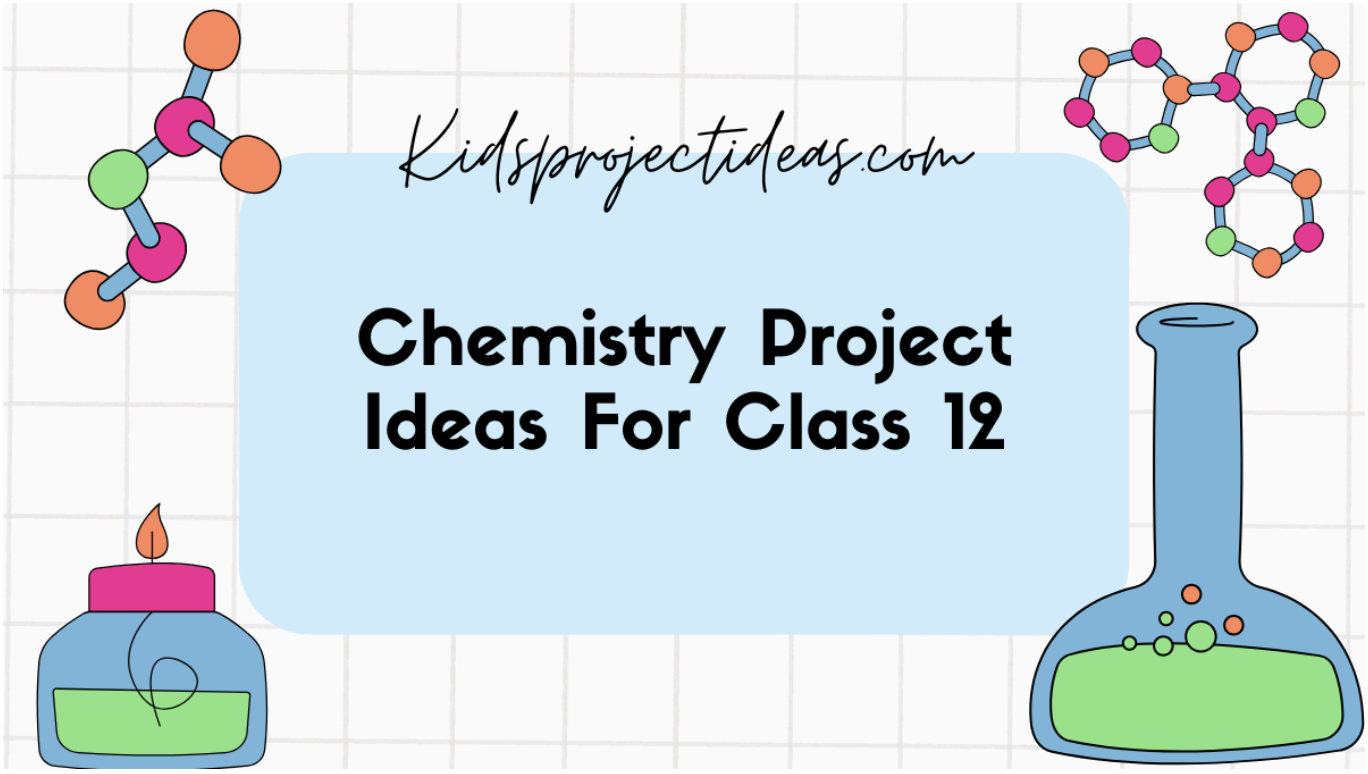
KIDS PROJECT IDEAS

49+ Chemistry Project Ideas for Class 12 For 2026

November 9, 2025



Choosing the right project for Class 12 chemistry can be exciting and a little overwhelming. A good project shows that you understand concepts, can design experiments, record observations carefully, and draw logical conclusions.

This article gives you **50 chemistry project ideas for Class 12**, written in simple language and formatted so you can copy-paste directly into a report or project file.

Each project idea below includes:

- **Aim** (what you want to find or show),
- **Materials** (basic items you will need),
- **Method (brief)** (steps or approach in simple terms),
- **Expected observations / results** (what you should look for),
- **Precautions / safety** (important safety notes).

Projects are grouped across different branches of chemistry — organic, inorganic, physical, analytical, environmental, biochemical and applied chemistry — so you can pick one that matches your interest, classroom facilities, and time.

Most projects use common chemicals and household items; for any project needing restricted chemicals or specialized apparatus, check with your teacher and follow safety rules strictly.

