Name _____

What's Up, Earth?

1. Draw Earth below or in your science notebook. Draw a stick-figure person on Earth, and draw two stars in space (the rest of the page), one the person can see, and one the person cannot see.

2. Place a golf tee on the Styrofoam ball and point in the direction that is "up" for this person. Draw it below or in your science notebook. Using several locations on the ball – your model Earth -- move your golf tee "person" to show that you understand how the place we call "up" depends on its location. Draw the different locations on your Earth and place an arrow pointing towards "up" for each location.

3. Using objects in the classroom, and positioning the person on Earth as you did above, discover and then illustrate whether the person on your Earth is able to see the objects or not from its location on the globe. Rotate the globe to change the answers. Draw and explain what you discover.

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***You should find that for most locations on Earth (anywhere except the equator or the poles) there is a part of the room (space) that is *always* visible, a part of the room that is *never* visible, and parts that are visible for part of the rotation.

4. Orient your model Earth so that the person is just able to see your teacher. Next, rotate Earth so your teacher appears nearly overhead, and then sets for the person on the model. Draw what is happening on Earth for your person and out in space with your teacher. If your teacher were the sun, what would this mean for your person on Earth?

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5. Look back at your answer for Question #1 and re-draw your picture to display what you now understand.

6. Think about where in the sky an object will appear immediately after it first becomes visible as the Earth rotates. (Hint: The answer is that the object will appear to be rising just above the horizon, more or less to the east). Where will the object in the sky appear just before it disappears? (Hint again: It will appear to set below the horizon, more or less in the west.) Draw a picture of an object in the sky as it first becomes visible for your person on Earth and then another just before it disappears.