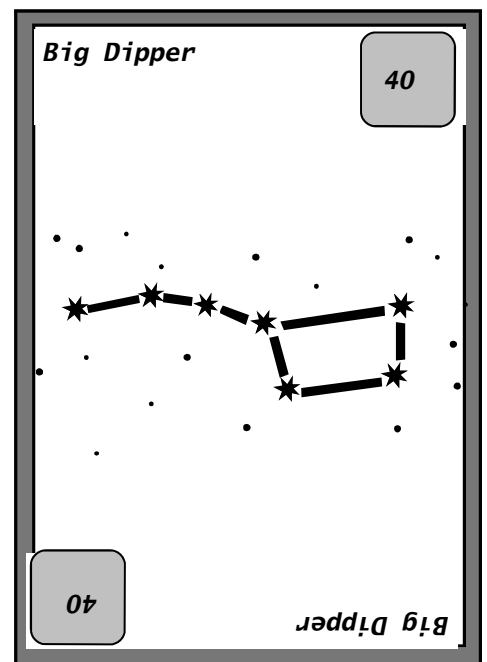
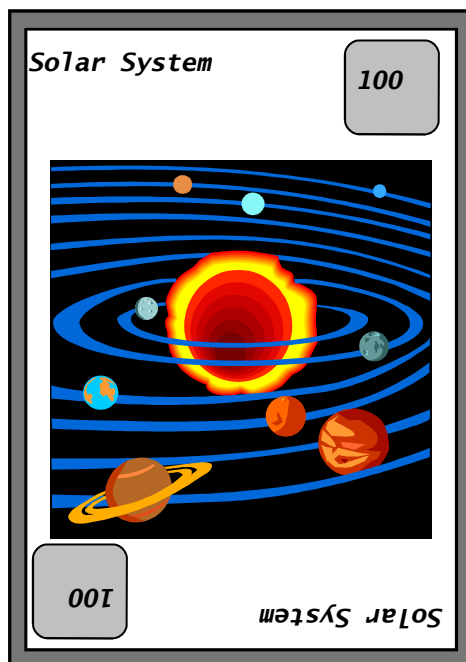
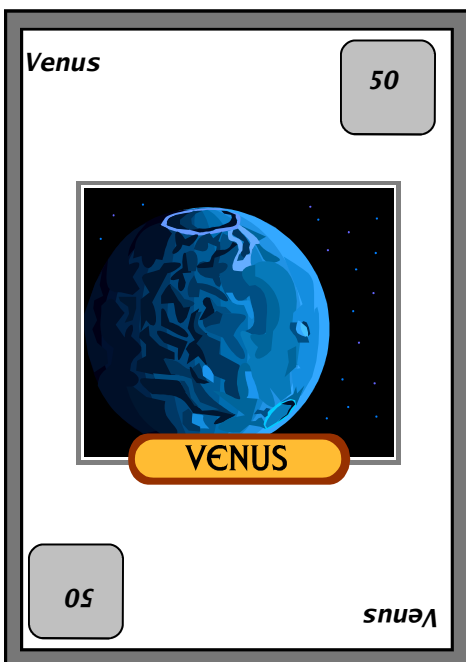
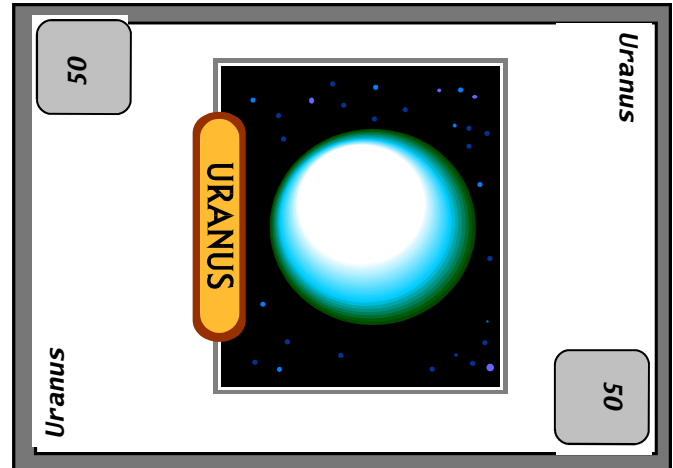
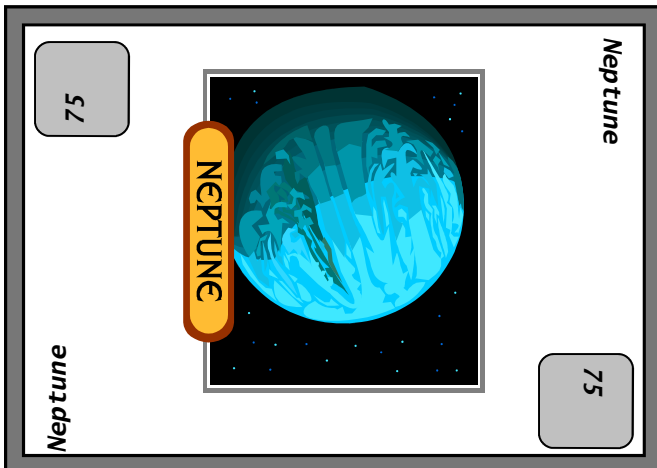
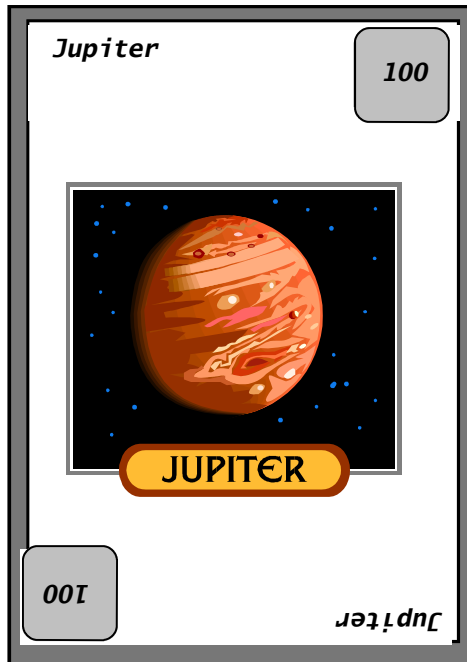
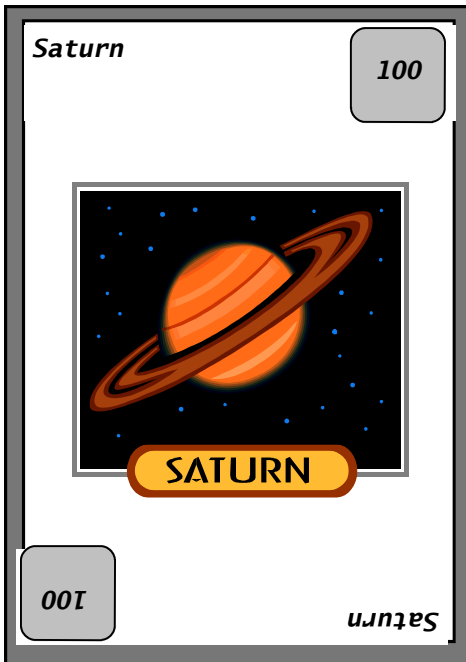


