

Item #: _____

Sizing UP the Universe

1st link Name: _____

Key

Read the introduction (after video).

- 1) Choose your Earth: vary Diameter of object picked: vary
- 2) How big is your moon compared to your Earth? (object) vary; diameter vary
- * 3) The moon is about 1/4 size of Earth. Actual Earth = ~~12,000~~ ⁸⁰⁰⁰; Actual Moon = 2000

Click the NEXT button.

- * 4) What is the actual distance between the Earth and the Moon? 240,000 miles
- 5) Enter Bailey Middle School Address: 11900 Bailey Road, Cornelius, North Carolina 28031
- 6) Notice the distance.

Click the NEXT button.

- 7) Complete the mission: The moon is about four times larger than the moon.
- * Use the diagram on the google classroom sheet to answer the question: If the Earth was a piece of fruit, would the quarter be smaller or larger than the moon? smaller; this is 1/6 of size of fruit and moon is 1/4 size of Earth

Click the NEXT button (move on to the Sun!)

- 7 8) How big is your Sun on your scale model? vary (object); vary (diameter)
- 8 * 9) How much bigger is the Sun compared to the Sun? Earth 100x
- 9 * 10) What is the diameter of the Sun? 875,000?
- 10 * 11) How far away is the Sun from Earth? 93 million miles

Click "Map my Orbit"—Note your Sun is now at Bailey Middle School and Earth is orbiting.

- 11 * 12) Earth is known as the "Goldilocks" planet. Why?
- 12 * 13) Read the "Consider This" and use it to complete "Your Mission" (*hint you'll need a proportion!)
Answer (nearest minute is fine!): 40 mins $\frac{8 \text{ mins}}{93 \text{ million}} = \frac{x}{466 \text{ million}}$

Click the NEXT button.

- 13 14) What is your model-size Pluto? vary
- 14 * 15) How big is Pluto compared to Earth? 1/5?
- 15 * 16) How many Plutos could fit within the United States of America? 3

Click the NEXT button.

- 16 * 17) How long does it take Pluto to orbit the Sun? 248 years

Click the NEXT button.

- 17 * 18) Read the "Consider This" and use it to complete "Your Mission." Answer: 195,000
(150 x 1300) How plutos would Jupiter

Click the NEXT button.

- 18 * 19) Our Sun is about one of 200 billions stars in our Milky Way Galaxy.
- 19 * 20) What is our nearest star? Proxima Centauri

Click the NEXT button.

Read. Click "Map my Orbit"

21) Where would Proxima Centauri be located? *off the map!*

Click the NEXT button.

22) Read the "Consider This" and use it to complete "Your Mission." Answer: *5.859 x 10¹³ miles*

Click the NEXT button.

23) What is the distance across our solar system? *7 billion miles*

24) What is the distance across our Milky Way Galaxy? *6 quadrillion miles*

Click the NEXT button.

25) Pick your solar system size and record it here: *varies*

26) What would your galaxy size be? *"Europe" varies*

27) What is your solar system to galaxy comparison?

varies

Click the NEXT button and watch the video *28) how small would our Sun be in this scale? *atun!**

Click the NEXT button. Read.

Click the NEXT button.

29) What is the nearest galaxy? *Andromeda*

Click the NEXT button. Watch visualization.

Click the NEXT button.

30) How far away is Andromeda in this scale? *couple feet*

Click the NEXT button.

31) Can two galaxies ever collide? If so, what will happen? (may need to go to the next page)

Yes, probably nothing

Click the NEXT button to continue your answer.

Click the NEXT button and watch the video.

32) Generally, galaxies are moving away from each other. What does that tell us?

That there is no end in space

33) How old is our universe?

14 billion years old

34) REFLECTION: What did you find the most fascinating about your "journey" today? Explain.

Share

Share

varies