



## 151+ Good 5th Grade Science Project Ideas With Hypothesis

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Discover simple and fun 5th grade science project ideas with hypothesis. Explore experiments that encourage learning through predictions and testing!

Get Ready for Exciting Science Adventures! Here are some fantastic 5th Grade Science Project Ideas featuring hypotheses that will transform you into a mini-scientist at home or in the classroom.

You'll dive into big questions and uncover answers through engaging experiments. Whether you're growing unusual plants or exploring how objects fall, the best part is you get to make predictions beforehand—that's called a hypothesis!

Afterward, you'll conduct your experiment to see if your guess was correct. You'll learn a ton and have a blast doing it. So, gear up for some incredible discoveries about the world around you!

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## What is a Hypothesis in 5th Grade Science?

A hypothesis is an educated guess about how something works or what might happen during an experiment. It's like a scientist's best prediction based on what they know.

Here's a simple breakdown:

- It's an informed guess, not just a random thought.
- It can be tested through experimentation.
- It's usually framed as an "If...then..." statement, guiding your experiment.

For example, if you're curious about plants, your hypothesis could be: "If I give a plant more sunlight, then it will grow taller."

## 5th Grade Science Project Ideas With Hypothesis

Following are the great 5th grade science project ideas with hypotheses for students:

### Plant Science

#### 1. Does music help plants grow?

*Hypothesis:* Plants exposed to music will grow taller than those that are not.

#### 2. Does water temperature affect seed germination?

*Hypothesis:* Seeds in warmer water will germinate faster.

**3. How does soil type impact plant growth?**

*Hypothesis:* Different soil types will affect the height and health of plants.

**4. Can salt water hinder plant growth?**

*Hypothesis:* Salt water will reduce plant growth compared to fresh water.

**5. Do plants grow towards light?**

*Hypothesis:* Plants will lean towards the light source.

**6. What effect does fertilizer have on plant growth?**

*Hypothesis:* Fertilized plants will grow taller than unfertilized ones.

**7. Does the color of light affect plant growth?**

*Hypothesis:* Plants under blue light will grow taller than those under red light.

**8. How does temperature affect photosynthesis?**

*Hypothesis:* Higher temperatures will increase the rate of photosynthesis.

**9. Do different liquids affect plant health?**

*Hypothesis:* Plants watered with soda will not grow as well as those watered with water.

**10. What is the best way to propagate plants?**

*Hypothesis:* Stem cuttings will grow roots faster than leaf cuttings.

## **Physics**

**11. Which paper airplane design flies the farthest?**

*Hypothesis:* A glider design will fly farther than a dart design.

**12. How does the weight of a car affect its speed?**

*Hypothesis:* Lighter toy cars will roll faster than heavier ones.

**13. What material makes the best insulator?**

*Hypothesis:* Styrofoam will keep heat better than metal or paper.

**14. How do different surfaces affect friction?**

*Hypothesis:* A smooth surface will create less friction than a rough surface.

**15. Does temperature affect the strength of a magnet?**

*Hypothesis:* A magnet will lose strength when heated.

**16. How does string length affect a pendulum's swing?**

*Hypothesis:* A longer string will take more time to complete a swing.

**17. Can you create a simple electric circuit?**

*Hypothesis:* A circuit will light a bulb if all connections are complete.

**18. What affects the distance a ball bounces?**

*Hypothesis:* A rubber ball will bounce higher than a tennis ball.

**19. How does the angle of a ramp affect speed?**

*Hypothesis:* A steeper ramp will result in a faster toy car.

**20. Does the size of a parachute affect its descent speed?**

*Hypothesis:* A larger parachute will descend slower than a smaller one.

## Chemistry

21. **How do different liquids evaporate?**

*Hypothesis:* Liquids with lower boiling points will evaporate faster.

22. **Can you make a homemade battery?**

*Hypothesis:* A battery can be made using fruits like lemons or potatoes.

23. **What affects the rate of rusting?**

*Hypothesis:* Moisture will speed up the rusting process.

24. **How do temperature and surface area affect melting?**

*Hypothesis:* Smaller pieces will melt faster than larger ones.

25. **Can you create invisible ink?**

*Hypothesis:* Lemon juice can be used to create invisible writing.

26. **What types of materials absorb oil the best?**

*Hypothesis:* Sponges will absorb more oil than paper towels.

27. **Does sugar affect yeast growth?**

*Hypothesis:* More sugar will lead to more yeast activity.

