

The Little Star That Could

Grades K - 2 Education Guide



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Illustrated by Audio Visual Imagineering

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* The State Standards listed are standards that are included in 20 or more states' core science standards according to "Astronomy in the K-8 Core Curriculum: A Survey of State Requirements Nationwide" written by Stacey Palen and AmyJo Proctor, Weber State University

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National Core Curriculum Standards in Science:

- ❑ The Sun has properties that can be observed and described. (K - 4 Standard)
- ❑ The Sun provides the light and heat necessary to maintain the temperature of the Earth. (K - 4 Standard)

The AAAS Benchmarks for Literacy in Science:

- ❑ Stars are not all the same in brightness or color. (K - 2 Benchmark)
- ❑ The Sun warms the land, air, and water. (K - 2 Benchmark)

Astronomy State Science Topics (grade level varies based on state):

- ❑ Sun properties
- ❑ Planets/Solar System
- ❑ Inner/Outer planet characteristics
- ❑ Earth's position in the Solar System
- ❑ Gravitational attraction
- ❑ Asteroids
- ❑ Star properties
- ❑ Galaxies

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Pre-Program Lesson Plans:

- Pre-Survey Questionnaire
- Lesson 1 - "The Little Star That Could" Vocabulary With Assessment
- Lesson 2 - "The Little Star That Could" Venn Diagram With Assessment
- Lesson 3 - "The Little Star That Could" Sun-Earth Connection Storyboard and Assessment
- Lesson 4 - "The Little Star That Could" Stellar Temperature and Color (Use Assessment as a Post-Program Activity).

Post-Program Lesson Plans:

- Lesson 4 - "The Little Star That Could" Stellar Temperature and Color **Assessment**
- Lesson 5: Multiple Intelligence (Howard Gardner's Theory) Mini-Lessons and Assessments on the Solar System
- Post-Survey Questionnaire

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Pre- and Post- Survey Questionnaire Information

The pre- and post- survey questionnaire may be used to help determine the overall effectiveness of this program and the supplemental educational tools provided. Students should be given the survey prior to any instruction or exposure to the program and/or the educational materials included. Student pre-survey scores should be recorded.

Upon completion of the program and the utilization of the educational tools provided, the same group of students should be given the same survey. The post-survey scores can be compared to the pre-survey scores to help determine the overall effectiveness of this program and the supplemental materials.

For young students, the survey questions may be read allowed to them to assist in their reading and comprehension skills.

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"The Little Star That Could" Survey

- 1) A large body that revolves around the Sun in the solar system is called a:
 - a) Star
 - b) Moon
 - c) Planet
 - d) Galaxy

- 2) Stars and planets are similar because:
 - a) they are both round in shape
 - b) they are both members of a solar system
 - c) they can both come in different colors
 - d) all of the above

- 3) The Sun is considered to be
 - a) an average star
 - b) a hotter than average star
 - c) a cooler than average star
 - d) a planet

- 4) What color are the hottest stars?
 - a) red
 - b) blue
 - c) yellow
 - d) white

- 5) What color are the coolest stars?
 - a) red
 - b) blue
 - c) yellow
 - d) white

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- 6) Which object provides the heat and light for the solar system?
- a) The Moon
 - b) The Earth
 - c) The Sun
 - d) The stars
- 7) The dwarf planet that is located past the planet Neptune is called:
- a) Ceres
 - b) Pluto
 - c) Earth
 - d) Jupiter
- 8) The only planet in the solar system that we know supports life.
- a) Ceres
 - b) Pluto
 - c) Earth
 - d) Jupiter
- 9) A natural body visible in the sky especially at night that gives off light is called a:
- a) planet
 - b) moon
 - c) dwarf planet
 - d) star
- 10) Which planet comes next starting from the Sun out to Pluto: Mercury, Venus, Earth, Mars, Jupiter, _____.
- a) Saturn
 - b) Uranus
 - c) Neptune
 - d) Pluto

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"The Little Star That Could" Survey Answer Key

- 1) c - planet
- 2) d -all of the above
- 3) a - an average star
- 4) b - blue
- 5) a - red
- 6) c - The Sun
- 7) b - Pluto
- 8) c - Earth
- 9) d - star
- 10) a - Saturn

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"The Little Star That Could"

Vocabulary

Objectives: As a group, students will define the "The Little Star That Could" vocabulary words. Students will match each vocabulary word to its correct definition.

Procedures:

1. Introduction - Write "The Little Star That Could" vocabulary words on the board.
2. Explore prior knowledge - Ask each student to think about or write down the definition of each of the words.
3. Determine student confidence with prior knowledge - Ask the students to raise their hand if they think they know what each word means. Do this by starting with the first word and having the students simply indicate whether or not they think they know what the word means by raising their hand.
4. Create definitions - After determining approximately what percentage of students think they know the correct definition, call on multiple students with their hands raised and ask them what they think is the correct definition. Write key points of each student's response on the board.
5. Class discussion and summary- As a class, use the key points listed on the board to create a single definition for each word. (Students may need teacher guidance or input with some words) Show the answer key to the class and compare these definitions to the class definitions.

Assessment: Students will independently match (by drawing a connecting line) each correct word to its definition.

Modification/ Accommodations: For very young students (or students with low reading skills), create images for each definition. Use the image matching assessment sheet for these students.

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Name _____

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"The Little Star That Could"
Vocabulary

Average - _____

Planet - _____

Star - _____

Sun - _____

Moon - _____

Gravity - _____

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Lesson 1: "The Little Star That Could" Vocabulary Answer Key
(From the Merriam-Webster Dictionary)

Average - (adjective) being ordinary or usual

Planet - any of the large bodies that revolve around the Sun in the solar system

Star - **a**: a natural body visible in the sky especially at night that gives off light **b**: a ball-shaped gaseous celestial body (as the Sun) of great mass that shines by its own light

Sun - the star around which the planets revolve, from which they receive heat and light

Moon - the Earth's natural satellite that shines by reflecting light from the Sun (note: a satellite is a heavenly body orbiting another of larger size)

Gravity - a force of attraction between particles or bodies that occurs because of their mass, is stronger as mass is increased, and is weaker as the distance between the objects is increased

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"The Little Star That Could"
Vocabulary Assessment

Directions: Match the word to its definition by drawing a line to the correct definition.

