



$$2 + 3$$



★ Resource Bank ★



Alternative Lesson Plans



Templates

$$1 + 2 = 3$$



$$1 + 8 = 9$$
$$5 + 1 = 6$$
$$9 + 9 = 18$$



LESSON PLAN

GRADE:

CURRICULAR AREA:

SUBJECT:

LESSON TOPIC:

LESSON TYPE:

SPECIFIC SKILLS:

THE PURPOSE OF THE LESSON:

OPERATIONAL OBJECTIVES:

O1

O2

O3

O4

O5 – the maximum number, usually there are 3 or 4 per lesson

TEACHING STRATEGY:

Methods and techniques:

Teaching aids:

Organizational approaches:

BIBLIOGRAPHY: - if necessary

Lesson segments/ steps	Op · Ob	The scientific content of the lesson	Teaching strategy					Evaluation	Timing
			Methods	Aids	Forms of organisatio n				
					F	G	I		
1. Organizational moment									
2. Gaining attention									
3. Announcing the topic and objectives of the lesson									
4. Updating one's knowledge									
5. Directing learning									
6. Aiming for performance									



7. Concluding the Activity/ Homework									
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F = frontal
G = group

I = individual

LESSON PLAN

Grade:

Topic:

Lesson duration:

By the end of the lesson, the student will be able to:

Introduction (10 minutes)

Lesson stage	Time	Teacher's actions (what the teacher says and does)	Expected student activity / responses	Materials	Formative assessment / observation focus	Differentiation / methodological notes
Organisational stage						
Activation of prior knowledge						
Setting the lesson objective						

Practical Work (20 minutes)

Lesson stage	Teacher's actions (what the teacher says and does)	Level 1 (easy)	Level 2 (medium)	Level 3 (advanced)	Materials	Formative assessment / observation focus	Methodological notes
Distribution of worksheets (2 min)							
Task 1							
Task 2							
Task 3							

Lesson stage	Teacher's actions (what the teacher says and does)	Level 1 (easy)	Level 2 (medium)	Level 3 (advanced)	Materials	Formative assessment / observation focus	Methodological notes
Task 4							

Lesson conclusion (10 min)

Lesson stage	Time	Teacher's actions (what the teacher says and does)	Expected student activity / responses	Materials	Formative assessment / observation focus	Methodological notes
Reviewing the work						
Self-assessment						
Feedback and evaluation of achievement						
Lesson conclusion						

Formative Assessment Summary

Skill assessed	Observation criteria	Achieved	Partially achieved	Support needed
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

Teacher's Reflection After the Lesson

What went well?

What presented difficulties?

What should be improved in the next lesson?



Adaptive Mathematics Lesson Pathways Planner

A short planning format that helps the teacher adjust the lesson according to pupils' understanding and learning needs.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ Other: _____

Maths Topic:

☐ Number ☐ Calculation ☐ Fractions ☐ Measurement
☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to: [Write one clear objective.]

Success Criteria

Pupils can:

- ☐ complete the main mathematical task;
- ☐ use a suitable strategy;
- ☐ explain or show their thinking;
- ☐ check their answer;
- ☐ other: _____

3. Starting Check

Quick Check Activity

- ☐ Oral question
- ☐ Mini-whiteboard task
- ☐ Short calculation
- ☐ Practical demonstration
- ☐ Matching activity
- ☐ Other: _____

Starting Task: [Write one short question or task.]

Based on the results, pupils follow the pathway that best meets their needs.

4. Learning Pathways

Pathway	Pupils Need	Planned Activity
Pathway A: Extend	Pupils already understand the main concept.	[Add reasoning, application or challenge.]
Pathway B: Practise	Pupils understand the model and need practice.	[Complete the main lesson task.]
Pathway C: Support	Pupils need more explanation or modelling.	[Use guided practice, visuals or materials.]

