

# Daisy

## 1a: Day observation book (planetarium)

- Go outside and look at the sky three times in the same day.
- Make a prediction for what the sky will look like each time you go outside. Then, see if your guesses were correct.
- Draw pictures of what you see at the different times of day.
- Does the sky look different each time you go outside? How? Did the colors or clouds change? Talk about the sky with your family or friends.

## 2a: Make a Moon observation book (planetarium)

- Observe the moon at 3 different times
  - You can either do it three different times in one night, or three nights in a row at the same time.
- Before observing: Make a prediction (guess) for what you think the Moon will look like. Then, go outside and draw what you see.
- Were your predictions correct? Which Moon phases do your pictures look the most like? Share your pictures and Moon shapes with your family or friends.

## 3b: Make a constellation

- Make a star pattern of your own—in the shape of you!
- Mark star points
- “Connect the dots”
- Draw art/image around, or in addition to, lined drawing

# Brownie

## 1a: Create a picture of the planets

- Go to [NASA's Space Place](#)
  - look at the different planets in our Solar System.
  - draw eight circles on white paper using the chart
  - color the planets to show what they look like.
  - Cut them out and glue them to paper, in order.
  - Write the planet names on the paper (Juniors can help)

## 2c: See the stars with a computer (Planetarium)

- What can you see? Are there any planets out tonight? What does the sky look like in other parts of the world?

## 3c: Moon phases observation (planetarium)

- The Moon goes through all of its phases in about a month.
- Predict their order, starting with the phase you think the Moon is in tonight.
- Then, test your prediction. Look at the Moon in the sky for up to four weeks and draw the shapes you see—be sure to include the date.
- When you're finished, compare what you saw to your predictions. Were you correct? What did you learn? It will take a little while, but it will be worth it!

## 4c: Change a constellation

- Create your own constellation with the same stars. It doesn't have to be an animal—you can make it anything you like!
- Draw or paint your constellation. Then share it with your family and friends.

## 5c: Attend stargazing event

- Share with an amateur astronomer the different projects you worked on in this badge, and ask them any questions you might have.

# Junior

## 1a: Play dough model of planet sizes

- Use salt dough to make tiny versions of the eight planets in our Solar System
- Draw your predictions of planet sizes and compare them to the scale model
- Make a name card for each planet and line them up in order from the Sun.

## 2b: Find age on other planets

- Your age is the number of orbits you have taken around the Sun, but each planet is a different distance from the Sun, and they all orbit at different speeds.
- Discover how old you would be on other planets at [Exploratorium](#)

## 3c: Night scavenger hunt (planetarium)

- Use your eyes, a star wheel, or a smartphone app to identify the stars, constellations, or planets in the night sky.
- Just mark off what you can find, and keep going outside on different nights

## 4c: Use star wheel

- Make a star wheel (or planisphere) and use it to find stars and constellations.

## 5a: Attend star party

- Share what you've learned during this badge, and ask an astronomer any questions you might have.