Average

a) the Earth's natural satellite that shines by reflecting light from the Sun

Gravity

b) the star around which the planets revolve, from which they receive heat and light

Moon

c) being ordinary or usual

Planet

d) a natural body visible in the sky especially at night that gives off light

Star

e) a force of attraction between particles or bodies that occurs because of their mass

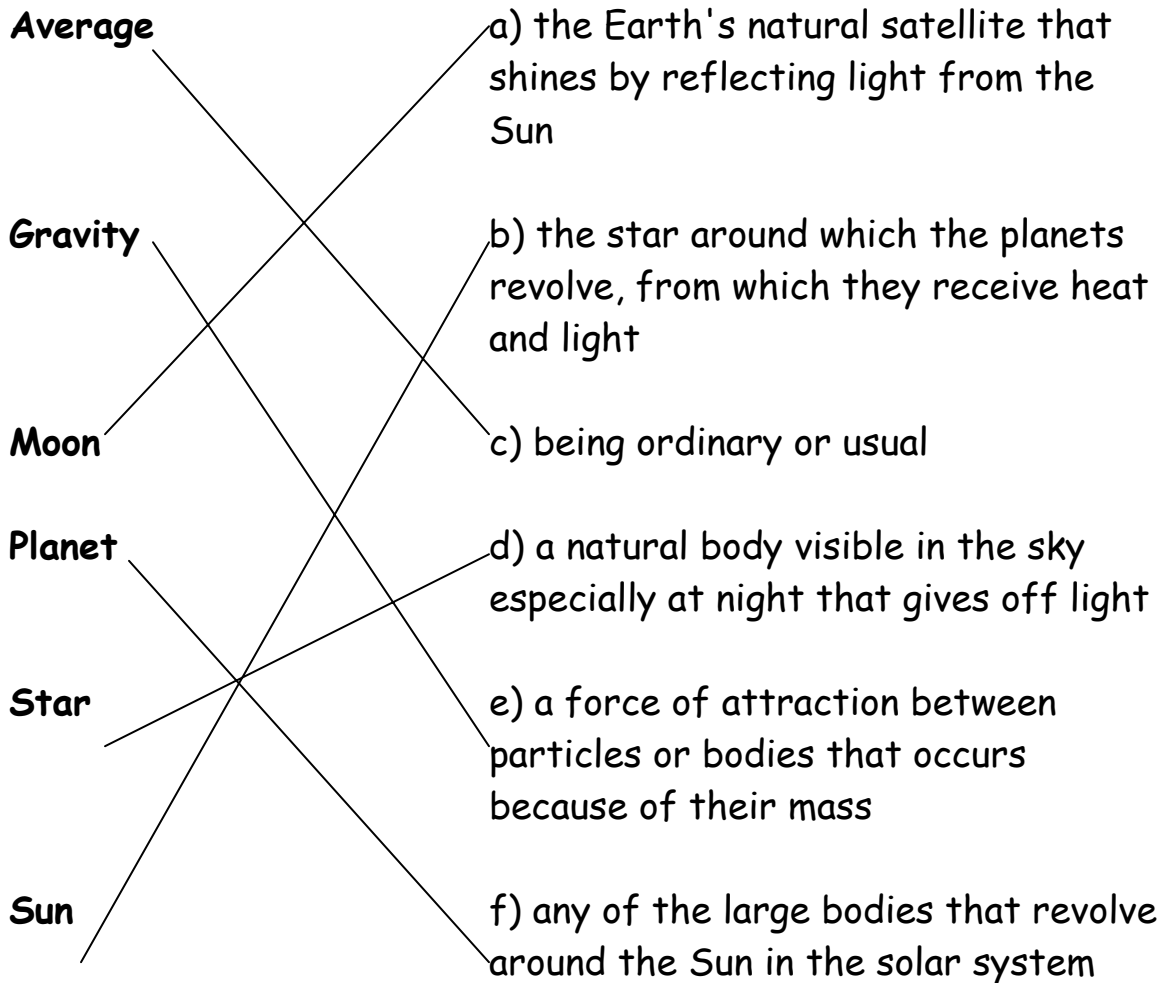
Sun

f) any of the large bodies that revolve around the Sun in the solar system

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Lesson 1: "The Little Star That Could" Vocabulary Assessment
Answer Key

Directions: Match the word to its definition by drawing a line to the correct definition.



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"The Little Star That Could"
Vocabulary

Average -

Planet -

Star -

Sun -

Moon -

Gravity -

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Name _____

Grade _____

"The Little Star That Could"
Vocabulary Assessment

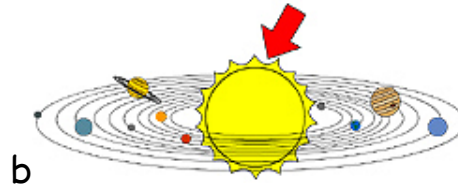
Modified Version (Picture Definitions)

Directions: Match the word to its definition by drawing a line to the correct picture definition.

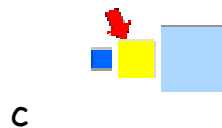
Average -



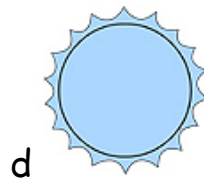
Gravity -



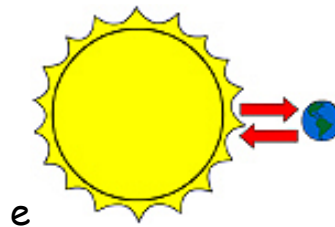
Moon -



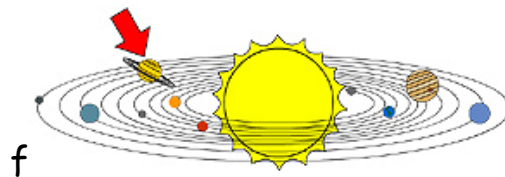
Planet -



Star -



Sun -



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Lesson 1: "The Little Star That Could" Vocabulary Modified
Version Answer Key (Picture Definitions)

Directions: Match the word to its definition by drawing a line to the correct picture definition.

Average

Gravity

Moon

Planet

Star

Sun

a

b

c

d

e

f

The image shows a matching exercise. On the left, there are six words: Average, Gravity, Moon, Planet, Star, and Sun. On the right, there are six numbered pictures: a, b, c, d, e, and f. Lines connect the words to the pictures: Average to c, Gravity to a, Moon to f, Planet to b, Star to e, and Sun to d.

- a: A diagram of Earth with a satellite in orbit and a red arrow pointing towards it.
- b: A diagram of a solar system with a yellow sun, several planets, and a satellite.
- c: A diagram of three rectangular blocks of different colors (blue, yellow, light blue) with a red arrow pointing towards them.
- d: A diagram of a blue sun with rays.
- e: A diagram of a yellow sun with rays and a small blue planet with a red arrow pointing towards it.
- f: A diagram of a solar system with a yellow sun, several planets, and a satellite.

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Venn Diagram

Objectives: Students will be able to identify three characteristics of planets and stars (each) that are different from one another. Students will be able to identify three characteristics that are similar between planets and stars.

Procedures:

1. Introduction – Have students work in groups of 3 or 4. Give each group a copy of the Planet/Star Venn Diagram. For class discussion, place a master Planet/Star Venn Diagram on an overhead projector. Explain to students that they will be comparing and contrasting planets and stars. Characteristics that are unique to planets will be listed in the "Different" section on the left of the diagram. Characteristics that are unique to stars will be listed on the "Different" section on the right of the diagram. Characteristics that are shared between planets and stars will be listed on the "Same" section on the center of the diagram.
2. Explore prior knowledge - Ask each group to try to list as many answers as possible for each section on the Venn Diagram.
3. Determine student confidence with prior knowledge – By looking at the groups' Venn Diagrams, determine the approximate number of correct answers they have listed in each section of the Venn Diagram.
4. Create a master Venn Diagram – Have each group report their answers to the class. Record all correct characteristics on the master. Have students copy the final master diagram.