Pathway D: Reteach	Pupils do not yet understand the key concept.	[Return to an earlier skill or simpler example.]
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5. Teaching and Resources

Main Teaching Input

- ☐ Whole-class explanation
- ☐ Short teacher demonstration
- ☐ Worked example
- ☐ Concrete materials
- ☐ Visual model
- ☐ Other: _____

Resources

- ☐ Task cards
- ☐ Worksheet
- ☐ Concrete materials
- ☐ Visual support
- ☐ Step-by-step guide
- ☐ Challenge task
- ☐ Digital activity
- ☐ Other: _____

6. Moving Between Pathways

Pupils may move to another pathway when they:

- ☐ complete a checking question correctly;
- ☐ explain the strategy clearly;
- ☐ show that they need more support;
- ☐ request another example;
- ☐ are ready for a greater challenge;
- ☐ other: _____

Teacher Checkpoint:

[Write one short question or task used to decide the next pathway.]

7. Common Final Check

All pupils complete:

- ☐ One calculation
- ☐ One short problem
- ☐ Oral explanation
- ☐ Drawing or model
- ☐ Exit ticket
- ☐ Practical demonstration
- ☐ Other: _____

Final Check Task:

[Write one short task linked to the learning objective.]

8. Quick Teacher Reflection

Most Pupils Finished On:

- ☐ Pathway A
- ☐ Pathway B



☐ Pathway C

☐ Pathway D

Next Step

☐ Continue to the next concept.

☐ Provide more practice.

☐ Repeat the teacher model.

☐ Reteach the key concept.

☐ Provide additional challenge.



Authentic Problem-Solving Maths Lesson Plan Template

A practical planning format in which pupils use mathematics to investigate and solve a meaningful real-life problem.

1. Basic Lesson Information

Lesson Title: [Write a short and engaging title.]

Age / Grade Level: [Write the age group or grade.]

Duration:

- ☐ 30 minutes
- ☐ 40 minutes
- ☐ 45 minutes
- ☐ 60 minutes
- ☐ More than one lesson
- ☐ Other: _____

Maths Topic:

- ☐ Number and place value
- ☐ Addition and subtraction
- ☐ Multiplication and division
- ☐ Fractions
- ☐ Money
- ☐ Time
- ☐ Measurement
- ☐ Geometry
- ☐ Data handling
- ☐ Problem-solving
- ☐ Other: _____

Exact Maths Focus: [Write the main skill or concept pupils will use.]

Curriculum Link: [Write the relevant curriculum outcome or reference.]

2. Real-Life Problem

Context

Choose the main context.

- ☐ Shopping or budgeting
- ☐ Cooking or sharing food
- ☐ Planning a journey
- ☐ Organising an event
- ☐ Designing a space
- ☐ Building or making something
- ☐ Measuring the classroom or school
- ☐ Planning a timetable
- ☐ Comparing prices or options
- ☐ Collecting and interpreting data
- ☐ Reducing waste or saving resources
- ☐ Solving a community problem
- ☐ Other: _____

Problem Scenario

[Describe the real-life situation in two or three short sentences.]

Main Problem Question

[Write one clear question that pupils must answer.]

Possible question structures:

- How can we...?
- Which option should we choose?
- How much will we need?
- What is the fairest way to...?
- Can we complete the task within...?
- Which plan is the most suitable?
- How can we prove that our solution will work?

3. Purpose and Final Outcome

Why Does the Problem Matter?

- ☐ Pupils make a practical decision.
- ☐ Pupils create a realistic plan.
- ☐ Pupils compare possible options.
- ☐ Pupils calculate a required amount.
- ☐ Pupils design or organise something.
- ☐ Pupils explain how resources should be used.
- ☐ Pupils recommend the best solution.
- ☐ Other: _____

Final Outcome

Pupils will produce:

- ☐ A completed calculation
- ☐ A written recommendation
- ☐ A labelled drawing or plan
- ☐ A table or chart
- ☐ A budget
- ☐ A timetable
- ☐ A measurement plan
- ☐ A model or design
- ☐ A poster
- ☐ A short presentation
- ☐ A practical demonstration
- ☐ A digital product
- ☐ Other: _____

Expected Final Outcome:

[Briefly describe what pupils should produce or decide.]

4. Learning Objective

Mathematical Objective

By the end of the lesson, pupils will be able to:

[Write one clear and measurable objective.]

Student-Friendly Objective

Today I will use Maths to:

[Write the objective in simple pupil-friendly language.]