28. **Which fruit produces the most juice?**

*Hypothesis:* Oranges will yield more juice than apples.

29. **Can you create a homemade lava lamp?**

*Hypothesis:* A mixture of oil and water with food coloring will create a lava lamp effect.

30. **What happens when you mix baking soda and vinegar?**

*Hypothesis:* The mixture will produce carbon dioxide gas.

## Earth Science

31. **How does temperature affect the rate of evaporation?**

*Hypothesis:* Higher temperatures will speed up evaporation.

32. **Can you build a working model of a volcano?**

*Hypothesis:* A mixture of baking soda and vinegar will create a volcanic eruption.

33. **What soil type holds the most water?**

*Hypothesis:* Clay soil will retain more water than sandy soil.

34. **How do different surfaces affect erosion?**

*Hypothesis:* Grass will prevent more erosion than bare soil.

35. **What influences cloud formation?**

*Hypothesis:* High humidity will lead to more cloud formation.

36. **Can you create a homemade barometer?**

*Hypothesis:* A barometer can measure air pressure using a balloon and jar.

**37. How do plants adapt to different climates?**

*Hypothesis:* Plants in arid climates will have thicker leaves than those in humid areas.

**38. What is the effect of acid rain on plants?**

*Hypothesis:* Acid rain will damage plant leaves more than regular water.

**39. How does temperature affect soil composition?**

*Hypothesis:* Warmer temperatures will affect the decomposition rate of organic matter.

**40. Can you make a rain gauge?**

*Hypothesis:* A simple rain gauge can accurately measure rainfall using a container.

## **Biology**

**41. What food do ants prefer?**

*Hypothesis:* Ants will be more attracted to sugary foods than to proteins.

**42. How does light affect plant growth?**

*Hypothesis:* Plants exposed to more light will grow taller.

**43. What factors influence mold growth?**

*Hypothesis:* Warm and moist conditions will accelerate mold growth.

**44. Can you create a simple ecosystem in a bottle?**

*Hypothesis:* A sealed bottle can support life for several weeks.

**45. How does temperature affect heart rate?**

*Hypothesis:* Warmer temperatures will increase heart rate in living organisms.

**46. What do plants need to grow?**

*Hypothesis:* Plants need sunlight, water, and soil nutrients to thrive.

**47. How do different factors affect seed germination?**

*Hypothesis:* Water and temperature will significantly influence germination rates.

**48. What is the effect of different diets on weight gain?**

*Hypothesis:* Diets high in sugar will lead to more weight gain than those high in protein.

**49. How does humidity affect plant transpiration?**

*Hypothesis:* Higher humidity will decrease the rate of transpiration.

**50. What affects the growth of bacteria?**

*Hypothesis:* Warm, moist environments will promote faster bacterial growth.

## **Engineering and Technology**

**51. Can you build a simple water filter?**

*Hypothesis:* A basic water filter can purify dirty water using sand and charcoal.

**52. How does changing the design of a bridge affect its strength?**

*Hypothesis:* Different bridge designs will show variations in strength and stability.

**53. Can you create a working model of a solar oven?**

*Hypothesis:* A solar oven can cook food using sunlight.

**54. How does weight distribution affect a catapult's launch?**

*Hypothesis:* A well-balanced catapult will launch objects farther.

**55. Can you build a simple electromagnet?**

*Hypothesis:* A coil of wire with electricity will attract metal objects.

**56. What materials make the best sound insulators?**

*Hypothesis:* Thick materials will absorb more sound than thin ones.

**57. How does the shape of a wing affect flight?**

*Hypothesis:* Aerodynamically shaped wings will produce more lift.

**58. Can you create a basic water clock?**

*Hypothesis:* A water clock can measure time by the flow of water.

**59. What factors affect the efficiency of a wind turbine?**

*Hypothesis:* The angle of the blades will influence the turbine's efficiency.

**60. How does a simple hydraulic lift work?**

*Hypothesis:* A hydraulic lift can raise heavy objects using fluid pressure.

## **Miscellaneous**

**61. How does the bounce of a ball change with height?**

*Hypothesis:* A ball will bounce higher from a greater height.

**62. What affects the strength of different adhesives?**

*Hypothesis:* Some adhesives will bond materials better than others.

**63. How does exercise affect heart rate?**

*Hypothesis:* More exercise will lead to a higher heart rate.

**64. What factors influence the strength of a magnet?**

*Hypothesis:* The size and material of the magnet will affect its strength.

