

4th Grade

Earth & Space Science Chapter 9 Lesson 1

Page	Question	Answer(s)	Resources
292	What is the farthest object you can see in space?	With just the unaided eye, the Andromeda Galaxy is the farthest away. In 2018 the Hubble Space Telescope found a star named Icarus 9 Billion light years away.	
292	What makes a balloon rocket soar?	Air forcibly expelled from a nozzle creating thrust.	
293	How can we learn more about objects in space?	With telescopes and radar arrays.	
293	How were your observations using binoculars the same or as different from using your eyes?	Binoculars do give you a closer look at something, but you have to know where to point them first.	
293	How were your observations using binoculars the same as or different from modeling a satellite?	It is very difficult to track a moving object through binoculars. The field of view is just so small you end up spending all your energy looking for your target you probably never really got to see your target.	
294	Why might a round observatory have been useful to early astronomers?	On a round observatory you can mark where stars rise and set on the horizon. Then after many years of this, you can start to make predictions.	
295	Why were models of objects in the night sky useful to early astronomers?	To make calendars.	
296	Why do scientists put telescopes away from towns?	The more artificial lights an area has, the harder it is to see the stars. It is only in places far away from civilization that you can see the dimmest of stars.	
297	How does putting a telescope improve what can be seen?	The distance doesn't matter; 100 miles up is nothing when compared to the light years involved in seeing stars. What matters is how our atmosphere traps and bends light. That is why the best astronomy photos are taken from outside our atmosphere.	

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298	How has the use of satellites changed life on Earth?	We now have satellite internet, Global Positioning on every phone that will also give you directions. Weather reports are more accurate since we data up to date by the hour. Satellites allow to share an incredible amount of information.	
298	Why are space probes often used instead of crewed missions?	Because a robot doesn't need to eat, sleep and generally "survive" the trip through space. Just to get to Mars would take nine months. A human crew would require many resources; a robot can sit in a box.	
298	What space missions are scientists planning?	The most recent space news, as of July 2021, is that private companies have begun taking passengers on ten minute rides to the edge of space.	
299	#2 How are the terms stars and telescope related?	Stars are balls of burning gas that emit light. Telescopes are simple machines that collect light.	
299	#3 What did the earliest telescopes use to collect light?	C. Mirrors	
299	#4 What discoveries did early astronomers make using telescopes?	They found craters in our moon and moons orbiting other planets.	
299	#4 What have modern astronomers been able to study using newer technology?	Modern astronomers get to study things like the behavior of black holes, binary stars and locate planets in other solar systems because of modern technology.	
299	#5 How did watching the night sky help people in the ancient world?	It helped them create calendars not only for religious events, but to know when to plant crops for food.	
299	#6 What other Bible verses mention stars?	Job mentions stars that we interpret to be the Pleiades and Orion. Also the wise men followed the star to baby Jesus.	