5. Success Criteria

Choose up to five.

Pupils can say:

- ☐ I can explain the real-life problem.
- ☐ I can identify the important information.
- ☐ I can decide what I need to find out.



- ☐ I can choose a suitable mathematical strategy.
- ☐ I can complete the calculations accurately.
- ☐ I can use measurements, money, time or data correctly.
- ☐ I can organise my information clearly.
- ☐ I can explain why my solution is suitable.
- ☐ I can check whether my answer is realistic.
- ☐ I can improve my solution after receiving feedback.
- ☐ Other: _____

6. Information, Conditions and Choices

Information Given to Pupils

- ☐ Prices
- ☐ Measurements
- ☐ Quantities
- ☐ Times
- ☐ Distances
- ☐ Dates
- ☐ Tables
- ☐ Charts
- ☐ Maps or plans
- ☐ Pictures
- ☐ Lists of options
- ☐ Other: _____

Information Source:

- ☐ Task card
- ☐ Worksheet
- ☐ Product list or menu
- ☐ Timetable
- ☐ Map
- ☐ Diagram
- ☐ Digital resource
- ☐ Classroom objects
- ☐ Information displayed around the room
- ☐ Other: _____

Conditions or Limits

Choose the conditions pupils must consider.

- ☐ A fixed budget
- ☐ A time limit
- ☐ A limited amount of materials
- ☐ A fixed number of people
- ☐ A required size or distance
- ☐ A minimum or maximum quantity
- ☐ More than one condition
- ☐ No fixed condition
- ☐ Other: _____

Important Condition:

[Write the main limit or rule.]

Choices Pupils Can Make

- ☐ Which items to select
- ☐ Which strategy to use



- ☐ How to organise the information
- ☐ How to present the solution
- ☐ Which option to recommend
- ☐ How to divide roles
- ☐ Which materials to use
- ☐ Other: _____

7. Prior Knowledge and Quick Check

Pupils Should Already Be Able to:

- ☐ Read and understand simple numerical information.
- ☐ Complete the required calculations.
- ☐ Use the necessary units.
- ☐ Read a table, chart, map or timetable.
- ☐ Use money correctly.
- ☐ Measure accurately.
- ☐ Explain a mathematical choice.
- ☐ Work with a partner or group.
- ☐ Other: _____

Quick Starting Check

Choose one.

- ☐ One oral question
- ☐ Mini-whiteboard calculation
- ☐ Short matching task
- ☐ Practical measurement
- ☐ Reading information from a table
- ☐ Estimation question
- ☐ Quick digital quiz
- ☐ Other: _____

Starting Task: [Write one short task.]

The Teacher Will Check Whether Pupils Can:

- ☐ Understand the context
- ☐ Read the given information
- ☐ Use the required operation
- ☐ Use the correct unit
- ☐ Estimate a reasonable answer
- ☐ Other: _____

8. Materials and Resources

Practical Materials

- ☐ Counters or cubes
- ☐ Coins or play money
- ☐ Rulers
- ☐ Measuring tapes
- ☐ Scales
- ☐ Clocks
- ☐ Containers
- ☐ Shape pieces
- ☐ Everyday objects
- ☐ Other: _____

Printed Materials



- ☐ Problem card
- ☐ Price list
- ☐ Menu
- ☐ Map or floor plan
- ☐ Timetable
- ☐ Data table
- ☐ Recording sheet
- ☐ Planning frame
- ☐ Checklist
- ☐ Other: _____

Digital Tools

- ☐ Calculator
- ☐ Interactive whiteboard
- ☐ Tablet or computer
- ☐ Spreadsheet
- ☐ Digital map
- ☐ Online timer
- ☐ Presentation tool
- ☐ Digital drawing tool
- ☐ No digital tools needed
- ☐ Other: _____

9. Lesson Sequence

Step 1: Introduce the Real-Life Situation

Time: [___ minutes]

Present the problem through:

- ☐ A photograph
- ☐ A real object
- ☐ A short story
- ☐ A message or request
- ☐ A map or plan
- ☐ A price list or menu
- ☐ A short video
- ☐ A practical demonstration
- ☐ Other: _____

Teacher Prompt:

[Write the problem exactly as it will be introduced to pupils.]