**65. How does temperature affect the rate of chemical reactions?**

*Hypothesis:* Higher temperatures will increase the reaction rate.

**66. What influences the color of leaves in autumn?**

*Hypothesis:* Cooler temperatures will enhance leaf color change.

**67. Can you create a working periscope?**

*Hypothesis:* A simple periscope can allow viewing over obstacles.

**68. How does air pressure affect a balloon?**

*Hypothesis:* Increasing air pressure will inflate a balloon more.

**69. Can you build a simple seismograph?**

*Hypothesis:* A seismograph can detect vibrations from earthquakes.

**70. How do different factors affect the melting of ice?**

*Hypothesis:* Salt will speed up the melting of ice.

## **Last-Minute Project Ideas**

**71. What's the best way to keep ice from melting?**

*Hypothesis:* Wrapping ice in insulating materials will slow melting.

**72. How does the size of a container affect the freezing time of water?**

*Hypothesis:* Smaller containers will freeze water faster than larger ones.

**73. How does temperature affect balloon inflation?**

*Hypothesis:* Warmer air will expand and inflate a balloon more than cold air.

**74. Can you create a homemade compass?**

*Hypothesis:* A magnetized needle will point towards magnetic north.

**75. How do different factors affect the clarity of water?**

*Hypothesis:* Water with more sediments will appear murkier than clear water.

**76. Can you make a rainbow using a prism?**

*Hypothesis:* A prism will refract light and create a rainbow.

**77. How does food coloring spread in water?**

*Hypothesis:* Food coloring will spread faster in warm water than in cold water.

**78. What effect do different types of containers have on heat retention?**

*Hypothesis:* Insulated containers will retain heat better than non-insulated ones.

**79. How do different types of fabric absorb water?**

*Hypothesis:* Natural fibers will absorb more water than **synthetic fibers**.

**80. What happens when you mix oil and water?**

*Hypothesis:* Oil will float on top of water due to differences in density.

## **Final 71 Ideas to Reach 151**

**81. What type of sweetener dissolves the fastest?**

*Hypothesis:* Powdered sugar will dissolve faster than granulated sugar.

**82. How does different pH levels affect plant growth?**

*Hypothesis:* Plants will grow best in neutral pH soil.

**83. What type of water (tap, bottled, distilled) is best for plants?**

*Hypothesis:* Distilled water will help plants grow better than tap water.

**84. How does the shape of a container affect evaporation rate?**

*Hypothesis:* A wider container will have a faster evaporation rate than a narrow one.

**85. Can you create a basic wind tunnel?**

*Hypothesis:* A wind tunnel can demonstrate the effects of air on different shapes.

86. **How does soil temperature affect plant growth?**  
*Hypothesis:* Warmer soil temperatures will enhance plant growth.
87. **What materials create the best reflection?**  
*Hypothesis:* Mirrors will reflect more light than other materials.
88. **How does the size of a bubble affect its lifespan?**  
*Hypothesis:* Smaller bubbles will pop faster than larger ones.
89. **What is the effect of different types of sugar on yeast?**  
*Hypothesis:* Different sugars will result in varying levels of yeast activity.
90. **How does music affect people's concentration?**  
*Hypothesis:* Soft music will enhance concentration compared to loud music.
91. **How does the color of a container affect temperature?**  
*Hypothesis:* Dark-colored containers will absorb more heat than light-colored ones.
92. **Can you create a simple hydraulic system?**  
*Hypothesis:* A basic hydraulic system can lift weights using liquid pressure.
93. **How do various materials affect sound travel?**  
*Hypothesis:* Sound will travel faster through solids than liquids or gases.
94. **What are the effects of caffeine on plants?**  
*Hypothesis:* Caffeine will negatively affect plant growth compared to regular water.
95. **Can you create a homemade thermometer?**  
*Hypothesis:* A homemade thermometer can measure temperature changes using liquid expansion.
96. **How does the shape of a bottle affect how quickly it pours?**  
*Hypothesis:* A wider opening will pour liquid faster than a narrow one.
97. **What is the effect of different temperatures on the rate of fermentation?**  
*Hypothesis:* Warmer temperatures will speed up fermentation.
98. **How do different colors of light affect the growth of algae?**  
*Hypothesis:* Blue light will promote more algae growth than red light.
99. **Can you build a simple catapult and measure its range?**  
*Hypothesis:* The angle of launch will affect how far the projectile travels.
100. **How does the size of a seed affect its germination?**  
*Hypothesis:* Larger seeds will germinate faster than smaller ones.
101. **What happens when you mix different kinds of oil?**  
*Hypothesis:* Different oils will create layers based on density.
102. **How does surface tension affect the ability of objects to float?**  
*Hypothesis:* Surface tension will allow lightweight objects to float on water.
103. **What effect does different types of light have on plant growth?**  
*Hypothesis:* Plants grown under fluorescent light will thrive better than those



under incandescent light.