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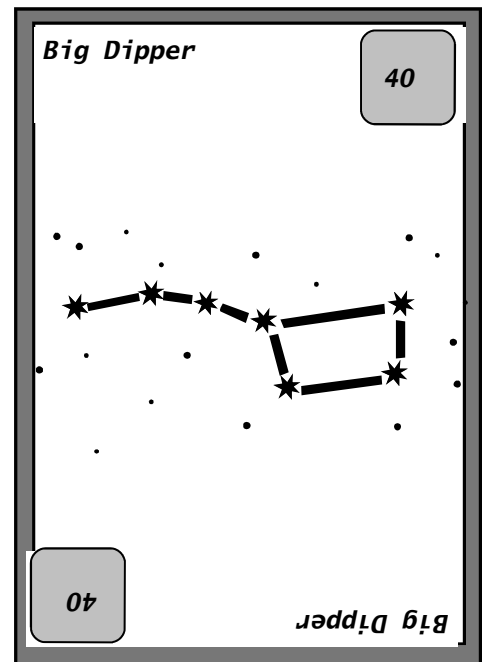
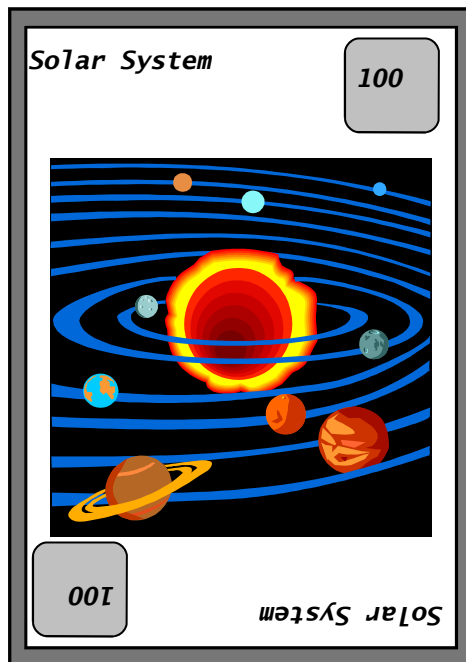
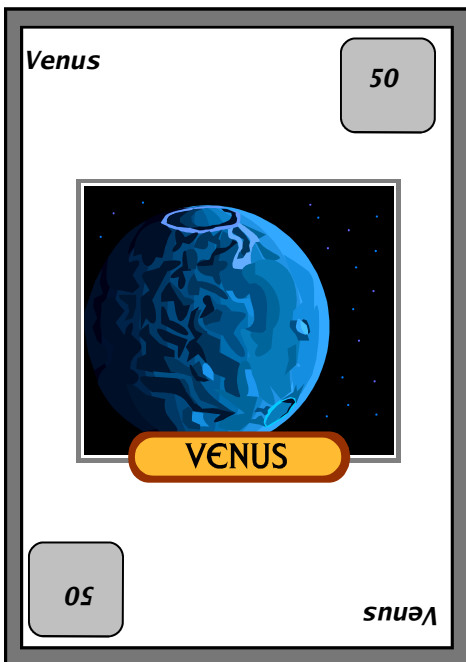