The teacher will:

- ☐ Explain why the problem needs to be solved.
- ☐ Introduce the person, group or situation involved.
- ☐ Show the available information.
- ☐ Avoid explaining the complete solution.
- ☐ Give pupils time to ask questions.

Step 2: Understand the Problem

Time: [___ minutes]

Pupils will identify:

- ☐ What they already know
- ☐ What they need to find out
- ☐ Which information is important



- ☐ Which information may not be needed
- ☐ The conditions or limits
- ☐ The possible choices
- ☐ The required final outcome

Problem Analysis

We know:

[Write or list the information provided.]

We need to find out:

[Write the main unknown information.]

We must remember:

[Write the important condition or limit.]

Teacher Questions

Choose the questions that will be used.

- ☐ What is the problem asking us to do?
- ☐ Which information will help us?
- ☐ Is any information missing?
- ☐ Are there any limits or rules?
- ☐ What must the final answer include?
- ☐ What would a realistic answer look like?
- ☐ Other: _____

Step 3: Estimate and Plan

Time: [___ minutes]

Before calculating, pupils will:

- ☐ Estimate the likely answer.
- ☐ Draw a simple plan.
- ☐ Choose the required operation.
- ☐ Decide which information to use.
- ☐ Divide the task into smaller steps.
- ☐ Select materials or tools.
- ☐ Assign group roles.
- ☐ Other: _____

Initial Estimate or Prediction:

[Write the approximate answer or expected result.]

Chosen Strategy

- ☐ Calculation
- ☐ Drawing or diagram
- ☐ Table
- ☐ Bar model
- ☐ List
- ☐ Practical trial
- ☐ Measuring
- ☐ Sorting or comparing
- ☐ Trial and improvement
- ☐ Other: _____

Short Planning Note:

First, pupils will _____.

Next, they will _____.

Finally, they will _____.



Step 4: Solve the Problem

Time: [___ minutes]

Working Arrangement

- ☐ Individual work
- ☐ Pair work
- ☐ Small-group work
- ☐ Teacher-supported group
- ☐ Whole-class problem-solving

Pupil Task

[Write or attach the main problem-solving task.]

Pupils will:

- ☐ Calculate
- ☐ Measure
- ☐ Compare
- ☐ Organise information
- ☐ Test different options
- ☐ Record results
- ☐ Adjust their plan
- ☐ Check that all conditions are met
- ☐ Other: _____

Teacher Role

The teacher will:

- ☐ Observe pupils' strategies.
- ☐ Ask guiding questions.
- ☐ Check whether pupils understand the conditions.
- ☐ Encourage estimation and checking.
- ☐ Help pupils organise information.
- ☐ Provide materials or visual support.
- ☐ Ask pupils to explain their decisions.
- ☐ Avoid giving the complete solution.

Step 5: Check the Solution

Time: [___ minutes]

Pupils will check:

- ☐ Are the calculations accurate?
- ☐ Were the correct units used?
- ☐ Does the answer meet all conditions?
- ☐ Is the solution within the budget or limit?
- ☐ Is the answer realistic?
- ☐ Is any important information missing?
- ☐ Could the problem be solved another way?
- ☐ Other: _____

Checking Method

- ☐ Repeat the calculation
- ☐ Use a different strategy
- ☐ Compare with an estimate
- ☐ Use a calculator
- ☐ Ask a partner to check
- ☐ Test the solution practically



- ☐ Compare two possible answers
- ☐ Other: _____

Step 6: Present and Justify

Time: [____ minutes]

Pupils will present their solution through:

- ☐ Oral explanation
- ☐ Written response
- ☐ Calculation sheet
- ☐ Diagram or plan
- ☐ Table or chart
- ☐ Poster
- ☐ Model
- ☐ Short presentation
- ☐ Digital product
- ☐ Other: _____

Sentence Starters

- ☐ Our solution is...
- ☐ We chose this option because...
- ☐ First, we...
- ☐ We calculated...
- ☐ We checked our answer by...
- ☐ Our solution meets the conditions because...
- ☐ We changed our plan when...
- ☐ Another possible solution is...