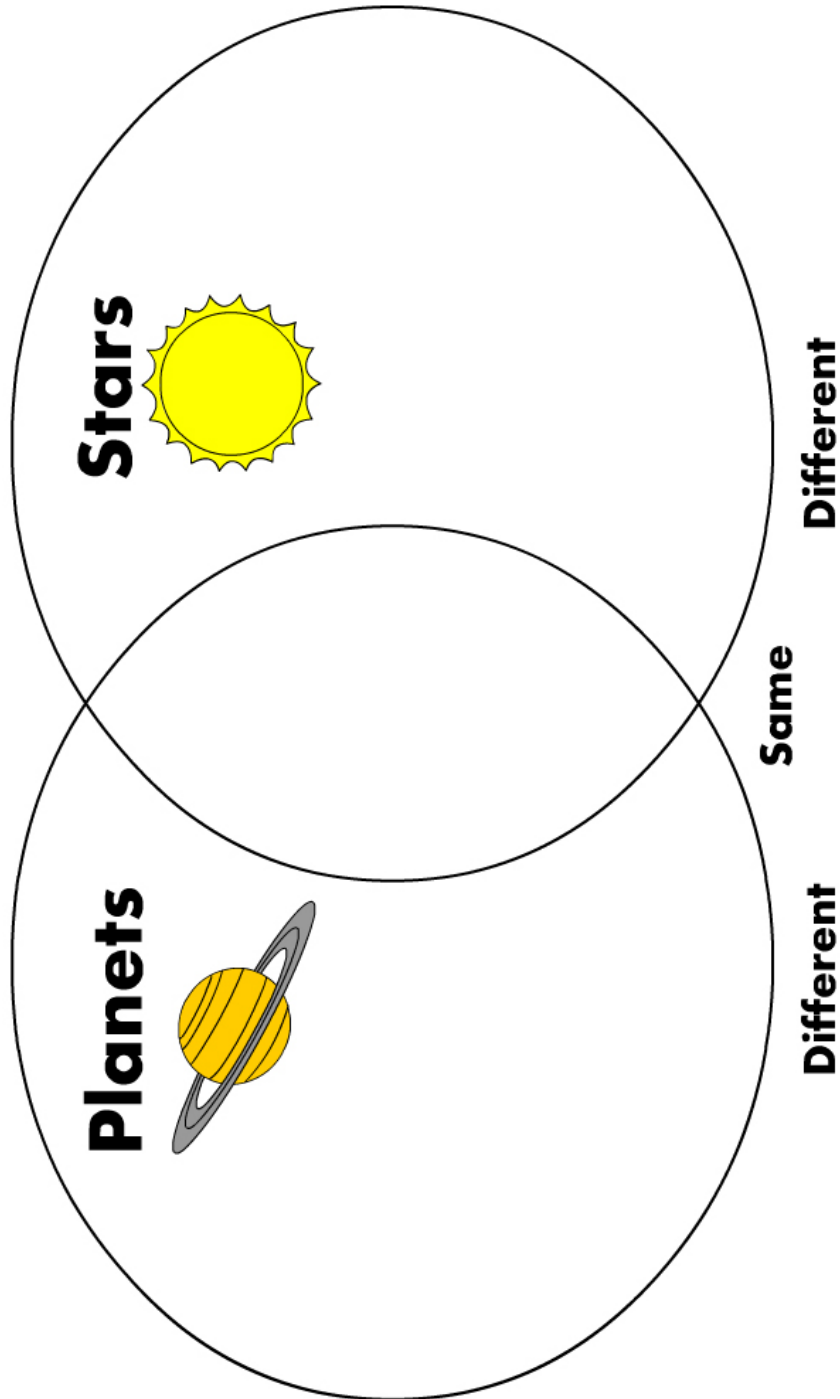
Assessment: Students will independently fill out the assessment Venn Diagram.

Modification/ Accommodations: For students that do not work well in groups, have them work independently during the "exploring prior knowledge" section.

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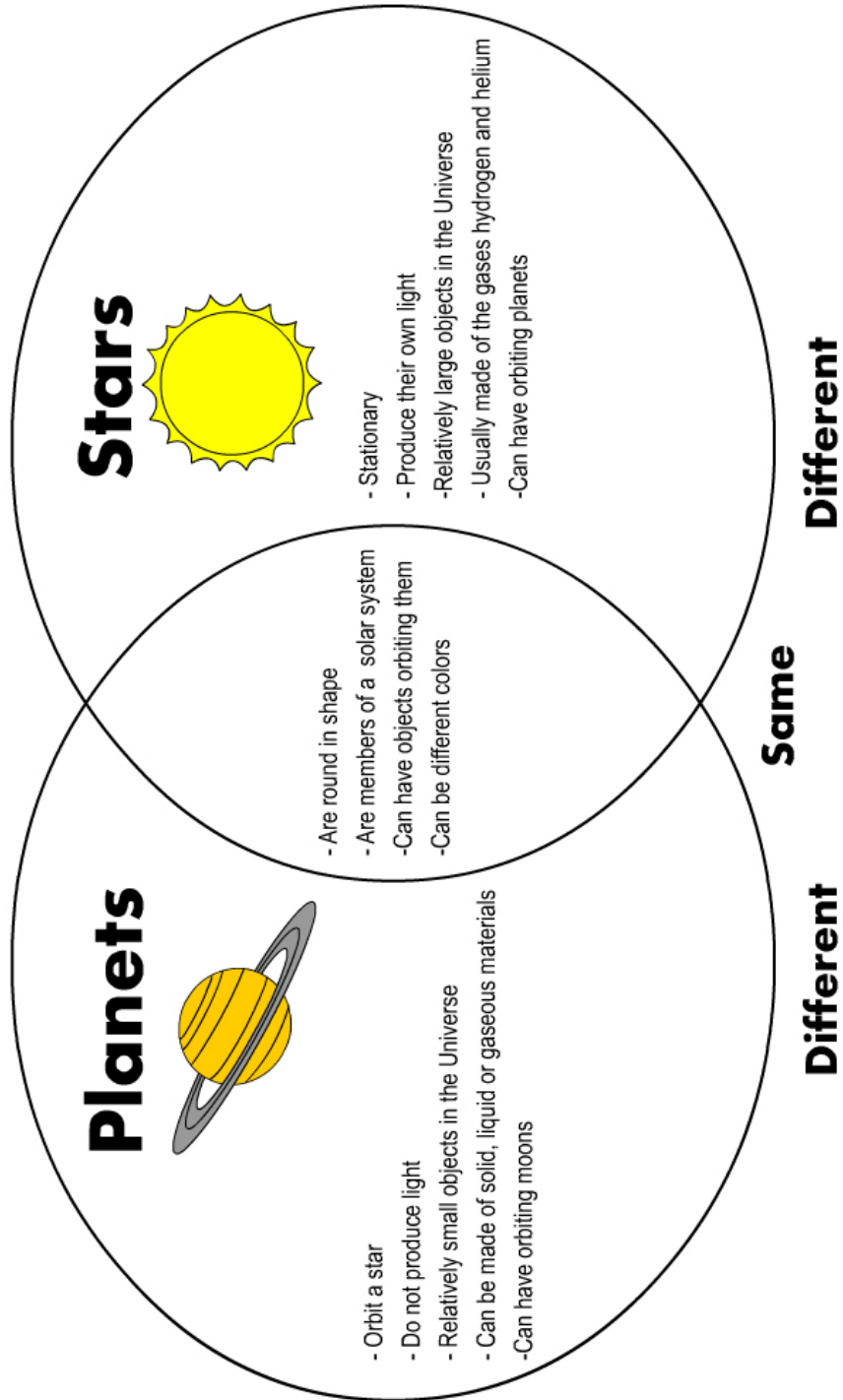
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Directions: Fill in the Venn Diagram below with three characteristics in each section of the diagram.