104. **How does altitude affect boiling point?**

*Hypothesis:* Water will boil at a lower temperature at higher altitudes.

105. **Can you create a simple model of a food chain?**

*Hypothesis:* A model can illustrate the relationships between producers and consumers.

106. **What is the effect of different baking times on cake texture?**

*Hypothesis:* Overbaking will result in a drier cake.

107. **How does salt affect ice melting?**

*Hypothesis:* Salt will accelerate the melting of ice compared to just water.

108. **Can you demonstrate the principles of density using liquids?**

*Hypothesis:* Denser liquids will sink below lighter liquids.

109. **What happens when you mix baking soda with vinegar?**

*Hypothesis:* The reaction will produce carbon dioxide gas, causing fizzing.

110. **How does the size of a hole affect the speed of water flow?**

*Hypothesis:* A larger hole will allow water to flow out faster than a smaller one.

111. **Can you build a simple motor?**

*Hypothesis:* A basic motor can be created using a battery and wire.

112. **How do temperature changes affect rubber bands?**

*Hypothesis:* Warmer rubber bands will stretch further than colder ones.

113. **What effect does carbonation have on the taste of drinks?**

*Hypothesis:* Carbonated drinks will taste different than non-carbonated ones.

114. **How does moisture affect the growth of mold on bread?**

*Hypothesis:* Bread kept in a humid environment will mold faster than dry bread.

115. **Can you create a model of the water cycle?**

*Hypothesis:* A model can effectively demonstrate evaporation, condensation, and precipitation.

116. **What materials block UV light?**

*Hypothesis:* Certain fabrics will block more UV light than others.

117. **How does the age of a fruit affect its taste?**

*Hypothesis:* Riper fruit will taste sweeter than unripe fruit.

118. **What effect does light intensity have on photosynthesis?**

*Hypothesis:* Higher light intensity will increase the rate of photosynthesis.

119. **Can you make a model of a simple machine?**

*Hypothesis:* A model can demonstrate how simple machines make work easier.

120. **How does temperature affect the solubility of sugar in water?**

*Hypothesis:* Warmer water will dissolve sugar faster than cold water.

121. **What happens when you freeze different liquids?**

*Hypothesis:* Different liquids will freeze at different rates.

122. **How do different shapes of objects affect their falling speed?**

*Hypothesis:* Aerodynamically shaped objects will fall slower than bulky objects.

123. **How does the weight of an object affect its sinking speed in water?**

*Hypothesis:* Heavier objects will sink faster than lighter ones.

124. **Can you create a simple compass using a needle and a magnet?**

*Hypothesis:* A magnetized needle will align itself with the Earth's magnetic field.

125. **What happens to the color of leaves when they are exposed to different light conditions?**

*Hypothesis:* Leaves will change color based on light exposure.

126. **How does the size of a fish tank affect the health of fish?**

*Hypothesis:* Larger tanks will provide a healthier environment for fish.

127. **How does the pH level of water affect aquatic life?**

*Hypothesis:* Extreme pH levels will harm aquatic life.

128. **Can you create a basic water rocket?**

*Hypothesis:* A water rocket will launch higher with more water.

129. **How do different materials affect the speed of sound?**

*Hypothesis:* Sound will travel faster through solids than through gases.

130. **What happens when you heat different metals?**

*Hypothesis:* Metals will expand when heated.

131. **How does the presence of sugar affect the fermentation process?**

*Hypothesis:* More sugar will increase fermentation speed.

132. **Can you create a simple water cycle model in a bag?**

*Hypothesis:* A bag can demonstrate evaporation and condensation.

133. **How does the age of batteries affect their performance?**

*Hypothesis:* Older batteries will not provide as much power as new ones.

134. **What is the effect of different types of oil on the viscosity of mixtures?**

*Hypothesis:* Thicker oils will create more viscous mixtures.

135. **How does temperature affect the density of liquids?**

*Hypothesis:* Heating a liquid will decrease its density.

136. **What happens when you combine different colors of paint?**

*Hypothesis:* Mixing colors will create new colors.