Step 7: Compare and Improve

Time: [____ minutes]

Pupils will:

- ☐ Compare two solutions.
- ☐ Identify similarities and differences.
- ☐ Decide which solution is most practical.
- ☐ Give one positive comment.
- ☐ Suggest one improvement.
- ☐ Correct a calculation or misunderstanding.
- ☐ Revise their own solution.
- ☐ Other: _____

Improvement Question:

- ☐ Can the solution cost less?
- ☐ Can it take less time?
- ☐ Can it use fewer materials?
- ☐ Can it be explained more clearly?
- ☐ Does it meet every condition?
- ☐ Is there a fairer or more efficient solution?
- ☐ Other: _____

10. Group Roles

Use only when pupils work collaboratively.

- ☐ **Reader:** reads the problem and information
- ☐ **Calculator:** completes or checks calculations



- ☐ **Recorder:** records the group's work
- ☐ **Materials Manager:** collects and organises resources
- ☐ **Checker:** checks the conditions and final answer
- ☐ **Reporter:** presents the solution
- ☐ Other: _____

Teacher Note: Each pupil should contribute to the mathematical thinking, not only complete an organisational role.

11. Support for Pupils with Learning Difficulties

Choose the support that may be needed.

- ☐ Read the problem aloud.
- ☐ Use short and clear sentences.
- ☐ Highlight the important information.
- ☐ Present one part of the problem at a time.
- ☐ Use pictures, symbols or real objects.
- ☐ Provide a completed example of one step.
- ☐ Use a planning frame.
- ☐ Provide a calculation or vocabulary prompt.
- ☐ Reduce the number of options.
- ☐ Use smaller or simpler numbers.
- ☐ Allow a calculator where appropriate.
- ☐ Allow oral, practical or visual responses.
- ☐ Pair pupils strategically.
- ☐ Give additional thinking time.
- ☐ Check understanding before pupils begin.
- ☐ Other: _____

Simplified Problem Version

- ☐ Same problem with fewer conditions
- ☐ Same problem with smaller numbers
- ☐ Same problem with fewer options
- ☐ Same problem with partially completed information
- ☐ Teacher-supported version
- ☐ Not required

12. Additional Challenge

Choose one or more.

- ☐ Find a second possible solution.
- ☐ Compare the cost of two plans.
- ☐ Work with a stricter budget or limit.
- ☐ Add another condition to the problem.
- ☐ Explain why one option is unsuitable.
- ☐ Find the most efficient solution.
- ☐ Create a similar real-life problem.
- ☐ Present the solution in another form.
- ☐ Test how the answer changes when one value changes.
- ☐ Other: _____

13. Key Maths Vocabulary

Lesson-Specific Words, Phrases or Symbols

1. _____



2. _____
3. _____
4. _____

Useful Problem-Solving Language

- ☐ information
- ☐ condition
- ☐ estimate
- ☐ calculate
- ☐ compare
- ☐ total
- ☐ difference
- ☐ cost
- ☐ amount
- ☐ measure
- ☐ solution
- ☐ reasonable
- ☐ explain
- ☐ check
- ☐ Other: _____

Vocabulary Support

- ☐ Display words with examples or pictures.
- ☐ Explain key words before the task.
- ☐ Use sentence starters.
- ☐ Allow pupils to show meaning with objects.
- ☐ Repeat important words during the lesson.
- ☐ Other: _____

14. Assessment

Evidence of Learning

Pupils show understanding when they can:

- ☐ Explain the real-life problem.
- ☐ Select the relevant information.
- ☐ Choose a suitable mathematical strategy.
- ☐ Complete the required calculations.
- ☐ Use the correct units.
- ☐ Follow the conditions or limits.
- ☐ Present a realistic solution.
- ☐ Explain and justify their decision.
- ☐ Check and improve their work.
- ☐ Other: _____

Assessment Method

- ☐ Teacher observation
- ☐ Group discussion
- ☐ Completed planning sheet
- ☐ Calculations
- ☐ Practical product
- ☐ Oral explanation
- ☐ Written recommendation
- ☐ Presentation



☐ Pupil self-assessment

☐ Other: _____

Quick Assessment Record

Assessment Focus	Achieved	With Support	Not Yet
Understands the practical problem	☐	☐	☐
Chooses a suitable strategy	☐	☐	☐
Uses Maths accurately	☐	☐	☐
Produces a realistic solution	☐	☐	☐
Explains and checks the solution	☐	☐	☐

15. Pupil Reflection

Choose one or more.

