Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Circles and Telescopes

Based on a NASA activity found at: <http://nasawavelength.org/resource/nw-000-000-003-619/>

Measure the radius and diameter of each circle, and find the exact and approximate area. Then count how many pennies it takes to cover each circle.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Circle | Radius | Diameter | Exact Area | Approximate Area | Number of Pennies |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |

1

2

3

What do you notice about circles with a larger radius?

Telescopes work by collecting light from stars and planets using a mirror or lens. Some telescopes are even made up of smaller mirrors put together (similar to the pennies you filled the circles with, or **tessellations** of hexagons).

How do you think a telescope with a larger radius would be geometrically different from a telescope with a smaller radius? Would it work differently?