How to use these ideas

1. Read through the list and pick 3–4 ideas you like.
2. Discuss with your teacher which are allowed and feasible in your lab.
3. Prepare a short plan (aim, materials, procedure, expected results) before starting.
4. Record observations carefully, repeat trials where needed, and include raw data and calculations.
5. Include a clear conclusion and possible real-life applications in your report.

Must Read: 99+ Simple Recycling Project Ideas For Grade 5 Students

49+ Chemistry Project Ideas for Class 12 For 2026

1. Rate of Reaction: Effect of Concentration on Reaction between Hydrochloric Acid and Magnesium

- **Aim:** Study how acid concentration affects the rate of reaction with magnesium.
- **Materials:** Mg ribbon, HCl of different concentrations, stopwatch, conical flasks.
- **Method:** Measure time taken for fixed mass of Mg to dissolve in different HCl concentrations at constant temperature.
- **Expected results:** Higher [HCl] → faster reaction (shorter time).
- **Precautions:** Use safety goggles and gloves; perform in fume hood or ventilated area.

2. Rate of Reaction: Effect of Temperature on Reaction Rate (Iodine Clock Reaction)

- **Aim:** Investigate how temperature changes reaction rate using a color-change reaction (iodine clock).
- **Materials:** Potassium iodide, hydrogen peroxide, starch indicator, water bath.
- **Method:** Run the iodine clock at different temperatures and record time to color change.
- **Expected results:** Rate increases with temperature (Arrhenius behavior).
- **Precautions:** Handle reagents carefully; avoid contamination.

3. Determination of Molar Mass by Freezing Point Depression

- **Aim:** Calculate molar mass of an unknown solute using freezing point depression.
- **Materials:** Solvent (e.g., benzene or water if suitable), unknown solute, cooling bath, thermometer.
- **Method:** Measure freezing point of pure solvent and solution; use $\Delta Tf = Kf \cdot m$.
- **Expected results:** Compute molar mass from observed freezing point depression.
- **Precautions:** Use non-toxic solvent alternatives if required; follow lab rules for handling chemicals.

4. Study of Conductivity of Electrolyte Solutions

- **Aim:** Measure how conductivity changes with concentration for a strong electrolyte (e.g., NaCl).
- **Materials:** Conductivity meter, solutions of varying concentration.
- **Method:** Measure conductivity for each concentration and plot conductivity vs concentration.
- **Expected results:** Conductivity increases with concentration but may level due to ion interactions.
- **Precautions:** Keep electrodes clean; avoid spills.

5. Titration: Determination of Vitamin C in Fruit Juice

- **Aim:** Find vitamin C content in lemon/orange juice by titration with iodine.
- **Materials:** Iodine solution, starch indicator, fruit juice, burette.
- **Method:** Titrate until blue-black color appears then calculate vitamin C amount.
- **Expected results:** Different fruits have different mg of vitamin C per 100 mL.
- **Precautions:** Filter juice to remove pulp; standardize iodine if needed.

6. Preparation and Characterization of Esters (Sweet Smell)

- **Aim:** Synthesize simple ester and identify by smell and simple chemical tests.
- **Materials:** Carboxylic acid (e.g., acetic acid), alcohol (ethanol), sulfuric acid catalyst, heating mantle.
- **Method:** Perform esterification, purify by simple washing, test with NaOH and smell (cautious).
- **Expected results:** Formation of fruity-smelling ester; saponification test yields original acid/alcohol.
- **Precautions:** Work in fume hood; concentrated acid is corrosive.

7. Analysis of Hardness in Water Samples

- **Aim:** Determine temporary and permanent hardness of local water.
- **Materials:** EDTA titration kit or soap solution method, boiled and unboiled samples.
- **Method:** Use titration to measure calcium/magnesium or test lathering with soap.
- **Expected results:** Quantify hardness; boiling reduces temporary hardness.
- **Precautions:** Use calibrated glassware for accurate titration.

8. Study of pH Change During Respiration of Germinating Seeds

- **Aim:** Observe pH change in media due to CO_2 produced by germinating seeds.
- **Materials:** Germinating seeds (beans), pH meter or indicator, buffer solution.
- **Method:** Measure pH of surrounding water over time as seeds germinate.
- **Expected results:** pH decreases slightly due to dissolved CO_2 forming carbonic acid.
- **Precautions:** Maintain sterile conditions to prevent microbial contamination.

9. Preparation and pH Study of Buffer Solutions

- **Aim:** Prepare different buffer solutions and test their resistance to pH change.
- **Materials:** Acetic acid/acetate, ammonia/ammonium chloride, pH meter, acid/base for titration.

