"Sunny weather always happens when we are in school. Rain keeps us at home to do our homework." **(Joe Pearson)**

"Given enough time, enough inquiry and enough experimentation through observations made carefully by equally careful researchers, any 'thing' can be explained. And understood by non-science people." **(Bullfinch)**

"What on earth transmits signals like that?" **(Dr. Grimes)**

"Thunderstorms. A thunderstorm is defined as a storm where thunder is heard. That's it." **(Bullfinch)**

"And all thunderstorms have lightning, right?" **(Danny Dunn)**

"My father told me to count by thousands for each second. Then divide those seconds by five. That will be the distance in miles from the storm." **(Irene Miller)**

"But the professor needs something very quiet. Something to hear the signals from Earth, such as a thunderstorm, or perhaps a meteor shower." **(Danny Dunn)**

"Oh yes, there are lightning detectors. They are able to 'listen' for the lightning stroke." **(Bullfinch)**

"No one has made a tornado detector yet." **(Bullfinch)**

"It is possible that this 'fingerprint' that we are about to see may lead us to a special radio that could process tornado signals from a super-cell thunderstorm before the tornado even forms." **(Bullfinch)**

"All tornadoes form from supercell thunderstorms. But not all supercell thunderstorms produce tornadoes. This is the hard part." **(Bullfinch)**

"We need three conditions for a thunderstorm to form. Lift, instability, and moisture." **(Grimes)**

"Our class studied the three stages of a thunderstorm. The cumulus stage, the mature stage and the dissipating stage." **(Danny Dunn)**

"We want to study all of the stages. But of particular interest to us, is the mature stage. That is where the most intense weather occurs." **(Bullfinch)**

"Most thunderstorms only last for an hour or so. We want the ones that last for several hours." **(Bullfinch)**

"So a thunderstorm is both a thing and a process. It is made of matter and it changes." **(Bullfinch)**

"Lightning never strikes the same place twice." **(Joe Pearson)**

"Not true, Joe. Not true at all. The Empire State Building in New York gets struck all of the time during a thunderstorm." **(Irene Miller)**

"When a tornado is about to strike a certain area, what happens is that a strong wind precedes it. This is known as a 'gust front'." **(Bullfinch)**

"Most lightning deaths occur to people standing out in the open. We will sit in our car. Its metal skin should protect us quite well." **(Grimes)**

"What we are about to do is extremely dangerous." **(Bullfinch)**

"I call it S-T-O-R-M. 'Sensing Tornadoes On Remote Monitors'."

(**Bullfinch)**

"I will need two or more observers spread around the thunderstorm. Each will have STORM. This way, we will not miss the patterns made by the tornado before it forms." **(Bullfinch)**

"This signal from the tornado is precisely what I am looking for."

(Bullfinch)

"Notice the radar signal is showing this region has very little rain in it. Rain is surrounding it like curtains. We call this a 'bounded weak echo region.' There may be a tornado hidden behind those curtains. Air is spiraling into that area." **(Grimes)**

"The winds are blowing particles, some rain and hail, dust and trillions of fast-moving electrons. They form a 'pre-tornado' as I call it. It fits a certain shape from the supercell thunderstorm and it triggers another alarm in STORM." **(Bullfinch)**

"We have witnessed personally, what is called a 'tornado outbreak'." **(Bullfinch)**

"Notice how the signal forms a pattern similar to the last twenty or so tornadoes. I believe we have found the right formula." **(Grimes)**

"I would like to build a model that has a small screen, STORM and the alarms all in one unit." **(Bullfinch)**

"Professors, even just five minutes more time. That could save hundreds of lives." **(Irene Miller)**

"Those fulgurites were made within the last several minutes of that large cloud-to-ground strike here at the lake. It fused the sand most effectively." **(Bullfinch)**

"Think of the lives saved. This receiver could be made small enough, be battery operated, and portable enough to carry." **(Bullfinch)**

"We have a lot of work to do." **(Bullfinch)**

"But Professors, every year there is a tornado season. Can we make that prototype soon enough?" **(Irene Miller)**

"With enough inventive minds, with enough materials and with the best construction efforts of the day, yes, Irene. We will have a working model. Not for just next year. But to be used throughout the seasons." **(Bullfinch)**

"I envision these hand-held devices in homes throughout the country. In emergency operation centers. In weather stations. These devices can be carried by hikers and other outdoor enthusiasts. Everyone." **(Grimes)**