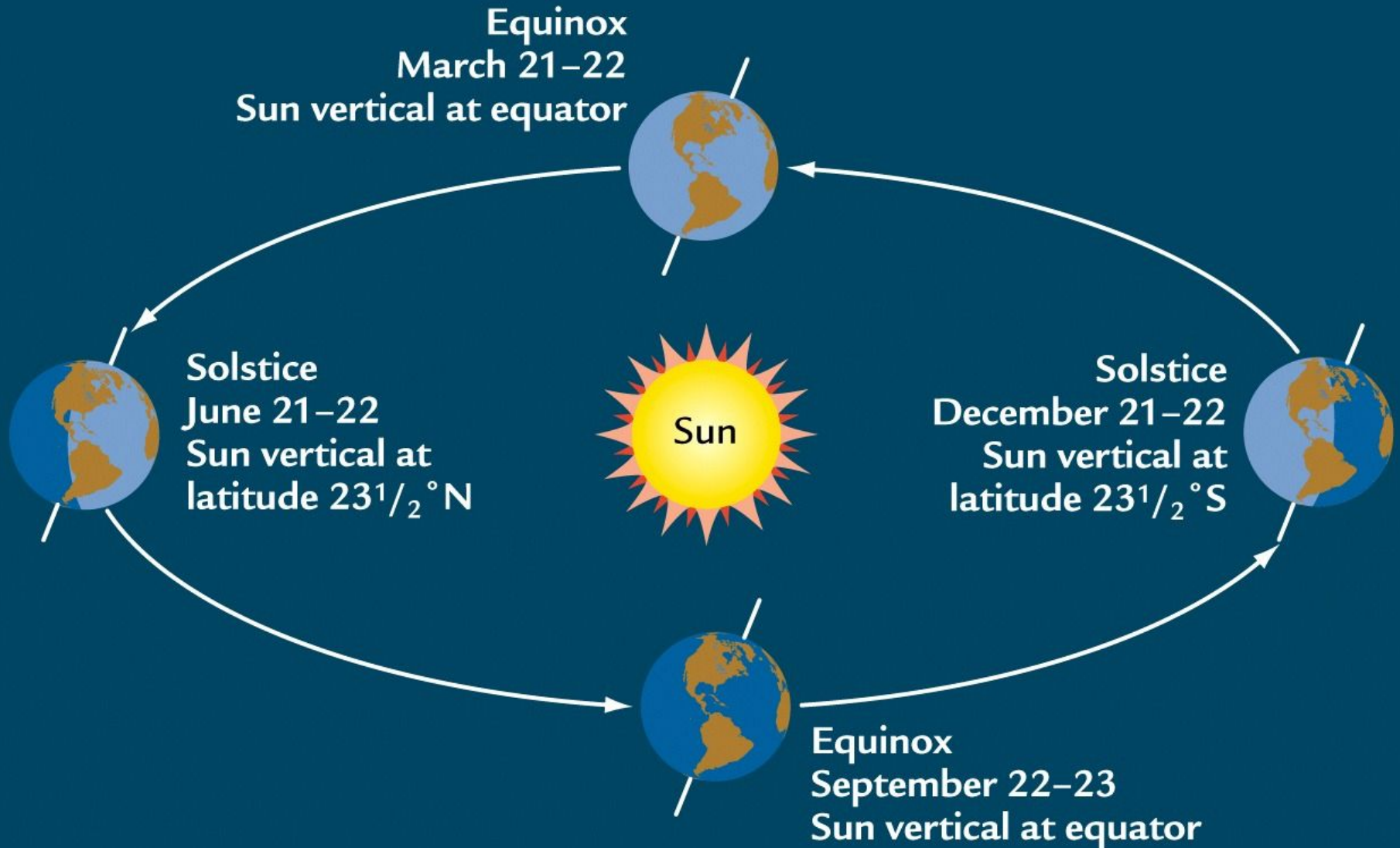
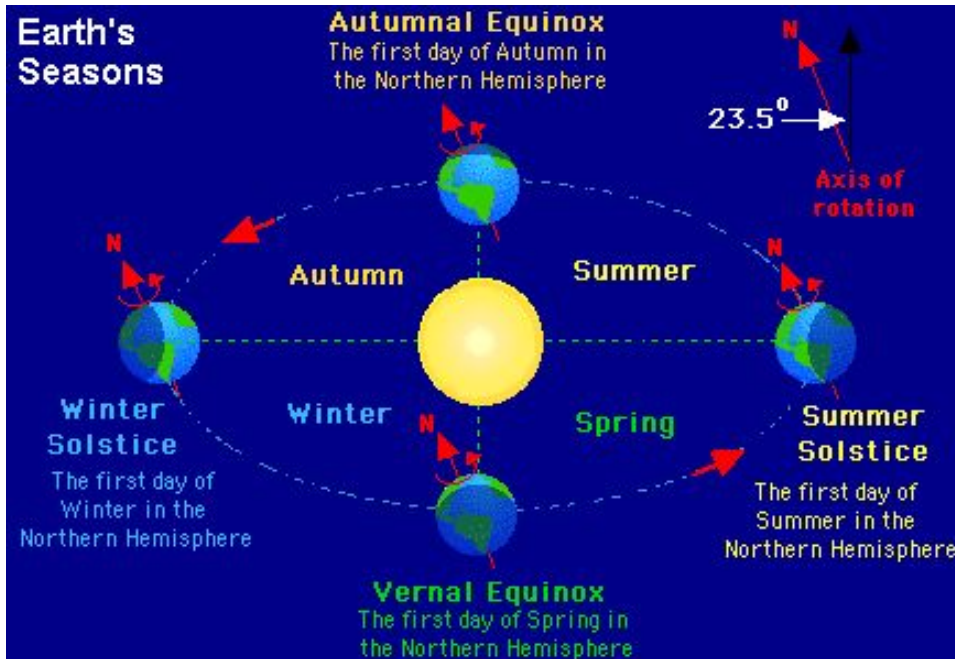