- **Method:** Add small amounts of acid/base to buffer and record pH changes.
- **Expected results:** Buffers resist pH change; evaluate buffer capacity.
- **Precautions:** Use proper dilutions and calibrated pH meter.

10. Electroplating Experiment (Copper Plating)

- **Aim:** Demonstrate electroplating of a metal object with copper.
- **Materials:** Copper sulfate solution, copper anode, metallic object (cathode), DC power supply.
- **Method:** Connect anode and cathode; run current to deposit copper ions onto object.
- **Expected results:** Uniform copper layer deposition; analyze thickness qualitatively.
- **Precautions:** Use low voltages and protective gloves; dispose of solutions properly.

11. pH and Conductivity Changes During Electrolysis of Water

- **Aim:** Study pH and conductivity at electrodes during water electrolysis with a weak electrolyte.
- **Materials:** Distilled water, small amount of electrolyte (e.g., Na_2SO_4), electrodes, power supply, pH meter.
- **Method:** Run electrolysis and measure pH near anode and cathode over time.
- **Expected results:** pH decreases at anode (acidic) and increases at cathode (basic).
- **Precautions:** Avoid hydrogen buildup; work in ventilated area.

12. Investigation of Corrosion Rate of Iron under Different Conditions

- **Aim:** Compare corrosion rates of iron in water, salt water, acidic medium, and with protective coatings.
- **Materials:** Iron nails, salt solution, acid solution, oil/paint for coating, weighing balance.
- **Method:** Expose nails to different environments, weigh before and after to determine mass loss.
- **Expected results:** Salt and acid accelerate corrosion; coatings reduce it.
- **Precautions:** Dispose rusty materials carefully; avoid direct skin contact with strong acids.

13. Determination of Percentage Composition of a Fertilizer

- **Aim:** Estimate nitrogen, phosphorus, or potassium content in a commercial fertilizer sample.
- **Materials:** Fertilizer sample, Kjeldahl apparatus or simple tests for N/P/K, indicators.

- **Method:** Use recommended school-lab methods to estimate one nutrient (e.g., nitrogen by Kjeldahl).
- **Expected results:** Compare obtained percent with label claims.
- **Precautions:** Kjeldahl uses strong acids—follow teacher supervision and safety.

14. Preparation and Study of Soap from Vegetable Oil

- **Aim:** Prepare soap by saponification and compare cleaning ability with commercial soap.
- **Materials:** Vegetable oil, NaOH, water, molds.
- **Method:** Heat oil with NaOH solution, allow saponification, cool and test for lather and grease removal.
- **Expected results:** Homemade soap should clean but differ in texture/foam from commercial soap.
- **Precautions:** NaOH is caustic—wear gloves and eye protection.

15. Synthesis and Properties of Nylon-6,6 (Small-Scale)

- **Aim:** Prepare a small quantity of nylon-6,6 by condensation polymerization and observe fiber formation.
- **Materials:** Hexamethylenediamine, adipoyl chloride, solvents, glass rod.
- **Method:** Form polymer at interface of two immiscible solutions and draw out fibers.
- **Expected results:** Shiny nylon thread forms at interface; test strength qualitatively.
- **Precautions:** Handle acid chloride carefully; work under supervision.

16. Determination of Caffeine in Tea/Coffee by Simple Extraction

- **Aim:** Extract and estimate caffeine content qualitatively or by simple weight comparison.
- **Materials:** Tea/coffee, organic solvent (dichloromethane or safer alternative), evaporating dish.
- **Method:** Perform liquid-liquid extraction, evaporate solvent, weigh residue.
- **Expected results:** Compare relative caffeine content between samples.
- **Precautions:** Use safe solvents; teacher guidance required for organic solvents.

17. Comparative Study of Antacid Effectiveness (Neutralizing Capacity)

- **Aim:** Compare how well different antacid tablets neutralize stomach acid (HCl).
- **Materials:** Different antacids, HCl solution, pH meter or indicator, burette.

- **Method:** Titrate acid with dissolved antacid sample and measure amount required to reach neutral pH.
- **Expected results:** Different antacids have different neutralizing capacities; correlate with label.
- **Precautions:** Use dilute acid; follow safe titration procedures.

