



Space Rangers!

A five-day book-based adventure for kids 6-10 years old



Explore, read, play, invent, build and learn —
all about space and space exploration



Brought to you by Reading Rockets, with support from the Park Foundation





Space Rangers!

A five-day book-based adventure about space

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Welcome to Space Rangers!

The best way to get kids learning is to build on their curiosity and interests. The Space Rangers program is kid-centered with an emphasis on inquiry and creativity.

We've designed the program to be user-friendly and adaptable. Use the materials each day for five days in a row, or once a week, for five weeks, (or any other way you like) to add hands-on learning to your summer programming.

Day 1: Stars and Constellations

Day 2: The Solar System

Day 3: The Moon and Apollo 11

Day 4: Mars: The Red Planet

Day 5: Space Exploration



Getting yourself ready

- You'll find an introduction to the concepts covered and recommended books for each day, as well as a list of questions to guide explorations and experiments, and a list of "space words" that kids might not be familiar with.
- Start by gathering books from the list provided from your library.
- Choose fiction and nonfiction books from the list provided.
- Read them through before you read them to the kids so you know what happens, and can spot any unfamiliar words or concepts you'll need to explain. Also, look for places to ask questions while you're reading to engage listeners.
- Think about which other parts of the program you'd like to do after reading the book(s). An activity is always a good idea, but you may also want to include writing, exploring related websites and apps, and going on a field trip, too.



Learning with the kids

- **Introduce the theme** for the day and ask kids what they know about it. (See "Activating background knowledge" on the next page.)
- **Read one or more of the books aloud and ask questions.** Listen carefully to the kids' answers. By reading to them and asking questions, you'll get them thinking about the topic, and what they want to learn. You'll also increase their understanding and excitement. Read another book and repeat.



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For ideas on reading aloud and sharing nonfiction books with kids, see the Growing Readers tip sheets in the Appendix.
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- **Choose a hands-on activity** to let kids explore theme. By doing an activity, the kids get to use the concepts and new words they have learned.
- **Look for a local connection.** How can you connect the ideas in the books or the activities with the kids' personal experience? Think about summer stargazing, seeing a planetarium show, or visiting a museum about space exploration.

- **Keep asking questions** throughout and listening carefully to your kids' answers.
- **Encourage kids to write** about what they are learning or curious about by using one of the writing prompts in this booklet.
- **Provide access to books about the topic** for kids to look at on their own.
- **Show kids websites and apps** that they can use to learn more about the topic and give kids time to try them out.
- **Take a field trip** to one of the recommended locations to further explore your topic for the day or theme for the week.



You can choose any of the components, all of them, or just one or two, but we recommend that you **always Start With a Book**.

Connecting the days and concepts

Ideally, you'd look through all five days of materials in advance and map out which books and activities you'd like to do. That will make it easier to help kids connect the ideas and activities each day, creating a big picture. You don't have to implement all five days, but if you do, it will make a stronger impact if you help kids connect what they are learning from day to day.

Activating background knowledge

Ask kids what they know about the topic when you are getting started. For example:

- Have you ever looked at the sky at night? What did you see? Have you seen the Moon seem to change shape?
- What is the solar system and why is the Sun at the center of it?
- How big is the solar system? How big are all the planets?
- What is the surface of the Moon like? Where do all the craters come from?
- What is gravity? Is there gravity in space? On the Moon?
- What's it like for astronauts to live and work in space?
- How does a rocket get into space?
- How do scientists make sure a spacecraft can land safely on Mars or the Moon?

You can use some of the suggestions from the toolkit's "Questions to guide explorations and experiments" if you like. Reading books and talking about what you read is another great way to activate kids' background knowledge.

Review big ideas from the day before and then make a connection. For example:

"Yesterday we talked about the solar system and how all the planets orbit the Sun.

Today we're going to look at the Moon and what happens when it orbits around our own planet Earth.

As the Moon orbits around the Earth, the half of the Moon that faces the Sun will be lit up. We call the different shapes of the lit portion of the Moon that we see from Earth "phases of the Moon." Have you ever seen a full Moon or a crescent Moon? Those are two phases of the Moon."

This is a great time to check to see if your kids understood the ideas you introduced the day before, answer their questions, or identify things they'd like to explore more.

Review and teach new words

When you are pre-reading your books or looking at activities, websites, apps, or field trips, look out for words kids might not know. Take time to talk about those words and tell kids what they mean. You can do this before you read or do an activity or while you are reading or working hands-on.

If words or concepts are being repeated, ask kids if they remember what they mean and how they might be used the same way or differently in this new context.





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Space Rangers toolkit authors

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