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 Venn Diagram Answer Key

(Some possible answers)



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Sun-Earth Connection Storyboard

Objectives: Students will be able to state why the Sun is so important for life on Earth.

Procedures:

1. Introduction – Show students a picture of the Sun and a picture of the Earth. Explain that the Sun is a star and the Earth is a planet. Review the findings in the Lesson 2 Venn Diagram that compared and contrasted planets and stars.
2. Explore prior knowledge – As a class, discuss how the Sun and Earth are connected (the Earth orbits the Sun, the Earth receives heat and light from the Sun which is needed to sustain life on Earth, etc.).
3. Further explore topic – Have students visit the site below and read the following NASA web-story: Our Very Own Star: the Sun.
http://stargazers.gsfc.nasa.gov/pdf/products/books/Sun_booklet_English.htm
4. Summary – As a class, discuss what students learned about the Sun-Earth connection from the web-story. Discuss the National Standard, "The Sun provides the light and heat necessary to maintain the temperature of the Earth" and how this is important for life on Earth.

Assessment: Writing in science – Give each student a Sun-Earth connection Storyboard worksheet. Have them draw a picture of the Sun and Earth. Next, have each student write a paragraph (minimum of 3 sentences) describing why the Sun is important for life on Earth.

Modification/ Accommodations: If students do not have access to computers or need further assistance reading use the printable version of the web-story:
http://stargazers.gsfc.nasa.gov/pdf/products/books/our_very_own_star_eng.pdf

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Sun-Earth Connection Storyboard

Draw a picture of the Sun and the Earth in the box below.

Write a paragraph (minimum of 3 sentences) describing why the Sun is so important to the Earth.

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Stellar Temperature and Color

Objectives: Students will discover that there is a relationship between a star's color and its temperature. Students will be able to match a particular color star to its relative temperature.

Procedures:

1. Introduction – As a class, discuss ways that stars can appear different from one another. List the students' answers on the board. These may include brightness, size and color. This lesson will focus on how stellar color, like the color of a flame, is related to its temperature.
2. Explore prior knowledge – Place the following colored construction paper on the floor in random order: blue, orange, red, yellow and white. Tell students that the construction paper color represents the color of a star. Ask students to stand on the color that they believe represents the hottest star. (Note which color the majority of the class selects). Next, ask students to stand on the color that they believe represents the coldest star. (Note which color the majority of the class selects). Now ask students to stand on the color that they believe represents the average temperature star. (Note which color the majority of the class selects).
3. Class discussion – Give each student a copy of "The Little Star That Could" Stellar Temperature and Color worksheet. Review the colors of the stars that correspond with the various noted temperatures on the worksheet. Play the web song "Color of a Star" and point out which colors correspond to which temperatures: <http://www.kidsknowit.com/educational-songs/play-educational-song.php?song=The%20Color%20of%20A%20Star>
4. Application and summary – Now have students repeat the procedures in Step 2. Students should determine blue to be the hottest, red to be the coldest, and yellow to be the average temperature. After students have repeated this procedure, rearrange the colored paper from hottest to coldest (blue, white, yellow, orange, red) and discuss how this is similar to the colors in a rainbow.

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Assessment: Give each student a copy of the "The Little Star That Could" Stellar Temperature and Color Assessment worksheet as well as a copy of the Images worksheet. Have students cut out each star on the Images worksheet. Next, students should glue the correct star image onto the appropriate temperature box on the Stellar Temperature and Color Assessment worksheet.

Modification/ Accommodations: Students may work in small groups or independently if preferred. To do so, set-up multiple stations of colored construction paper and follow the procedures above. If there is no access to a colored printer, have students color in the stars the colors that are indicated.

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"The Little Star That Could"

Stellar Temperature and Color

Like colors of fire in a flame, the colors of stars tell us something about their temperature. The pictures below show how star color and temperatures are related.

Hottest Stars
Blue-white color

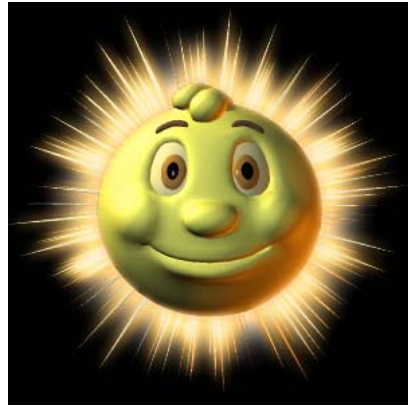


Warmer Than Average Stars
White color



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Average Stars
Yellow color



Cooler Than Average Stars
Orange color



Coollest Stars
Red color



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**Stellar Temperature and Color
Assessment**

Directions: Match the correct color star to its corresponding temperature. Do this by cutting out each star on the "Image" page and gluing it on the appropriate color box below.

Hottest
Star

Warmer Than
Average
Star

Average
Temperature
Star

Cooler Than
Average
Star

Coolest Star

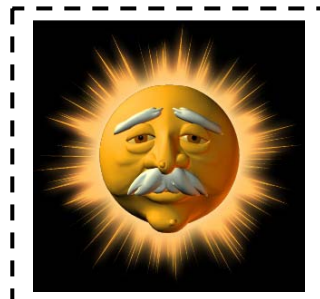
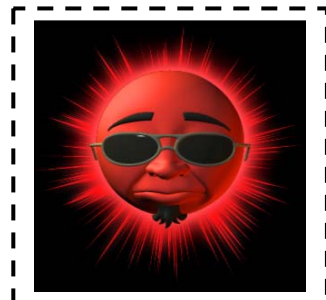
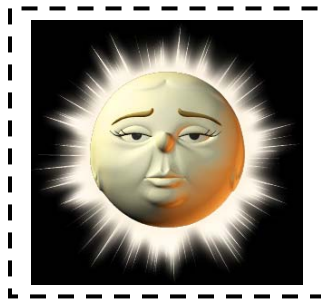
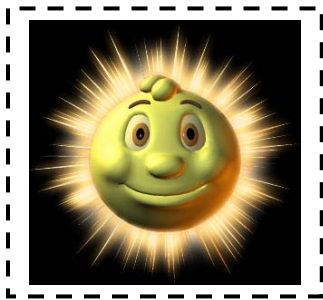
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"The Little Star That Could"

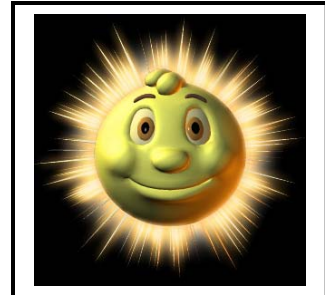
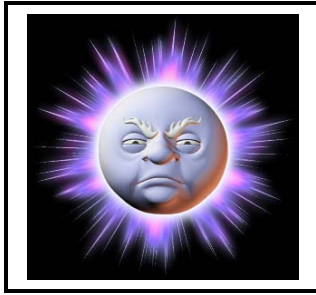
**Stellar Temperature and Color
Assessment - Image Page**

Directions: Cut the images out below and place them on the appropriate temperature box on the assessment page.