18. Synthesis of Aspirin and Its Purity Test

- **Aim:** Prepare aspirin (acetylsalicylic acid) and test purity by melting point or simple hydrolysis.
- **Materials:** Salicylic acid, acetic anhydride, catalyst (H_2SO_4), recrystallization setup.
- **Method:** Acetylation of salicylic acid, purify by recrystallization, check melting point.
- **Expected results:** Obtain aspirin crystals; pure aspirin has a known melting range.
- **Precautions:** Use acid safely; acetic anhydride is corrosive—supervision required.

19. Effect of Surface Area on Reaction Rate (Powder vs. Lump)

- **Aim:** Show how increasing surface area increases reaction rate using calcium carbonate and HCl.
- **Materials:** Marble chips and powdered chalk, HCl, gas collection or time measurement.
- **Method:** Compare time/gas volume produced for same mass of lump vs powder.
- **Expected results:** Powder reacts faster due to larger surface area.
- **Precautions:** Control acid volume and concentration; wear protection.

20. Extraction and Analysis of Natural Dyes from Plants

- **Aim:** Extract pigments from flowers or leaves and test dyeing ability on different fabrics.
- **Materials:** Plant material (e.g., beetroot, turmeric), solvent (ethanol/water), fabrics, mordants.
- **Method:** Extract pigment, apply to fabric with/without mordant, observe color fastness.
- **Expected results:** Different plant dyes have varying shades and fastness; mordants improve fastness.
- **Precautions:** Use food-safe plants if possible; proper disposal of solvents.

21. Study of Colligative Properties: Boiling Point Elevation

- **Aim:** Demonstrate boiling point elevation by adding solute to a solvent.
- **Materials:** Pure solvent (water), solute (sugar/salt), thermometer, heating setup.

- **Method:** Measure boiling point of pure solvent and solution at atmospheric pressure.
- **Expected results:** Solution boils at slightly higher temperature; calculate molality if possible.
- **Precautions:** Monitor heating to avoid bumping; use safe concentrations.

22. Preparation and Testing of Indicator from Red Cabbage

- **Aim:** Make a natural pH indicator from red cabbage and test acids/bases.
- **Materials:** Red cabbage, blender/boiler, acids (vinegar), bases (baking soda).
- **Method:** Extract pigment, filter, test color change across pH range.
- **Expected results:** Color range from red (acid) to green/yellow (base); useful for qualitative pH tests.
- **Precautions:** Filter well to avoid clogging equipment.

23. Study of Le Chatelier's Principle with Esterification Equilibrium

- **Aim:** Observe shift in equilibrium by changing concentration or removing water.
- **Materials:** Ethanol, acetic acid, sulfuric acid, drying agent.
- **Method:** Run esterification with and without removal of water and compare yield.
- **Expected results:** Removing water shifts equilibrium to product side, increasing ester yield.
- **Precautions:** Handle acids carefully; use small-scale reactions.

24. Investigating Catalysts: Effect of Catalysts on Decomposition of Hydrogen Peroxide

- **Aim:** Compare rates of H_2O_2 decomposition with different catalysts (MnO_2, yeast, Fe^{2+}).
- **Materials:** Hydrogen peroxide, catalyst samples, gas collection, stopwatch.
- **Method:** Add catalysts to equal volumes of H_2O_2 and measure oxygen evolution rate.
- **Expected results:** Different catalysts give different rates; MnO_2 shows fast decomposition.
- **Precautions:** H_2O_2 can irritate skin—use gloves and eye protection.

25. Qualitative Analysis: Identification of Cations in Unknown Salt

- **Aim:** Identify common cations (Na^+, K^+, Ca^{2+}, Fe^{3+}, Cu^{2+}, etc.) using flame tests and reagent tests.
- **Materials:** Unknown salt samples, Bunsen burner, reagents (NaOH, HCl, etc.).

- **Method:** Perform standard qualitative inorganic analysis scheme and record characteristic tests.
- **Expected results:** Identify presence of specific cations by color and precipitate formation.
- **Precautions:** Manage open flame safely; perform tests in ventilated lab.

26. Determination of Sulphate Content in Water by Turbidimetric Method

- **Aim:** Estimate sulphate concentration in water using barium chloride precipitation.
- **Materials:** Water sample, $BaCl_2$ solution, turbidity comparison standards or spectrophotometer.
- **Method:** Precipitate sulfate as $BaSO_4$ and measure turbidity to estimate concentration.
- **Expected results:** Determine ppm of sulfate; compare with standard limits.
- **Precautions:** Barium compounds are toxic—handle and dispose safely.

