



MEETING PLANS & IDEAS: SCIENCE

Science	Information	Troop Meetings	Main Event
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OBJECTIVES

This month's activities should:

- Define what science is
- Help Scouts understand careers that use science
- Help Scouts understand and demonstrate the scientific method
- Help Scouts understand the different sciences, or “-ologies”
- Relate science to science fiction
- Encourage Scouts to earn the [Nova and Supernova awards](#)

LEADERSHIP PLANNING

As a leadership team, you may want to discuss the following items when choosing science as your program feature during your planning meetings.

- Choose a main event.
- Is there a science museum nearby?
- Is there a science fair in the near future?
- What are the travel demands for the main event?
- Will the main event be an overnighter?
- What science fiction movie/show will we watch?
- Who will present the instruction portions?
- Where will we do our main event?
- How can we involve parents?
- What science-related merit badge should we focus on?
- To meet our needs, what should we change in the sample meeting plans?

Activity	Description	Run by	Time
Preopening	Preopening activities		
Opening Ceremony	Play presentation Oath and Law Welcome/Introduction		
Group Instruction			
Main Instruction			
Breakout Groups			
Closing			
After the Meeting			

Click above for fillable troop meeting planning form.

PREOPENING IDEAS

[Preopening Ideas on Troop Program Resources](#)

- Show short science videos as Scouts arrive.
- Play [Prisoner's Escape](#)
- Play Science Fiction Charades: Take turns acting out scenes from sci-fi movies or portraying familiar sci-fi characters.

OPENING IDEAS

[Opening Ideas on Troop Program Resources](#)

GROUP INSTRUCTION IDEAS

[What Is Science?](#)

- Discuss the definition of science
- Introduce the suffix “-ology” and have Scouts volunteer some examples of specific “ologies”
- Define the three main branches of science: chemistry, biology, physics.

Potential Energy

- Teach the basics of projectile motion.
- Explain how angle and force combine to launch projectiles.
- Define projectile and projectile motion.
- Discuss the difference between forward velocity and acceleration due to gravity.

Scientific Method

- Explain the difference between hypotheses, theories, and laws.
- Compare and contrast experimentation and observation.

Science vs. Science Fiction

- Discuss how science fiction is often rooted in science fact.
- Watch an episode of a sci-fi series like “Star Trek,” “Doctor Who,” “Stargate,” or “Battlestar Galactica,” or part of a sci-fi movie.

SKILLS INSTRUCTION IDEAS



ESSENTIAL



CHALLENGING



ADVANCED

What Is Science?



- Conduct these experiments and discuss the scientific principles involved.
 - Chemistry: Combine baking soda and vinegar.
 - Biology: Grow bean sprouts.
 - Physics: Use levers and pulleys to move weights.



- Conduct these experiments and discuss the scientific principles involved.
 - Chemistry: Combine Mentos and diet soda.
 - Biology: Chart each Scout’s height and shoe size and look for correlations.
 - Physics: Ricochet marbles off one another.



- Conduct these experiments and discuss the scientific principles involved.
 - Chemistry: Make a battery.
 - Biology: Breed fruit flies and discuss genetics.
 - Physics: Create a dominoes chain reaction and measure how long it takes dominoes in different configurations to fall.

Potential Energy




- Utilizing the materials and [design](#) described in the lashing skill activity “[Scout Stave Launcher](#),” construct a sturdy catapult.





- Practice loading and firing the catapult.
- Keep a record of angle, force, and distance.




Scientific Method


-  Design an inhabited base located on the moon or Mars.
 - Discuss what theories and laws you need to consider
 - Discuss sources of energy, construction process, life support, and purpose.
 - Draw or make a model of your base.
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-  Make a theory of how gravity works.
 - Discuss what scientific laws are involved in your theory.
 - Devise experiments that could test your theory.
 - Repeat this process for other topics.
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-  Research a modern scientific subject.
- Find two competing theories and defend one of them in a debate. (This could be done in an ethical controversy format.)

Science vs. Science Fiction

-  Give examples of science fact in the show you watched during group instruction.
 - Give examples of science fiction in the show you just watched.
 - What advances in science would be required to make the examples of science fiction into science fact?
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-  What scientific laws were used in the show you just watched?
 - Name something that was impossible.
 - Identify two examples of technological or scientific advances in the chosen show and discuss how they could come to pass.
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-  After watching the show, explain what was possible and impossible in the show. Share with the group what you learned. If you were a scientific consultant on this show, tell what changes you would suggest to make it more scientifically accurate.

BREAKOUT GROUP IDEAS

Getting Ready for the Main Event

- Menu Planning (if applicable)
- Duty Roster Planning (if applicable)
- Patrols discuss what special items they will need for the main event.

Preparation for the meeting's game or challenge

GAME AND CHALLENGE IDEAS

Library of Games and Challenges on Troop Program Resources

- [Helium Stick](#)
- [Scout Stave Launcher](#)
- **Match the "-ology"**
 - *Materials:* 5-by-7 cards with one word on each to make science pairs: geology/rocks, biology/ living things, cardiology/heart, zoology/animals, etc. (See [Scientific Specialties](#) for ideas.)

- *Method:* Shuffle the cards; have each Scout take one without looking at it. When told to begin, each Scout tries to find the person with the corresponding card.
- *Scoring:* A prize can be awarded to each pair of Scouts that correctly match up.

- **Sci-fi Trivia**

- *Materials:* A list of sci-fi trivia questions and answers. Find questions and answers through an Internet search or create your own.
- *Method:* Two options—patrols take turns answering questions -or- Scouts write the answers on their own sheet of paper.
- *Scoring:* The winner is the patrol or Scout with the most correct answers.
- *Variations:* (1) Create a “Jeopardy!”-style game with multiple categories and escalating point values. (2) Patrols create and ask their own trivia questions, and score points when they stump the other patrols.

CLOSING IDEAS

- [Leader’s Minutes](#)
- [Ceremony](#)

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TROOP LEADER RESOURCE LINKS

[Advancement Resources](#)

[Awards Central](#)

[Boy Scouts](#)

[Guide to Safe Scouting](#)

[SCOUTBOOK](#)

[Scouting Forms from the National Council](#)

[ScoutCast](#)

[Scouting Magazine](#)

[ScoutStuff.org \(Retail Site\)](#)

[ScoutingWire](#)

[Sign in to MyScouting.org](#)

Take Youth Protection Training

The Outdoor **A**dventure **P**lanning Guide

Troop Leader Guidebook Appendix

Uniforms