Modeling Moon Phases or Seasons (Rotation and Revolution) Project

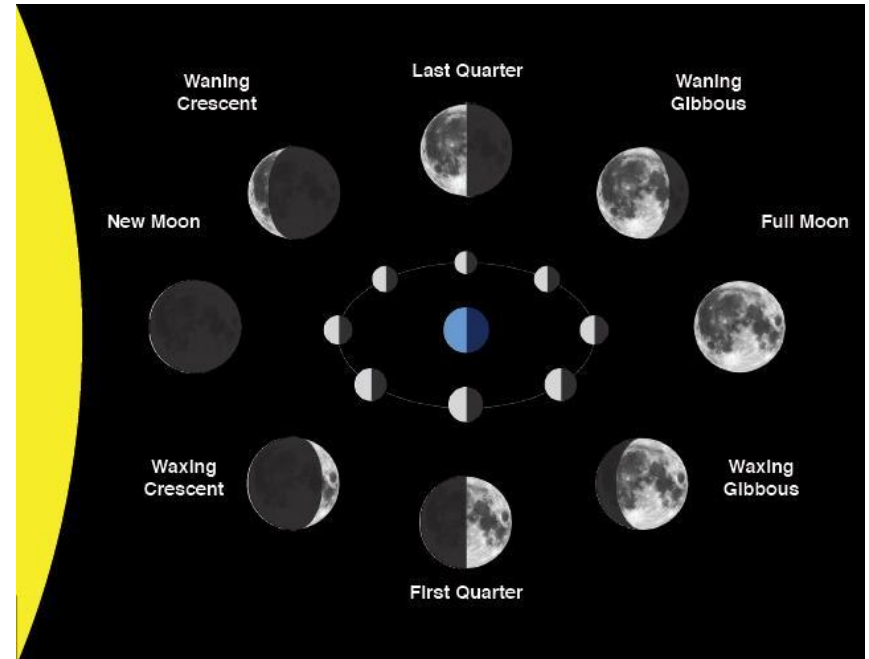


You Have a Choice

Create a Model of Seasons



Create a Model of Moon Phases

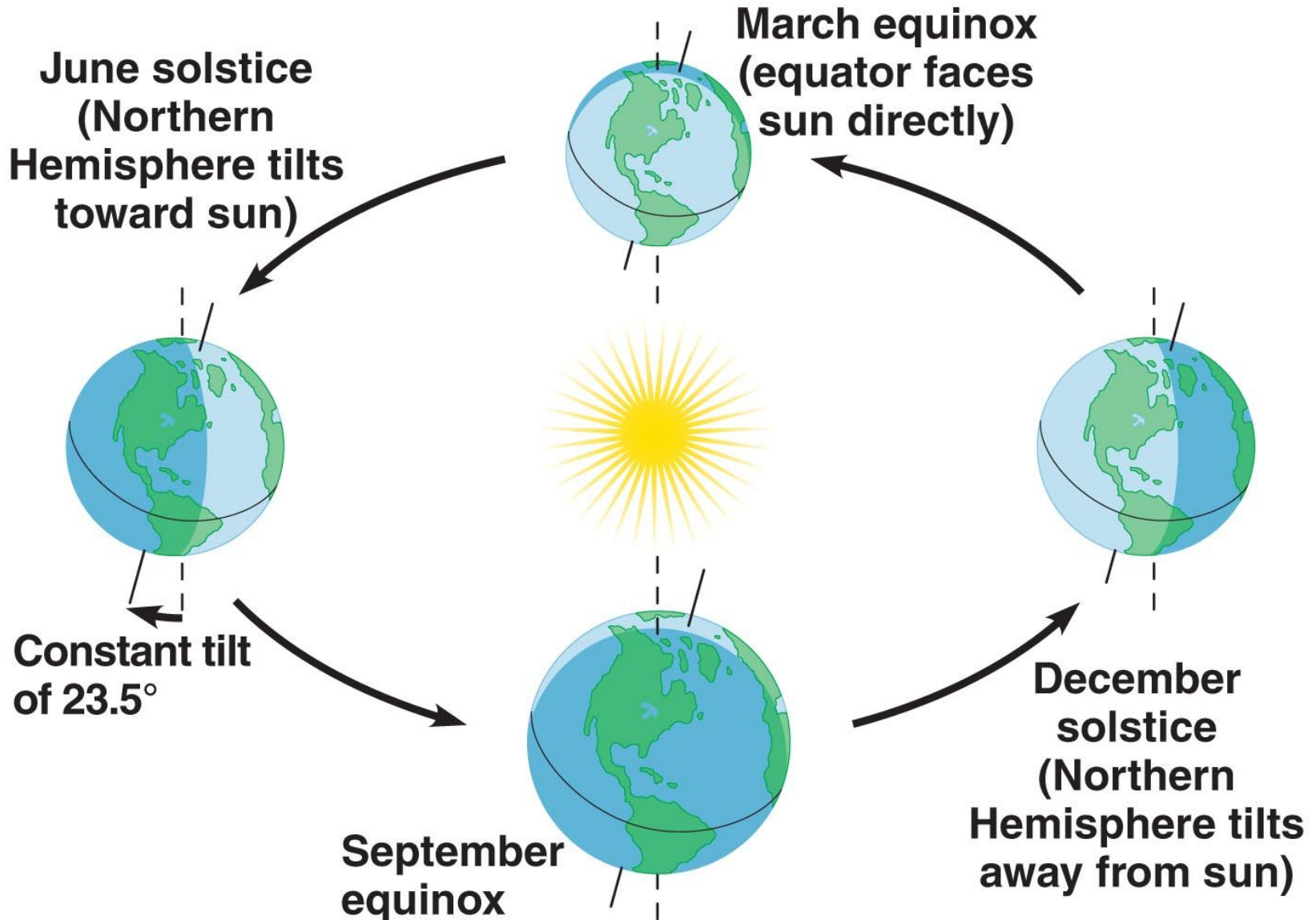


Your Mission:

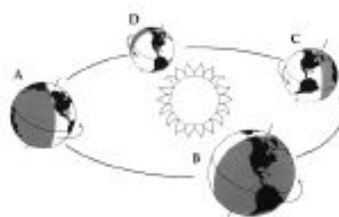
Make a model of Earth and the Sun that Demonstrates the four seasons, rotation, and revolution.

Make a model of the Moon, Earth, and the Sun that Demonstrates the Lunar Cycle.

Details for Seasons Model Project



Representing Rotation and Revolution Project



Mission: Make a model of Earth and the Sun that demonstrates the four seasons, rotation, and revolution.

Materials:

- Will vary – any items which can be used in the model. The items must not be perishable or have sharp edges
- You may use paper or index cards to use labels
- You can use string or yarn to represent the Sun's rays

To complete your mission, include the following:

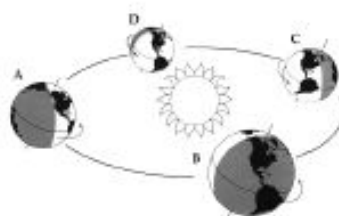
1. A model made of materials furnished by you that contains the Earth and the Sun.
2. The model should either move or have Earth in four different locations for each season. Each season is to be labeled in some manner.
3. The model must have arrows that show the direction of Earth's rotation and revolution.
4. There must be some representation of where solar rays are concentrated for each season.
5. The equator, axis, and hemispheres of Earth must be labeled.
6. Attach an index card to your project that in your own words explains why the Earth has seasons.
7. The model must be free-standing. You can pick up and move parts, but it must stay secure when you set down any parts.