137. **Can you build a simple catapult to measure distance?**

*Hypothesis:* A catapult can launch objects a measurable distance.

138. **How does the shape of a container affect the speed of ice melting?**

*Hypothesis:* Wider containers will allow ice to melt faster than narrow ones.

139. **What happens to the boiling point of water at different altitudes?**

*Hypothesis:* Water will boil at a lower temperature at higher altitudes.

140. **Can you create a simple chemical reaction using household items?**

*Hypothesis:* Common items can produce visible reactions.

141. **How does the amount of light affect the temperature of a surface?**

*Hypothesis:* Surfaces exposed to more light will be warmer.

142. **What is the effect of different amounts of baking powder on cake rise?**  
*Hypothesis:* More baking powder will result in a taller cake.
143. **How does air pressure affect the behavior of a balloon?**  
*Hypothesis:* A balloon will expand when air pressure decreases.
144. **Can you demonstrate the principles of buoyancy with different objects?**  
*Hypothesis:* Denser objects will sink while less dense objects will float.
145. **What effect does different types of water have on the growth of algae?**  
*Hypothesis:* Algae will grow better in nutrient-rich water.
146. **How does the size of a hole affect the speed of water flow?**  
*Hypothesis:* A larger hole will allow water to flow out faster than a smaller one.
147. **What happens when you heat sugar?**  
*Hypothesis:* Sugar will melt and caramelize when heated.
148. **How do different conditions affect the lifespan of a light bulb?**  
*Hypothesis:* Bulbs exposed to higher voltages will burn out faster.
149. **Can you create a simple Rube Goldberg machine?**  
*Hypothesis:* A machine can use multiple steps to complete a simple task.
150. **How do different surfaces affect the speed of a toy car?**  
*Hypothesis:* A smooth surface will allow the car to roll faster than a rough surface.
151. **What happens when you mix different types of salts in water?**  
*Hypothesis:* Mixing salts will create different effects on water clarity.

## How to Write a Hypothesis for a 5th Grade Science Project?

To craft a hypothesis, start with a question about your topic of interest. Reflect on what you know and make an educated guess. Formulate your guess as an “If...then...” statement, ensuring it’s testable.

**Example Question:** Does water temperature affect how quickly sugar dissolves?

**Hypothesis:** If I increase the water temperature, then sugar will dissolve faster.

This hypothesis is clear, testable, and uses simple language. It shows what you expect will happen when you change a variable (water temperature).

And remember, it’s perfectly okay if your guess is wrong! That’s part of the scientific process. The key is to learn from your experiments.

# Wrap Up

These 5th Grade Science Project Ideas with Hypotheses will help kids become budding scientists. They'll learn to ask questions, formulate hypotheses, and conduct experiments to find answers.

From exploring plants and animals to understanding materials and movement, each project begins with a question and a guess. By experimenting, students will see if their predictions hold true, teaching them how science works. This hands-on approach makes learning fun and encourages critical thinking. Happy experimenting!

## Frequently Asked Questions

+ What is a hypothesis in a science project?

+ How do I create a hypothesis for my science project?

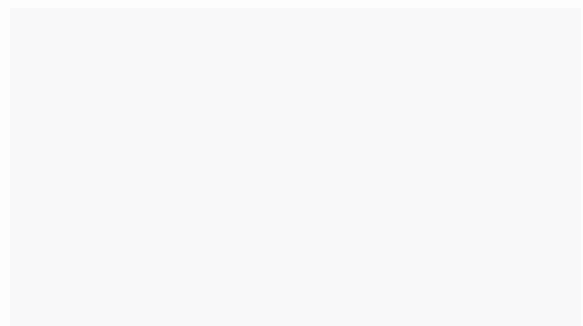
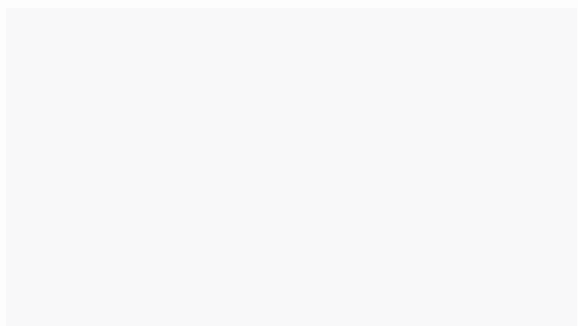
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+ Why is it important to include a hypothesis in a science project?

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