- ☐ I understood the real-life problem.
- ☐ I used the information correctly.
- ☐ I chose a useful strategy.
- ☐ My calculations were accurate.
- ☐ My solution met the conditions.
- ☐ I explained my decision clearly.
- ☐ I improved my solution after checking it.
- ☐ I need more support with: _____

Reflection Question

- ☐ Which Maths skill helped you solve the problem?
- ☐ Which part of the problem was most difficult?
- ☐ How did you check your solution?
- ☐ Why is your solution realistic?
- ☐ What would you change if the conditions were different?
- ☐ Which other solution could also work?

16. Quick Teacher Reflection

Was the problem meaningful and understandable for pupils?

- ☐ Yes
- ☐ Partly
- ☐ No

Which part supported learning most?

- ☐ Understanding the context
- ☐ Planning the strategy
- ☐ Practical problem-solving
- ☐ Group discussion
- ☐ Checking the solution
- ☐ Presenting and comparing answers

What caused the greatest difficulty?

- ☐ Understanding the problem
- ☐ Selecting information
- ☐ Choosing a strategy



- ☐ Completing calculations
- ☐ Following the conditions
- ☐ Explaining the solution

What should be changed next time?

[Write one brief note.]



Collaborative Mathematical Problem-Solving Lesson Plan Template

A simple planning format for organising shared problem-solving, group discussion and individual responsibility.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ 60 minutes ☐ Other: _____

Maths Topic:

- ☐ Number and place value
- ☐ Addition and subtraction
- ☐ Multiplication and division
- ☐ Fractions
- ☐ Measurement
- ☐ Geometry
- ☐ Data handling
- ☐ Problem-solving
- ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ suggest a possible strategy;
- ☐ explain their mathematical thinking;
- ☐ listen and respond to other ideas;
- ☐ contribute to the group solution;
- ☐ complete an individual check task;
- ☐ other: _____

3. Group Problem

Problem or Challenge

[Write or attach one problem that pupils solve together.]

Final Group Outcome

- ☐ Written solution
- ☐ Diagram or model
- ☐ Calculation
- ☐ Poster
- ☐ Practical demonstration
- ☐ Oral explanation
- ☐ Other: _____

4. Group Organisation

Group Size:

☐ 2 pupils ☐ 3 pupils ☐ 4 pupils ☐ Other: _____

Pupil Roles



- ☐ **Reader** – reads and explains the problem
- ☐ **Strategy Leader** – suggests possible methods
- ☐ **Recorder** – records the group's work
- ☐ **Checker** – checks calculations and conditions
- ☐ **Reporter** – presents the group's solution
- ☐ Roles will rotate
- ☐ Other: _____

5. Lesson Flow

Stage	Time	Activity
Introduce the Problem		[Present the problem and check understanding.]
Think Independently		[Each pupil considers a possible strategy.]
Solve Together		[Pupils share ideas and agree on a group solution.]
Present and Compare		[Groups explain or compare their solutions.]
Individual Check		[Each pupil completes one short related task.]

6. Teacher Support

During group work, the teacher will:

- ☐ check that everyone understands the problem;
- ☐ encourage all pupils to contribute;
- ☐ ask guiding questions;
- ☐ provide concrete or visual support;
- ☐ remind pupils to explain their reasoning;
- ☐ help groups compare different strategies;
- ☐ other: _____

Useful Teacher Question

- ☐ What do you know?
- ☐ What do you need to find out?
- ☐ Which strategy could you try?
- ☐ Does everyone agree? Why?
- ☐ How can you check your answer?
- ☐ Is there another possible method?

7. Support and Challenge

Support

- ☐ Read the problem aloud.
- ☐ Highlight important information.
- ☐ Provide concrete materials.
- ☐ Give a visual model or planning frame.
- ☐ Use smaller numbers or fewer steps.
- ☐ Pair pupils strategically.
- ☐ Other: _____

Challenge

- ☐ Find a second solution.
- ☐ Compare two strategies.