Mission Instructions:

1. Gather your items and lay out your model.
2. Put the entire model together.
3. Make any labels or attach any other props that will be used in the model.

1. A model made of materials furnished by you that contains the Earth and the Sun
2. The model should either move or have: Earth in four different locations for each season. Each season is to be labeled in some manner
3. The model must have arrows that show the direction of Earth's rotation and revolution
4. There must be some representation of where solar rays are concentrated for each season
5. The equator, axis, and hemispheres of Earth must be labeled
6. **Attach an index card** to your project that in your own words explains why the Earth has seasons
7. The model must be free-standing. You can pick up and move parts, but it must stay
8. Your completed rubric must be attached to your project

Representing Rotation and Revolution Project



Mission: Make a model of Earth and the Sun that demonstrates the four seasons, rotation, and revolution.

To complete your mission, include the following:

1. A model made of materials furnished by you that contains the Earth and the Sun.
2. The model should either move or have Earth in four different locations for each season. Each season is to be labeled in some manner.
3. The model must have arrows that show the direction of Earth's rotation and revolution.
4. There must be some representation of where solar rays are concentrated for each season.
5. The equator, axis, and hemispheres of Earth must be labeled.
6. Attach an index card to your project that in your own words explains why the Earth has seasons.
7. The model must be free-standing. You can pick up and move parts, but it must stay secure when you set down any parts.

Materials:

- Will vary – any items which can be used in the model. The items must not be perishable or have sharp edges
- You may use paper or index cards to use labels
- You can use string or yarn to represent the Sun's rays

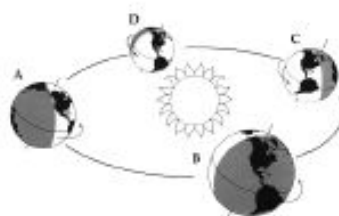
Mission Instructions:

1. Gather your items and lay out your model.
2. Put the entire model together.
3. Make any labels or attach any other props that will be used in the model.

Materials:

- Will vary – any items which can be used in a model. The items must not be perishable or have sharp edges (look around your house for items you can use – avoid expensive materials)
- You may use paper or index cards as use for labels
- You can use string or yarn to represent the Sun's rays

Representing Rotation and Revolution Project



Mission: Make a model of Earth and the Sun that demonstrates the four seasons, rotation, and revolution.

Materials:

- Will vary – any items which can be used in the model. The items must not be perishable or have sharp edges
- You may use paper or index cards to use labels
- You can use string or yarn to represent the Sun's rays

To complete your mission, include the following:

1. A model made of materials furnished by you that contains the Earth and the Sun.
2. The model should either move or have Earth in four different locations for each season. Each season is to be labeled in some manner.
3. The model must have arrows that show the direction of Earth's rotation and revolution.
4. There must be some representation of where solar rays are concentrated for each season.
5. The equator, axis, and hemispheres of Earth must be labeled.
6. Attach an index card to your project that in your own words explains why the Earth has seasons.
7. The model must be free-standing. You can pick up and move parts, but it must stay secure when you set down any parts.

Mission Instructions:

1. Gather your items and lay out your model.
2. Put the entire model together.
3. Make any labels or attach any other props that will be used in the model.