27. Investigating the Effect of Catalyst Poisoning

- **Aim:** Show how certain substances reduce catalyst activity using catalytic decomposition or hydrogenation models.
- **Materials:** Catalyst (e.g., MnO_2), suspected poisons (e.g., sulfur compounds), H_2O_2.
- **Method:** Pre-treat catalyst with poison and compare decomposition rate vs clean catalyst.
- **Expected results:** Poisoned catalyst shows reduced activity.
- **Precautions:** Use small quantities and proper disposal.

28. Study of Soap and Detergent Efficiency in Hard Water

- **Aim:** Compare cleaning efficiency of soap vs detergent in soft and hard water.
- **Materials:** Soap, detergent, artificial hard water (Ca^{2+}/Mg^{2+}), fabric stains.
- **Method:** Wash stained fabric under controlled conditions and compare stain removal and lather.
- **Expected results:** Detergents perform better in hard water than soap.
- **Precautions:** Keep experiment consistent for fair comparison.

29. Determination of Acidity in Vinegar Using Titration

- **Aim:** Find acetic acid percentage in commercial vinegar by titration with NaOH.
- **Materials:** Vinegar sample, NaOH solution, phenolphthalein indicator, burette.
- **Method:** Titrate known volume of vinegar until endpoint and calculate percent acidity.
- **Expected results:** Obtain % acetic acid close to labeled value (usually 4–8%).

- **Precautions:** Standardize NaOH if needed; use proper glassware.

30. Separation of Amino Acids by Paper Chromatography

- **Aim:** Separate and identify components in a mixture of amino acids using paper chromatography.
- **Materials:** Amino acid samples, chromatography paper, solvent system, developing chamber.
- **Method:** Spot samples, develop in solvent, visualize spots using ninhydrin.
- **Expected results:** Different Rf values help identify amino acids.
- **Precautions:** Use small quantities; ninhydrin is sensitive—handle carefully.

31. Study of Electrochemical Cells: Voltage Variation with Concentration

- **Aim:** Measure how cell potential changes with concentration for a galvanic cell (e.g., Cu/Zn).
- **Materials:** Metal electrodes, salt solutions of varying concentration, voltmeter.
- **Method:** Assemble cells with different ion concentrations and measure open-circuit voltage.
- **Expected results:** Nernst equation behavior: potential changes predictably with concentration.
- **Precautions:** Use low currents; avoid short-circuiting the cell.

32. Testing Antibacterial Properties of Household Substances

- **Aim:** Test antibacterial effects of natural substances (honey, garlic, turmeric) on bacteria cultures.
- **Materials:** Agar plates, bacterial strain (safe lab strain), test substances, sterile discs.
- **Method:** Apply substances on discs, place on inoculated plates, measure inhibition zones.
- **Expected results:** Some natural substances show inhibition zones; compare effectiveness.
- **Precautions:** Work under teacher supervision; use non-pathogenic strains and sterile technique.

33. Study of Chromatographic Separation of Plant Pigments

- **Aim:** Separate chlorophyll, carotenoids, and xanthophylls from spinach or grass.
- **Materials:** Pigment extract, TLC plates or paper, solvent system.

- **Method:** Apply extract, develop chromatogram, identify bands by Rf.
- **Expected results:** Distinct pigment bands with known Rf values.
- **Precautions:** Use safe solvents and proper disposal.

34. Investigation of Ionic Strength Effect on Precipitation

- **Aim:** See how ionic strength of solution affects solubility and precipitation rate.
- **Materials:** Solutions of salts, inert electrolyte (NaCl), mixing apparatus.
- **Method:** Keep solute concentration constant but vary background ionic strength, observe precipitation.
- **Expected results:** Higher ionic strength can change solubility and precipitation behavior.
- **Precautions:** Control temperature and mixing for reproducibility.

35. Determining the Empirical Formula of a Hydrate

- **Aim:** Find formula of a hydrated salt (e.g., $CuSO_4 \cdot xH_2O$) by heating to remove water.
- **Materials:** Hydrated salt, crucible, balance, heating source.
- **Method:** Weigh before and after heating to constant mass; calculate water moles per formula unit.
- **Expected results:** Determine x in the hydrate formula.
- **Precautions:** Heat safely; avoid inhalation of fumes.

36. Extraction and Analysis of Essential Oils by Steam Distillation

- **Aim:** Extract essential oil from citrus peels or herbs and test basic properties.
- **Materials:** Steam distillation setup, plant material, separating funnel.
- **Method:** Distill plant material with steam, collect oil layer, measure yield and smell.
- **Expected results:** Obtain small quantities of essential oil, analyze approximate density and solubility.
- **Precautions:** Distillation requires supervision to avoid burns.