- ☐ Explain why the method works.
- ☐ Create a similar problem.
- ☐ Change one condition and solve again.
- ☐ Other: _____

8. Individual Accountability

After the group task, each pupil will:

- ☐ solve one similar problem;
- ☐ explain the group strategy;
- ☐ complete one calculation;
- ☐ draw or label a model;
- ☐ identify their contribution;
- ☐ answer an exit question;
- ☐ other: _____

Individual Check Task

[Write one short task.]

9. Assessment

The teacher will assess:

- ☐ mathematical accuracy;
- ☐ choice of strategy;
- ☐ explanation of reasoning;
- ☐ contribution to group work;
- ☐ ability to listen and respond;
- ☐ individual understanding;
- ☐ other: _____

10. Quick Reflection

Pupil Reflection

- ☐ I shared an idea.
- ☐ I listened to others.
- ☐ I helped the group solve the problem.
- ☐ I can explain our strategy.
- ☐ I can solve a similar task independently.

Teacher Note

What worked well? _____

What should be changed next time? _____



Concrete - Pictorial - Abstract (CPA) Maths Lesson Plan Template

A structured planning format that helps pupils move from using physical objects to visual representations and mathematical symbols.

1. Basic Lesson Information

Lesson Title: [Write a short and clear lesson title.]

Age / Grade Level: [Write the age group or grade.]

Duration: [___ minutes]

Maths Topic:

- ☐ Number and place value
- ☐ Addition and subtraction
- ☐ Multiplication and division
- ☐ Fractions
- ☐ Measurement
- ☐ Geometry
- ☐ Patterns
- ☐ Data handling
- ☐ Problem-solving
- ☐ Other: _____

Exact Lesson Focus: [Write the specific concept or skill.]

2. Learning Objective

Mathematical Objective

By the end of the lesson, pupils will be able to:

[Write one clear and measurable objective.]

Student-Friendly Objective

Today I will learn to:

[Write the objective in simple pupil-friendly language.]

Success Criteria

Choose up to four.

Pupils can say:

- ☐ I can show the Maths idea using objects.
- ☐ I can draw or complete a picture or diagram.
- ☐ I can connect the picture to numbers and symbols.
- ☐ I can write the correct number sentence or calculation.
- ☐ I can explain how the three representations are connected.
- ☐ I can solve a similar task independently.
- ☐ I can check whether my answer makes sense.
- ☐ Other: _____

3. Prior Knowledge and Starting Check

Pupils should already be able to:

- ☐ Recognise the numbers or shapes used in the lesson.
- ☐ Count accurately.
- ☐ Use the required concrete materials.
- ☐ Understand the main mathematical symbols.
- ☐ Follow a simple visual model.
- ☐ Use a related calculation strategy.
- ☐ Other: _____

Quick Starting Check

Choose one.

- ☐ Oral question
- ☐ Mini-whiteboard response
- ☐ Practical task with objects
- ☐ Matching task
- ☐ Short calculation
- ☐ Picture or diagram task
- ☐ Digital quiz
- ☐ Other: _____

Starting Task: [Write one short question or task.]

What will the teacher look for?

- ☐ Accurate counting
- ☐ Correct use of materials
- ☐ Understanding of vocabulary
- ☐ Recognition of symbols
- ☐ Ability to explain a previous strategy
- ☐ Other: _____

4. CPA Learning Journey

Plan how the same mathematical idea will be represented at each stage.

Stage	Main Representation	What Pupils Will Do	Materials or Resources
Concrete	Real or physical objects	[Build, move, group, share, compare, measure or arrange.]	[Choose materials.]
Pictorial	Pictures, drawings or diagrams	[Draw, match, label, colour, complete or interpret a model.]	[Choose visual support.]
Abstract	Numbers, symbols and mathematical language	[Write, calculate, record, explain or solve.]	[Choose symbolic task.]

5. Concrete Stage

Concrete Materials

Choose the materials pupils will use.