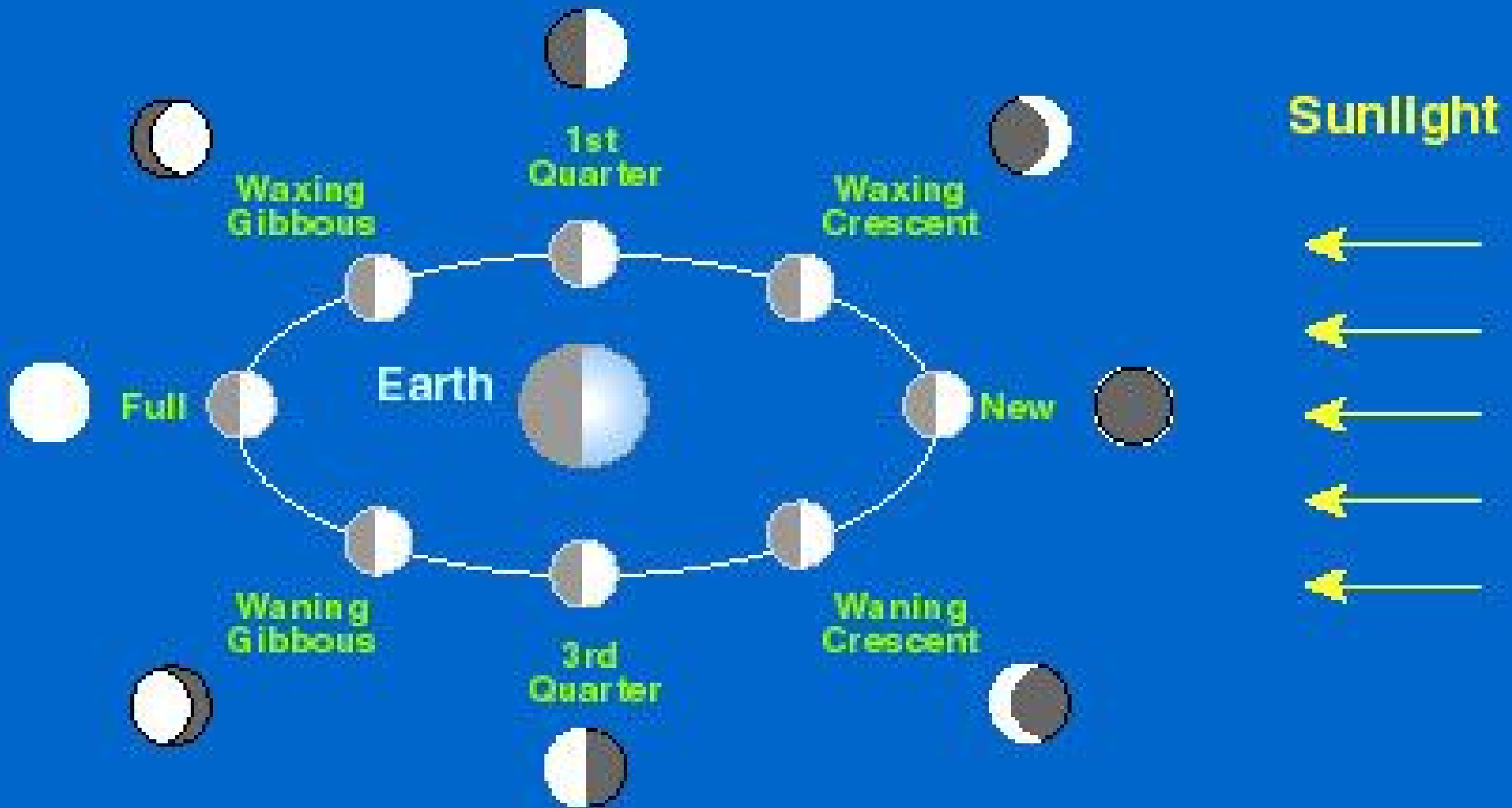
Mission Instructions:

1. Gather your items and lay out your model (look around your house for items you can use – avoid expensive materials)
2. Put the entire model together
3. Make any labels or attach any other props that will be used in the model

Seasons Model Rubric

Criteria	Point Value	Earned
Project Turned In	50	
Model contains representations of the Earth and the Sun	4	
Earth in four different locations or moveable	4	
Direction of Earth's rotation is shown	5	
Direction of Earth's revolution is shown	5	
Representation of where solar rays are concentrated for each season is present	8	
The equator, axis, and hemispheres of Earth are labeled correctly	4	
Student has correctly explained why the Earth has seasons in their own words	10	
Model is neat and well-constructed and all components are easily identified	8	
Your name is on the model	2	
Total	100	

Details for Moon Phases Model Project



REPRESENTING MOON PHASES PROJECT



Mission: Make a model of the Moon, Earth and the Sun that demonstrates the lunar cycle.