37. Investigating Hardness Removal Using Ion Exchange Resins

- **Aim:** Use a simple ion-exchange column to remove Ca^{2+}/Mg^{2+} from hard water.
- **Materials:** Small column, cation exchange resin, hard water sample, conductivity meter.
- **Method:** Pass hard water through resin and measure hardness before and after.
- **Expected results:** Significant reduction in hardness; resin capacity can be discussed.

- **Precautions:** Regeneration of resin uses acids—handle under supervision.

38. Study of Complexation and Color Change (Copper-Ammonia Complex)

- **Aim:** Observe color changes when ammonia forms complexes with copper(II) ions.
- **Materials:** $CuSO_4$ solution, ammonia solution, test tubes.
- **Method:** Add ammonia gradually to Cu^{2+} solution and note color changes (blue → deep blue).
- **Expected results:** Formation of $[Cu(NH_3)_4]^{2+}$ complex; reversible changes with acid addition.
- **Precautions:** Use ammonia in fume hood; avoid inhalation.

39. Determination of Dissolved Oxygen in Water (Winkler Method – Simplified)

- **Aim:** Estimate dissolved oxygen (DO) levels in water samples using a simplified approach.
- **Materials:** Water samples, reagents for Winkler method (if allowed), titration setup.
- **Method:** Follow standard Winkler titration steps and calculate DO in mg/L.
- **Expected results:** Report DO and compare samples (river vs tap).
- **Precautions:** Follow exact protocol; chemicals used can be hazardous.

40. Study of Colorimetric Determination of Iron in Water

- **Aim:** Estimate iron concentration in samples using colorimetric reaction with thiocyanate.
- **Materials:** Reagent (KSCN), standard iron solutions, spectrophotometer or visual comparison.
- **Method:** Add reagent to sample and compare color intensity to standards.
- **Expected results:** Estimate ppm of iron present.
- **Precautions:** Use appropriate dilution and disposal practices.

41. Investigation of Enzyme Activity: Effect of pH and Temperature on Catalase

- **Aim:** Study how pH and temperature affect catalase activity (decomposition of H_2O_2) from potato.
- **Materials:** Potato extract (source of catalase), H_2O_2, pH buffers, water bath.
- **Method:** Measure oxygen evolution at different pH and temperatures.

- **Expected results:** Optimal pH/temperature for catalase activity; enzyme denaturation at extremes.
- **Precautions:** Keep enzyme extracts fresh and work quickly.

42. Determination of Chloride in Drinking Water (Mohr's Method)

- **Aim:** Estimate chloride content by titration with silver nitrate.
- **Materials:** Water sample, $AgNO_3$, K_2CrO_4 indicator, burette.
- **Method:** Titrate sample and calculate chloride concentration from endpoint.
- **Expected results:** Report chloride in ppm and compare to standards.
- **Precautions:** Silver nitrate stains skin and clothes—handle carefully.

43. Preparation and Study of Biodegradable Plastic from Starch

- **Aim:** Prepare a simple biodegradable polymer using starch and glycerol and test properties.
- **Materials:** Corn starch, glycerol, vinegar, heating plate, molds.
- **Method:** Heat starch with glycerol and acid to form films; test tensile quality and solubility.
- **Expected results:** Obtain brittle but biodegradable film; compare to synthetic plastic.
- **Precautions:** Control heating to avoid burning; document mass and thickness.

44. Study of Flame Tests and Emission Spectra of Elements

- **Aim:** Observe characteristic flame colors and, if available, use a simple spectroscope to view emission lines.
- **Materials:** Metal salts (Na, K, Ca, Ba, Cu), Bunsen burner, nichrome wire.
- **Method:** Introduce salts into flame and record color and approximate wavelengths if spectroscope is available.
- **Expected results:** Each metal shows distinct flame color (Na yellow, K lilac, etc.).
- **Precautions:** Small quantities only; avoid inhalation of fumes.

45. Investigation of Adsorption of Dyes on Activated Carbon

- **Aim:** Study how activated carbon removes colored dye from water and model adsorption isotherm qualitatively.
- **Materials:** Colored dye solution (methylene blue), activated carbon, filtration setup, spectrophotometer or visual comparison.