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Lesson 4: Stellar Temperature and Color Assessment
Answer Key



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Multiple Intelligence

(Howard Gardner's Theory) Mini-Lessons of
the Solar System

Objectives: Students will select one or more of the multiple intelligence mini-lessons to recognize characteristics of objects in our solar system. Students will complete a "project appendix page" for their selected mini lesson. The "project appendix pages" may be used an assessment on solar system knowledge. (Note: some solar system knowledge, or access to knowledge, will be necessary for these lessons.)

Procedures:

1. As a class discuss the following solar system topics. (This can be done through a class brainstorming list or teacher lead lecture.)
 - The order of the planets from the Sun to Neptune
 - Jupiter is the largest planet in the solar system
 - Earth is the only planet that we know of with life
 - The existence of dwarf planets, in particular Ceres (the largest object in the Asteroid Belt between Mars and Jupiter) and Pluto
 - The distinction between the inner and outer planets. Inner planets include Mercury, Venus, Earth and Mars. These planets are relatively small, rocky planets with no or few moons. Outer planets include Jupiter, Saturn, Uranus and Neptune. These planets are relatively large, gaseous planets with many moons and ring systems.
2. Students select one or more of the following mini-lessons and follow the directions on the corresponding "project appendix pages". These lessons are designed to meet various learning styles. The learning styles have been categorized and defined by Howard Gardner.
 - Visual/Spatial – Create a visual model of the solar system (Appendix A)
 - Verbal/Linguistic – Match solar system object characteristics (Appendix B).
 - Logical/Mathematical – Classify solar system objects (Appendix C).
 - Body/Kinesthetic – Role play solar system objects (Appendix D)
 - Musical/Rhythmic - Create a solar system song (Appendix E)
 - Interpersonal – Share solar system information cards (Appendix F)
 - Intrapersonal – Independent KWL of the solar system (Appendix G)
 - Naturalist – Solar system surveillance (Appendix H)

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Note: Each mini-lesson includes or assesses the following solar system information:

- The correct order of these solar system objects from the Sun out to Pluto (Sun, Mercury, Venus, Earth, Mars, Ceres, Jupiter, Saturn, Uranus, Neptune, Pluto)
- The primary color of each of the solar system objects
- Jupiter is the largest planet in the solar system
- Ceres and Pluto are the two objects that are included that are dwarf planets
- The Earth is the planet that supports life
- The Sun provides the light and heat for the solar system
- The division between the inner and outer planets is between Mars and Jupiter (near Ceres)

Assessment: Each mini-lesson has an activity or project that can be used as an assessment.

Modification/ Accommodations: The number of mini-lessons assigned to each student can be designed to meet individual students' abilities. For very young students, these lessons can be lead by a teacher or support staff member.

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Appendix A (Visual/Spatial)

Create a Model of the Solar System

Create a visual 2-dimensional model of the solar system including the following objects: Sun, Mercury, Venus, Earth, Mars, Ceres, Jupiter, Saturn, Uranus, Neptune, and Pluto.

Directions:

1. Cut out each of the solar system object cards.
2. Color each object its proper color as indicated.
3. Review the information on each of the 11 solar system object cards.
4. Paste the objects in the correct order from closest to the Sun out to Pluto.
5. Put a circle around the largest planet.
6. Put triangles around the two dwarf planets.
7. Put a square around the planet that supports life.
8. Put a rectangle around the object that provides the light and heat for the solar system.
9. Place a line at the separation between the inner planets and the outer planets (near Ceres).

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Appendix B (Verbal/Linguistic)
Matching Solar System Objects

Directions:

On the next page do the following:

1. Match each solar system object to its unique characteristic. *The objects are listed in order from the Sun out to Pluto. Next to each object is the objects' primary color.*
2. Put a circle around the name of the largest planet.
3. Put triangles around the two names of the dwarf planets.
4. Put a square around the name of the planet that supports life.
5. Put a rectangle around the name of the object that provides the light and heat for the solar system.
6. Place a line at the separation between the inner planets and the outer planets (near Ceres).

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Sun (yellow)	_____	a. The closest planet to the Sun
Mercury (white)	_____	b. Contains the famous "red spot"
Venus (white)	_____	c. Neptune's "twin" planet
Earth (blue)	_____	d. Known for its large ring system
Mars (red)	_____	e. The <u>planet</u> farthest from the Sun
Ceres (white)	_____	f. The hottest planet
Jupiter (red)	_____	g. At the center of the solar system
Saturn (yellow)	_____	h. Covered with lots of liquid water
Uranus (blue)	_____	i. Largest object in the asteroid belt
Neptune (blue)	_____	j. The red planet
Pluto (gray)	_____	k. Dwarf planet located past Neptune

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Lesson 5: Appendix B (Verbal/Linguistic)
Matching Solar System Objects Answer Key

Sun (yellow)	g	a. The closest planet to the Sun
Mercury (white)	a	b. Contains the famous "red spot"
Venus (white)	f	c. Neptune's "twin" planet
Earth (blue)	h	d. Known for its large ring system
Mars (red)	j	e. The <u>planet</u> farthest from the Sun
Ceres (white)	i	f. The hottest planet
Jupiter (red)	b	g. At the center of the solar system
Saturn (yellow)	d	h. Covered with lots of liquid water
Uranus (blue)	c	i. Largest object in the asteroid belt
Neptune (blue)	e	j. The red planet
Pluto (gray)	k	k. dwarf planet located past Neptune

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Appendix C (Logical/Mathematical)
Classifying Solar System Objects

Classify each solar system object using the "Classifying Solar System Objects Chart".

Directions:

1. Cut out each of the solar system object cards.
2. Color each object its proper color as indicated.
3. Review the information on each of the 11 solar system object cards.
4. Paste each solar system object in the correct place on the "Classifying Solar System Objects" chart.
5. Put a circle around the largest planet.
6. Put a square around the name of the planet that supports life.
7. Write the name of the object that does not fit on the chart. This object provides the light and heat for the solar system. _____
8. On the lines below, write the name of all of these solar system objects in the correct order from the Sun out to Pluto. Place a line at the separation between the inner planets and the outer planets.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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Appendix C (Logical/Mathematical)
Classifying Solar System Chart

Inner Planets	Outer Planets	Dwarf Planets

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Lesson 5: Appendix C (Logical/Mathematical)
Classifying the Solar System Chart Answer Key

Inner Planets	Outer Planets	Dwarf Planets
Mercury	Jupiter	Ceres
Venus	Saturn	Pluto
Earth	Uranus	
Mars	Neptune	

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Appendix D (Body/Kinesthetic)
Role-Playing the Solar System

Each student will be assigned one of the following solar system objects to role-play: Sun, Mercury, Venus, Earth, Mars, Ceres, Jupiter, Saturn, Uranus, Neptune, and Pluto. Students will receive a **large** solar system object card to identify their object.