Materials:

- Will vary – any items which can be used in the model. The items must not be perishable or have sharp edges
- You may use paper or index cards to use labels

To complete your mission, include the following:

1. A model made of materials furnished by you that contain; the Moon, Earth, and the Sun.
2. The model should either move or have the moon in eight different locations for each moon phase. Each moon phase is to be labeled in some manner.
3. The model must have arrows that show the direction of the moon's rotation and revolution.
4. There must be some representation of what the moon looks like from space and what it looks like from Earth during each moon phase.
5. Attach an index card to your project that describes the lunar cycle in your own words.
6. The model must be free-standing. You can pick up and move parts, but it must stay secure when you set down any parts.

Mission Instructions:

1. Gather your items and lay out your model.
2. Put the entire model together.
3. Make any labels or attach any other props that will be used in the model.

1. A model made of materials furnished by you that contain; the Moon, Earth, and the Sun
2. The model should either move **or** have the moon in eight different locations for each moon phase. Each moon phase is to be labeled in some manner
3. The model must have arrows that show the direction of the moon's rotation and revolution
4. There must be some representation of what the moon looks like from space **and** what it looks like from Earth during each moon phase
5. Attach an **index card** to your project that describes the lunar cycle in your own words
6. The model must be free-standing. You can pick up and move parts, but it must stay secure when you set down any parts
7. Your completed rubric must be attached to your project

REPRESENTING MOON PHASES PROJECT



Mission: Make a model of the Moon, Earth and the Sun that demonstrates the lunar cycle.

To complete your mission, include the following:

1. A model made of materials furnished by you that contain; the Moon, Earth, and the Sun.
2. The model should either move or have the moon in eight different locations for each moon phase. Each moon phase is to be labeled in some manner.
3. The model must have arrows that show the direction of the moon's rotation and revolution.
4. There must be some representation of what the moon looks like from space and what it looks like from Earth during each moon phase.
5. Attach an index card to your project that describes the lunar cycle in your own words.
6. The model must be free-standing. You can pick up and move parts, but it must stay secure when you set down any parts.

Materials:

- Will vary – any items which can be used in the model. The items must not be perishable or have sharp edges
- You may use paper or index cards to use labels

Mission Instructions:

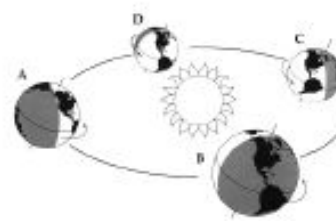
1. Gather your items and lay out your model.
2. Put the entire model together.
3. Make any labels or attach any other props that will be used in the model.



Materials:

- Will vary – any items which can be used in the model.
The items must not be perishable or have sharp edges
- You may use paper or index cards to use labels

Representing Rotation and Revolution Project



Mission: Make a model of Earth and the Sun that demonstrates the four seasons, rotation, and revolution.

To complete your mission, include the following:

1. A model made of materials furnished by you that contains the Earth and the Sun.
2. The model should either move or have Earth in four different locations for each season. Each season is to be labeled in some manner.
3. The model must have arrows that show the direction of Earth's rotation and revolution.
4. There must be some representation of where solar rays are concentrated for each season.
5. The equator, axis, and hemispheres of Earth must be labeled.
6. Attach an index card to your project that in your own words explains why the Earth has seasons.
7. The model must be free-standing. You can pick up and move parts, but it must stay secure when you set down any parts.

Materials:

- Will vary – any items which can be used in the model. The items must not be perishable or have sharp edges
- You may use paper or index cards to use labels
- You can use string or yarn to represent the Sun's rays

Mission Instructions:

1. Gather your items and lay out your model.
2. Put the entire model together.
3. Make any labels or attach any other props that will be used in the model.

Mission Instructions:

1. Gather your items and lay out your model
2. Put the entire model together
3. Make any labels or attach any other props that will be used in the model

Moon Phases Model Rubric

Criteria	Point Value	Earned
Project Turned In	50	
Model contains representations of the Moon, Earth and the Sun	3	
Moon in eight different locations or moveable Moon is present	8	
Direction of Moon's rotation is shown	2	
Direction of Moon's revolution is shown	2	
Representation of what the Moon looks like from Space	8	
Representation of what the Moon looks like from Earth	8	
Student attached index card and has correctly described the lunar cycle in their own words	10	
Model is neat and well-constructed and all components are easily identified	8	
Name is on the model	1	
Total	100	

Last Details

You may do this project by yourself or you may work with a partner.

Note: if you choose to work with a partner, make sure it is someone you can rely upon. No excuses & no complaints allowed.

Project is due at beginning of class on Friday, September 16th, 2016. Any projects not turned in on time will receive a 10 point penalty.