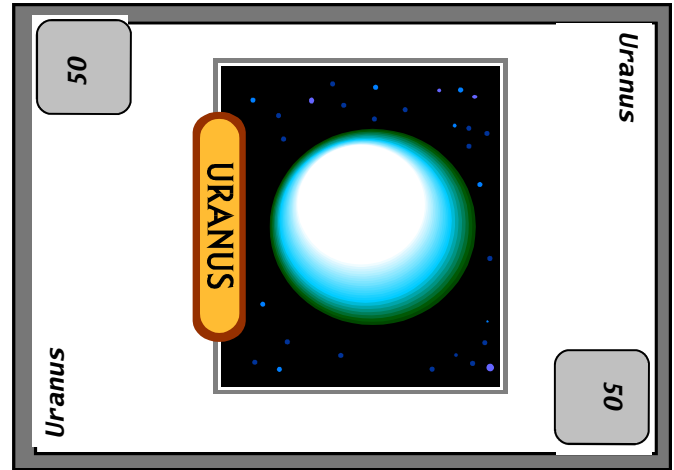
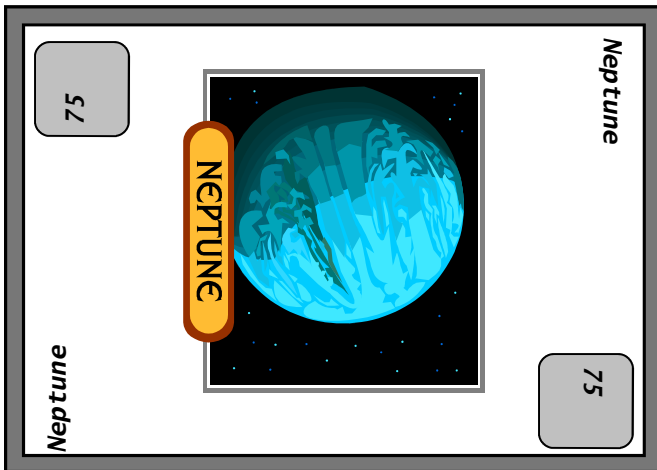
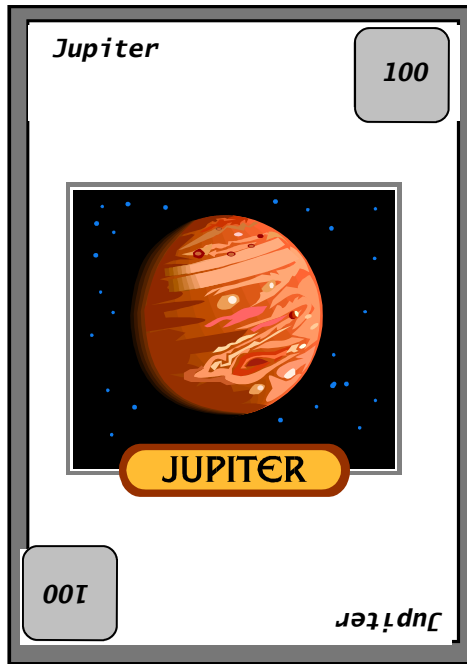
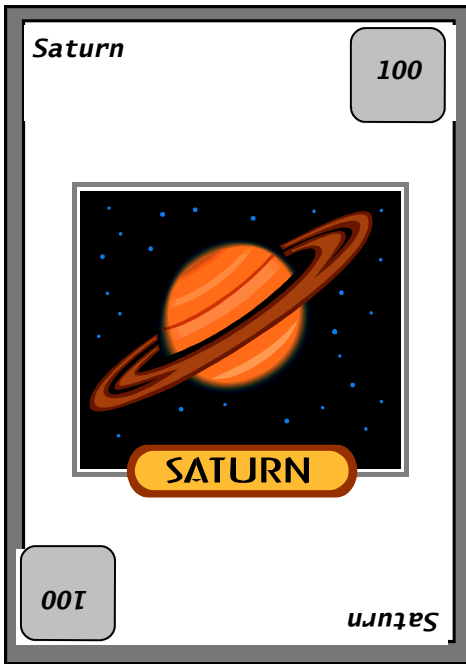