Directions:

1. Color your solar system object its proper color as indicated.
2. Review the information on your solar system object card.
3. Hold up your solar system object card for the class to see.
4. As a group, line up in the correct order from the Sun out to Pluto.
5. Each student, from the Sun out to Pluto, will present the information on his/her solar system object card to the class.
6. Each student representing a planet or a dwarf planet will take a turn revolving around the Sun.
7. As a group students will complete the following tasks:
 - Put a circle around the name of the largest planet.
 - Put triangles around the two names of the dwarf planets.
 - Put a square around the name of the planet that supports life.
 - Put a rectangle around the name of the object that provides the light and heat for the solar system.
 - Place a book at the separation between the inner planets and the outer planets (near Ceres).

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Appendix E (Musical/Rhythmic)
Singing the Solar System

Create a song about objects in the solar system. Instruments are optional. Students will submit a written version of their song and perform it for the class.

Directions:

1. Fill in the blanks for the solar system information lyrics below. Use the words in the word bank to fill in the blanks.

<u>Word Bank</u>		
Dwarf Planets	Mercury	Sun
Earth (used twice)	Neptune	Uranus
Jupiter (used three times)	Pluto	Venus
Mars (used twice)	Saturn	

- a) _____ is the largest planet in the solar system.
- b) Ceres and Pluto are considered to be _____.
- c) The only planet in our solar system that we know supports life is _____.
- d) The _____ provides the light and heat for the solar system.
- e) The inner planets include the following: _____, _____, _____, and _____.
- f) The outer planets include the following: _____, _____, _____, and _____.

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- g) The separation between the inner and outer planets is between which two planets? _____ and _____.
2. Create a song about the solar system that includes three of the solar system information lyric sentences. Your song should also include the correct order of the solar system objects as stated below. Next to each object is the objects' primary color. You do not need to include the objects' colors in your song.

Sun (yellow), Mercury (white), Venus (white), Earth (blue), Mars (red), Ceres (white), Jupiter (red), Saturn (yellow), Uranus (blue), Neptune (blue), and Pluto (gray)

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Appendix F (Interpersonal)
Solar System Sharing Cards

Working in groups of 4, each student will be responsible for mastering two or three of the solar system object cards. Students will present their solar system objects to the group. Students will work together to answer the questions at the bottom of this sheet.

Directions:

1. Each student will select 2 or 3 of the solar system cards.
2. Students will review the information on their cards.
3. Students will color their solar system objects their proper color as indicated.
4. Students will present the information on their cards to their group.
5. After each group member has shared their cards with the group, the group will work together on the following tasks:
 - Put your solar system object cards in order from the Sun out to Pluto.
 - Put a circle around the largest planet's name.
 - Put a triangle around the two dwarf planets' names.
 - Put a square around the planet where humans live.
 - Put a rectangle around the name of the object that provides the light and heat for the solar system.
 - Place a book at the separation between the inner planets and the outer planets (near Ceres).

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Appendix G (Interpersonal)

Independent KWL of the Solar System

Fill in the solar system KWL chart independently.

Directions:

1. Using the KWL chart, fill in any information that you currently know about the solar system in the "K" column.
2. Think about and write anything that you want to know about the solar system in the "W" column.
3. Review the information on the 11 solar system object cards.
4. Color the solar system objects their proper color as indicated.
5. Pick 6 solar system object facts that you learned from the solar system cards. Write these learned facts in the "L" column.
6. Complete the following tasks:
 - Put your solar system object cards in order from the Sun out to Pluto.
 - Put a circle around the largest planet's name.
 - Put a triangle around the two dwarf planets' names.
 - Put a square around the planet where humans live.
 - Put a rectangle around the name of the object that provides the light and heat for the solar system.
 - Place a book at the separation between the inner planets and the outer planets (near Ceres).

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Independent KWL of the Solar System

Solar System KWL Chart	L	
	W	
	K	

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Appendix H (Naturalistic)
Solar System Surveillance

Search for visible solar system objects in the sky. The planets that are visible in the night sky without the aide of a telescope are Mercury, Venus, Mars, Jupiter and Saturn. The Sun of course can be seen during the day and the Moon can be seen during the day or night. The following solar system objects need some type of visual aide, like a telescope, to be seen: Ceres, Uranus, Neptune and Pluto.

Directions:

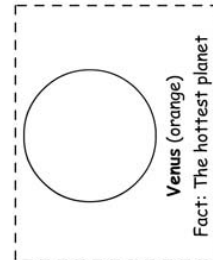
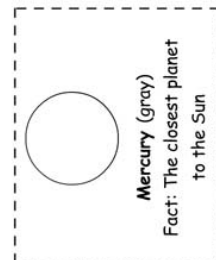
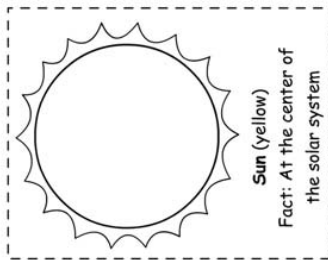
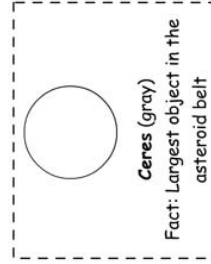
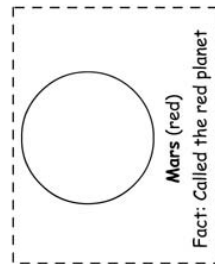
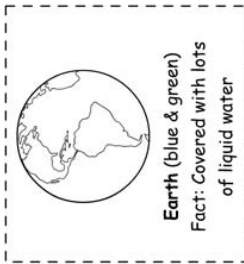
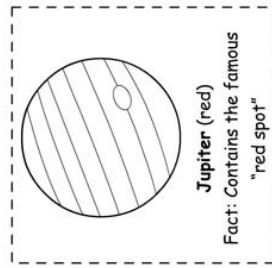
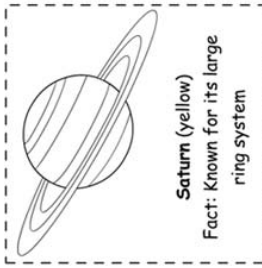
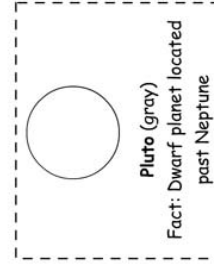
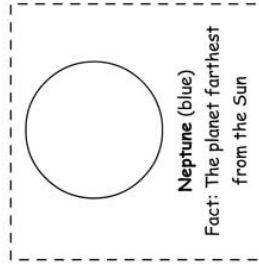
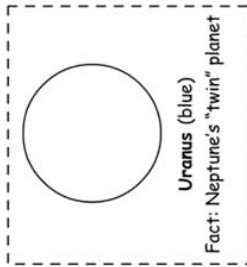
1. Using the internet, search to find out which planets are currently visible in the night sky at your location. Below are some possible websites to search:
 - http://www.space.com/spacewatch/sky_calendar.html
 - <http://www.skyandtelescope.com/observing/ata glance>
2. Circle the planets below that can be currently seen in the night sky at your location:

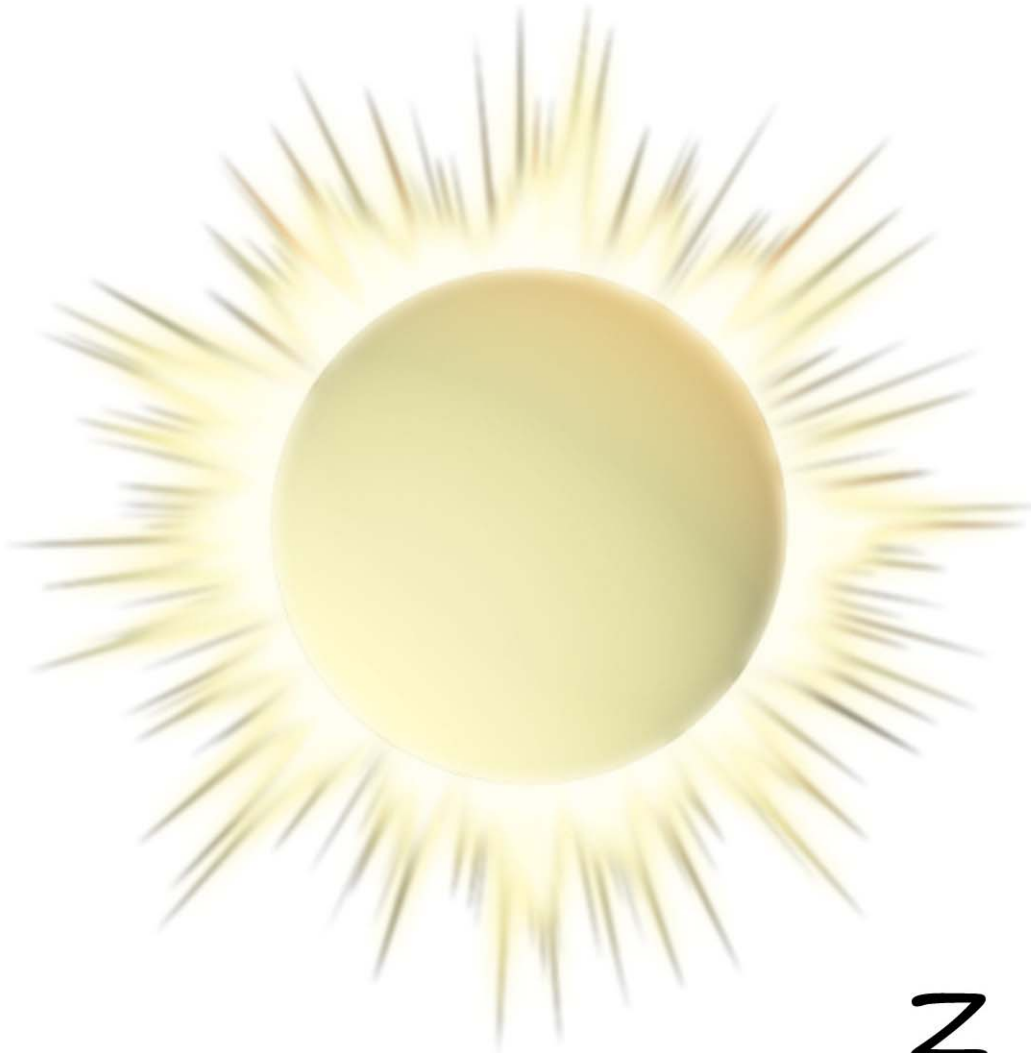
Mercury Venus Mars Jupiter Saturn

3. Review the information on all of the solar system object cards.
4. Color the solar system objects their proper color as indicated.
5. Complete the following tasks:
 - Put your solar system object cards in order from the Sun out to Pluto.
 - Put a circle around the largest planet's name.
 - Put a triangle around the two Dwarf Planets' names.
 - Put a square around the planet where humans live.
 - Put a rectangle around the name of the object that provides the light and heat for the solar system.
 - Place a book at the separation between the inner planets and the outer planets (near Ceres).

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Solar System Object Cards (small for Chart)





