



Reach for the Stars

	Time	Grade Level	Content Area [s]	Materials
	50 minutes	Grades 6–8	All	<ul style="list-style-type: none"> • Reach for the Stars Video • In the Past They Thought Information sheet • Predictions graphic organizer • Poster outline • Markers/crayons

Objective

Students will consider predictions from the past that are now reality because of science/STEM subjects, and speculate about what will happen in the future, and discuss what will need to change in science/STEM for that to happen.

Activity Outline

- 1 Play the video from NSTA for your class for the first 59 seconds to the point where the screen asks “Who can we count on for the future?”. Ask the students to take note of the different images they see, as well as, consider the events or products accomplished due to science. If necessary, play the video more than once for the students.
- 2 Ask the students to discuss the video clip and images, consider what events or products were accomplished or produced due to science and engage them in a discussion about these changes.
- 3 Share with them the following predictions from 1900 which appeared in *The Ladies Home Journal* and were published online. Ask students to think about each, discuss what they think the prediction is discussing, and what the different objects or processes might be.
- 4 Select one to complete the graphic organizer. Teacher note: Some predictions were modified for appropriate grade level.
- 5 Bring the class back together and share what type of breakthroughs in science/STEM needed to happen, when they happened, and 2-3 other scientific discoveries that helped us arrive where we are today with the topic in the prediction. Ask them to consider and describe “How Science Helped the World Change Between Then and Now.” For example: In discussing airships (prediction #1), students could talk about the discoveries and inventions of the Wright Brothers to how we move freight long distances, and how airplanes or spacecrafts are used for scientific discoveries and research today.
- 6 Ask the students to imagine the future and make a prediction about the future that requires science, creativity, and persistence to accomplish. Depending on the students it could be 25 years or 50 years in the future and ask them to create a poster about how the future will look with their prediction. In addition to the poster image which could be drawn, a collage, computer generated or use any additional media, ask the students to complete the statement of “Science will be needed to imagine this future because...”

Imagine the Future

“Science will be needed to imagine this future because...”

In the Past They Thought...

Predictions from the 1900s

1. There will be air-ships, but they will not successfully compete with surface cars and water vessels for passenger or freight traffic..... Some will transport men and goods. Others will be used by scientists making observations at great heights above the earth.
2. Photographs will be telegraphed from any distance. If there be a battle in another country a hundred years hence snapshots of its most striking events will be published in the newspapers an hour later. Even to-day photographs are being telegraphed over short distances. Photographs will reproduce all of Nature's colors
3. Man will See Around the World. Persons and things of all kinds will be brought within focus of cameras connected electrically with screens at opposite ends of circuits, thousands of miles at a span. American audiences in their theatres will view upon huge curtains before them the coronations of kings in Europe or the progress of battles in other countries. The instrument bringing these distant scenes to the very doors of people will be connected with a giant telephone apparatus transmitting each incidental sound in its appropriate place.
4. No Foods will be Exposed. Storekeepers who expose food to air breathed out by patrons or to the atmosphere of the busy streets will be arrested with those who sell stale or adulterated produce. Liquid-air refrigerators will keep great quantities of food fresh for long intervals.
5. Telephones Around the World. Wireless telephone and telegraph circuits will span the world. Someone in the middle of the Atlantic will be able to converse with a friend sitting in their living room in Chicago. We will be able to telephone to China quite as readily as we now talk from New York to Brooklyn. By an automatic signal they will connect with any circuit in their locality without the intervention of a "hello".
6. Coal will not be used for heating or cooking. It will be scarce, but not entirely exhausted. The earth's hard coal will last until the year 2050 or 2100; its soft-coal mines until 2200 or 2300. Meanwhile both kinds of coal will have become more and more expensive. Man will have found electricity manufactured by waterpower to be much cheaper. Every river or creek with any suitable fall will be equipped with water-motors, turning dynamos, making electricity. Along the seacoast will be numerous reservoirs continually filled by waves and tides washing in. Out of these the water will be constantly falling over revolving wheels. All of our restless waters, fresh and salt, will thus be harnessed to do the work which Niagara is doing to-day: making electricity for heat, light and fuel.
7. Hot and Cold Air from Spigots. Hot or cold air will be turned on from spigots to regulate the temperature of a house as we now turn on hot or cold water from spigots to regulate the temperature of the bath. Central plants will supply this cool air and heat to city houses in the same way as now our gas or electricity is furnished. Rising early to build the furnace fire will be a task of the olden times. Homes will have no chimneys, because no smoke will be created within their walls.
8. Ready-cooked meals will be bought from establishments similar to our bakeries of today. They will purchase materials in tremendous wholesale quantities and sell the cooked foods at a price much lower than the cost of individual cooking. Food will be served hot or cold to private houses in pneumatic tubes or automobile wagons. The meal being over, the dishes used will be packed and returned to the cooking establishments where they will be washed. Such wholesale cookery will be done in electric laboratories rather than in kitchens. These laboratories will be equipped with electric stoves, and all sorts of electric devices, such as coffee-grinders, egg-beaters, stirrers, shakers, parers, meat-choppers, meat-saws, potato-mashers, lemon-squeezers, dish-washers, dish-dryers and the like. All such utensils will be washed in chemicals fatal to disease microbes. Having one's own cook and purchasing one's own food will be an extravagance.

Predictions Graphic Organizer

Name: _____ Date: _____

We selected prediction #: _____ The topic of this prediction focused on: _____

Fill in the graphic organizer with descriptive bullet points.
Use the internet to research information about the topic.

1900	Over Time	Today
Describe what this object/ process was like in 1900	What scientific discoveries helped us change over time?	Describe the object/process today.