- **Method:** Add carbon to dye solution, sample supernatant, compare color intensity to initial.
- **Expected results:** Significant dye removal; discuss adsorption capacity with carbon mass.
- **Precautions:** Filter well and dispose dye-containing waste properly.

46. Determination of Solubility Product (Ksp) of a Sparingly Soluble Salt

- **Aim:** Estimate Ksp of a salt like $CaSO_4$ or AgCl using solubility data.
- **Materials:** Salt samples, distilled water, conductivity or titration methods.
- **Method:** Prepare saturated solution, measure ion concentration and compute Ksp.
- **Expected results:** Calculate Ksp and compare with literature values if available.
- **Precautions:** Ensure true saturation and temperature control.

47. Investigation of Food Preservatives: Effectiveness Against Microbial Growth

- **Aim:** Test how common preservatives (salt, sugar, vinegar) affect mold growth on food.
- **Materials:** Bread or fruit slices, preservatives, petri dishes (optional).
- **Method:** Treat samples with preservatives, expose to same conditions, observe mold growth rate.
- **Expected results:** Preservatives slow microbial growth; compare relative effectiveness.
- **Precautions:** Avoid using pathogenic organisms; dispose contaminated samples properly.

48. Study of Electrochemical Corrosion Protection Using Sacrificial Anodes

- **Aim:** Demonstrate how a more active metal (zinc) protects iron via sacrificial corrosion.
- **Materials:** Iron strip, zinc strip, salt solution, voltmeter, weighing balance.
- **Method:** Connect metals and expose to electrolyte; observe which corrodes and measure mass change.
- **Expected results:** Zinc corrodes preferentially protecting iron.
- **Precautions:** Properly handle and dispose corroded materials.

49. Simple Spectrophotometric Determination of Concentration (Beer-Lambert Law)

- **Aim:** Verify Beer-Lambert law using colored solution (e.g., $KMnO_4$) and a spectrophotometer.
- **Materials:** $KMnO_4$ solutions of known concentrations, spectrophotometer or colorimeter.
- **Method:** Measure absorbance at λmax for each concentration and plot absorbance vs concentration.
- **Expected results:** Linear relationship within a certain range; use slope to find unknown concentration.
- **Precautions:** Use matched cuvettes and zero instrument with solvent.

50. Study of Polymer Degradation: Effect of UV Light on Plastic Samples

- **Aim:** Observe how UV exposure affects mechanical and visual properties of different plastics.
- **Materials:** Small plastic strips (PVC, polyethylene), UV lamp or natural sunlight, ruler, balance.
- **Method:** Expose samples to UV for set times, note color changes, brittleness, and mass loss.
- **Expected results:** UV causes discoloration, cracking and loss of strength; rate varies with polymer.
- **Precautions:** Use safe exposure times; handle UV lamp carefully and avoid direct eye exposure.

MUST READ: 100 Best Circulatory System Project Ideas For Class 9

Writing Your Project Report — A Simple Template

Use this consistent structure for each project to make your report clear and complete:

1. **Title** — Clear and specific.
2. **Aim** — One-sentence objective.
3. **Introduction / Theory** — Short background and scientific principle (2–4 paragraphs).
4. **Materials and Apparatus** — List with quantities.
5. **Procedure** — Step-by-step numbered method.
6. **Observations and Data** — Tables, measurements, and notes.
7. **Calculations** — Show work, formulae used, and units.
8. **Results** — Final values and brief interpretation.

9. **Discussion** — Explain results, possible errors, improvements.
10. **Conclusion** — One paragraph summarizing findings.
11. **Precautions and Safety** — Mention all safety steps taken.
12. **References** — Books, syllabus, or teacher's instructions.

Tips for a Successful Chemistry Project (Students)

- **Start early.** Some projects (crystallization, polymer tests) need days to complete.
- **Keep a lab notebook.** Record date, time, observations, and any deviations from the plan.
- **Repeat important trials.** At least two repeats improve reliability.
- **Control variables.** Change one variable at a time — temperature, concentration, catalyst — while keeping others constant.
- **Use proper units and significant figures.** It shows scientific accuracy.
- **Photograph results.** Pictures of experiments and observations add value to reports.
- **Discuss safety with your teacher.** Ask before using strong acids, organic solvents, or biological cultures.
- **Relate to theory.** Always connect what you observe to chemical principles in the syllabus.

Conclusion

These **50 chemistry project ideas for Class 12** are designed to be practical, educational, and well-suited for school laboratories. They span theory, laboratory skills, and real-life applications — from reaction rates and equilibrium to environmental chemistry and polymer science. Choose a project that interests you and matches your lab's safety and equipment limits. Follow the report template, record data carefully, and explain your results clearly.