SUN

Fact: At the center of the solar system



MERCURY

Fact: The closest planet to the sun



VENUS
Fact: The hottest planet



EARTH

Fact: Covered with lots of liquid water



MARS

Fact: Called the Red Planet

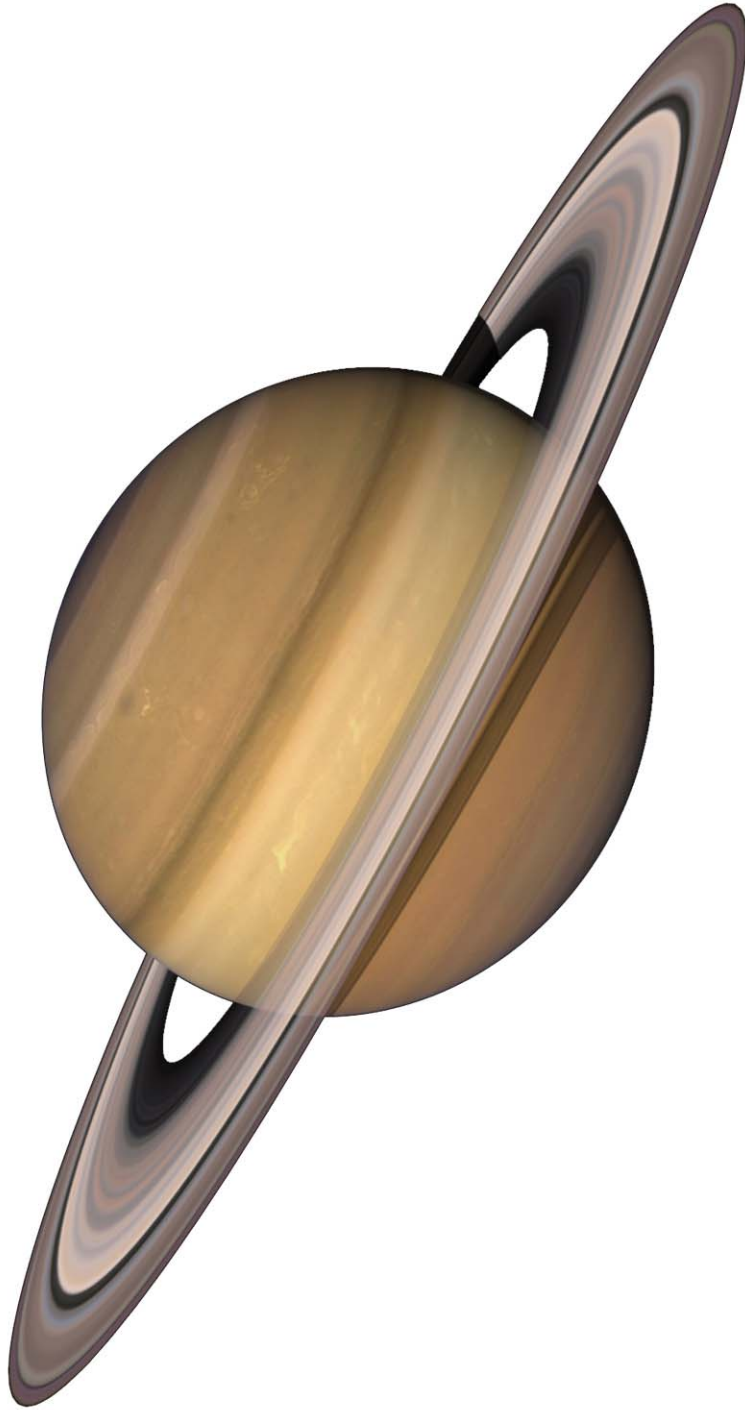


CERES

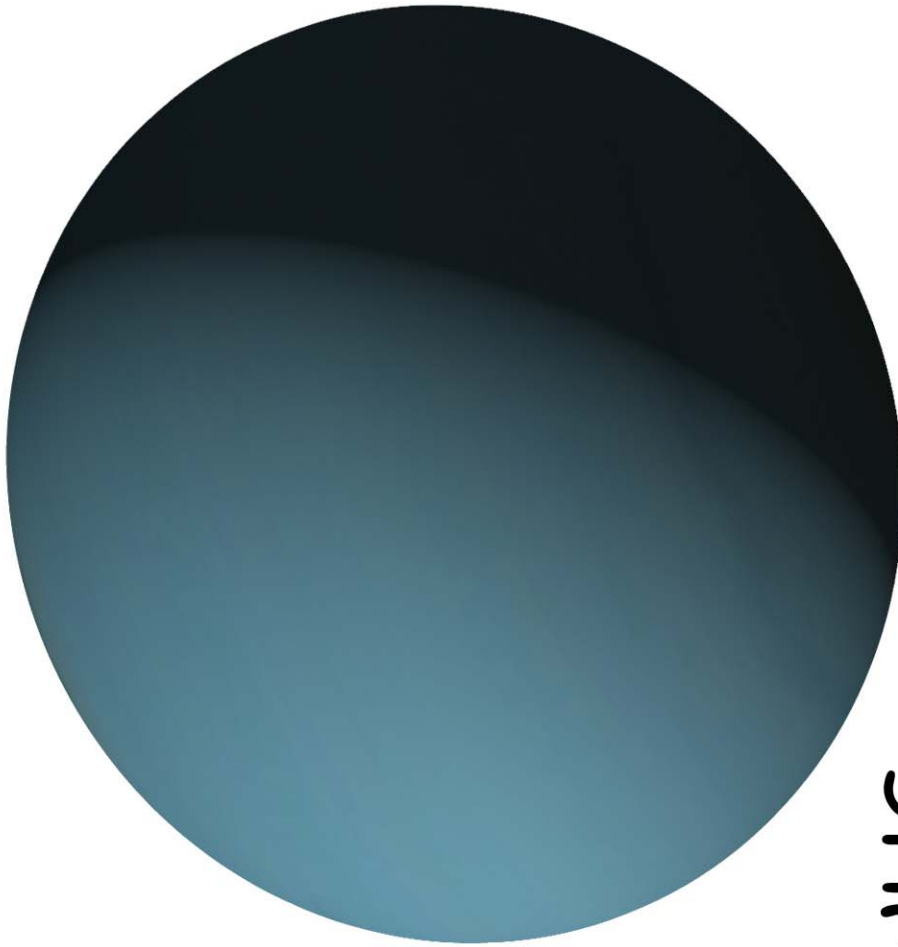
Fact: Largest object in the asteroid belt



JUPITER
Fact: Contains the famous "red spot"

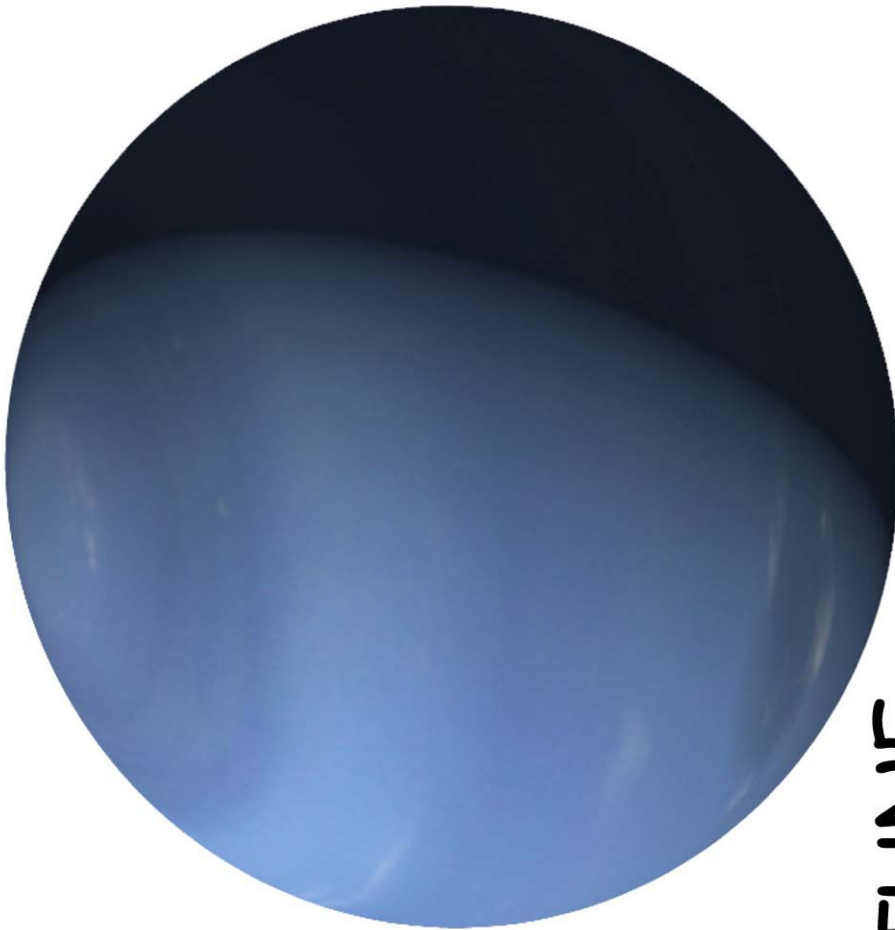


Saturn
Fact: Known for its large ring system



URANUS

Fact: Neptune's "twin" planet



NEPTUNE

Fact: The planet farthest from the Sun



PLUTO

Fact: Dwarf planet located past Neptune