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ORDER FORM

Please complete this form and mail it or fax it to:

Patchwork Designs, Inc.

8421 Churchside Drive

Gainesville, VA 20155

(703) 743-9948 PHONE

(703) 743-9942 FAX

Name _____

Address _____

City _____ State _____ Zip _____

Phone () _____ Referred By: _____

Email Address: _____

Mastercard/Visa# _____ - _____ - _____ or Check # _____

Expiration Date: _____ Have you ordered before? _____

ORDER ONLINE: <http://www.patchworkdesigns.net/pdstore/default.aspx>

Item #	Description	Quantity	Unit Price	Total Price
Solar-eclipse	Solar Eclipse-glow in dark		\$1.79	\$
ASTRO	Discovering Astronomy- glow in the dark threads		\$1.75	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
SUBTOTAL				\$
Regular Shipping & Handling (view chart on the next page)				\$
Special Shipping (next day, priority mail etc)				\$
TOTAL ENCLOSED				\$

If you would prefer Priority Mail, please add \$2.00 to the \$4.99 or above shipping category.

Next day service is an average cost of \$28.00 (USPS determines the pricing according to the zone and weight.)

Shipping Chart

Patches	
1-5	\$3.55
6-20	\$4.99
21-30	\$5.99
31-50	\$6.50
51-70	\$6.99
71-100	\$9.55
101-150	\$10.55
151-200	\$13.00
201-400	\$15.99
401-500	\$17.50
Over 500	Contact us for pricing

Kits or Manuals (shipped Priority Mail)	
1	\$6.99
2	\$9.25
3-5	\$10.75
6-8	\$12.75
10-12	\$15.75
13-20	\$22.25
21-23	\$24.00
Over 24	Contact us for pricing

RESOURCES

<http://www.enchantedlearning.com/subjects/astronomy/sun/solareclipses.shtml>

<https://www.nasa.gov/content/eye-safety-during-a-total-solar-eclipse>

<https://www.space.com/35080-total-solar-eclipse-2017-path-maps.html>