If you want, I can convert any one of these ideas into a full project plan with a detailed materials list, step-by-step procedure, sample data tables, calculations, and a ready-to-print report format. Tell me which project number you picked and I will prepare the complete project report tailored for Class 12 students.

Project Ideas
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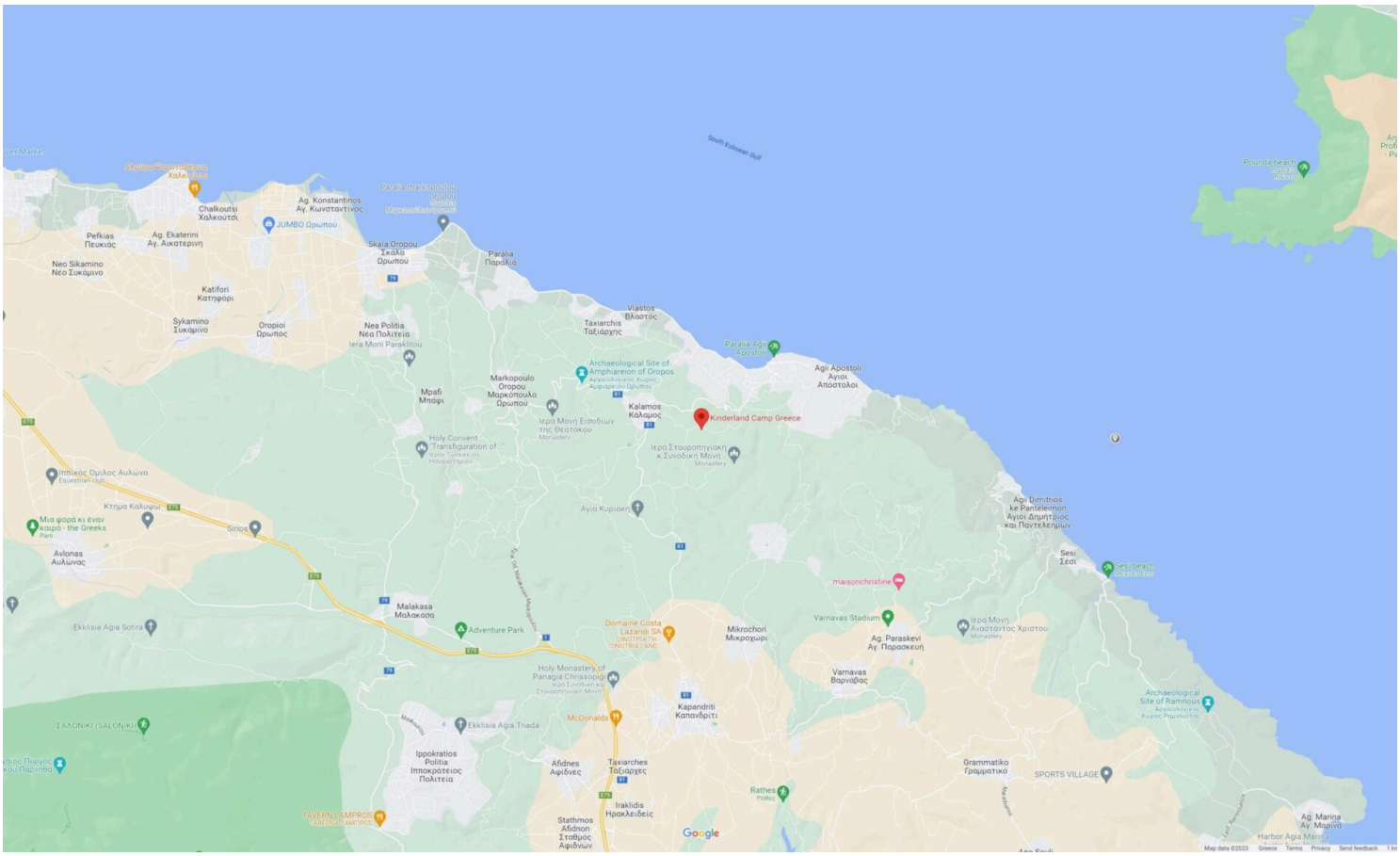

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KIDS PROJECT IDEAS

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Address

Ten assi, Cali 190 14, USA

Contact

Office hours: 09:00am - 6:00pm

chloekidsprojectideas@gmail.com

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