- ☐ Counters
- ☐ Cubes or blocks
- ☐ Ten frames
- ☐ Base-ten materials
- ☐ Number cards
- ☐ Fraction strips
- ☐ Shape pieces
- ☐ Coins
- ☐ Measuring tools
- ☐ Dice
- ☐ Bead strings



☐ Everyday objects

☐ Other: _____

Concrete Task

Pupils will:

☐ Build a number or quantity.

☐ Combine two groups.

☐ Remove objects from a group.

☐ Make equal groups.

☐ Share objects equally.

☐ Compare two quantities.

☐ Measure an object or distance.

☐ Make or sort shapes.

☐ Show a fraction using objects.

☐ Other: _____

Exact Task: [Write one short description.]

Teacher Modelling

The teacher will:

☐ Demonstrate how to use the materials.

☐ Think aloud while completing the task.

☐ Use one instruction at a time.

☐ Ask pupils to describe what they notice.

☐ Repeat the key mathematical vocabulary.

☐ Connect pupil actions to the mathematical concept.

Check Before Moving On

Pupils are ready for the pictorial stage when they can:

☐ Use the materials correctly.

☐ Complete the practical task.

☐ Explain what the objects represent.

☐ Show the same idea more than once.

☐ Answer a checking question.

6. Pictorial Stage

Pictorial Representation

Choose the visual model pupils will use.

☐ Drawing of objects

☐ Ten-frame image

☐ Number line

☐ Bar model

☐ Part-whole model

☐ Place value chart

☐ Array

☐ Grouping diagram

☐ Fraction model

☐ Shape diagram

☐ Table or chart

☐ Other: _____

Pictorial Task

Pupils will:

☐ Draw what they built.

☐ Match objects to a picture.



- ☐ Match a picture to a calculation.
- ☐ Complete a partially drawn model.
- ☐ Label a diagram.
- ☐ Colour parts of a model.
- ☐ Compare two visual representations.
- ☐ Find and correct an error in a picture.
- ☐ Other: _____

Exact Task: [Write one short description.]

Connecting Objects and Pictures

The teacher will ask:

- ☐ What does each part of the picture represent?
- ☐ Where can you see the objects in the drawing?
- ☐ How is the picture the same as the practical model?
- ☐ What information does the diagram show?
- ☐ Can you draw the same idea in another way?

Check Before Moving On

Pupils are ready for the abstract stage when they can:

- ☐ Match the concrete model to the correct picture.
- ☐ Explain what the visual parts represent.
- ☐ Complete or draw the model accurately.
- ☐ Use the picture without needing all the physical objects.
- ☐ Connect the picture to numbers or mathematical symbols.

7. Abstract Stage

Abstract Representation

Choose the form pupils will use.

- ☐ Number sentence
- ☐ Written calculation
- ☐ Equation
- ☐ Mathematical symbols
- ☐ Measurement notation
- ☐ Fraction notation
- ☐ Shape properties
- ☐ Rule or pattern
- ☐ Written mathematical explanation
- ☐ Other: _____

Abstract Task

Pupils will:

- ☐ Write the number sentence shown by the model.
- ☐ Complete a calculation.
- ☐ Match a calculation to a diagram.
- ☐ Solve a similar task without objects.
- ☐ Explain what each number or symbol represents.
- ☐ Compare two calculation methods.
- ☐ Find and correct a mistake.
- ☐ Apply the skill in a word problem.
- ☐ Create their own example.
- ☐ Other: _____

Exact Task: [Write one short description.]

Connecting Pictures and Symbols



The teacher will ask:

- ☐ Which number represents each part of the picture?
- ☐ Which symbol shows what happened?
- ☐ How does the number sentence match the diagram?
- ☐ Can you prove the calculation using a picture or objects?
- ☐ What stays the same across all three representations?

8. Lesson Sequence

Step 1: Warm-Up and Starting Check

Time: [___ minutes]

Activity:

- ☐ Oral questions
- ☐ Mini-whiteboards
- ☐ Practical task
- ☐ Matching activity
- ☐ Short calculation
- ☐ Other: _____

Teacher Note: [Write only what the teacher needs to notice.]

Step 2: Concrete Exploration

Time: [___ minutes]

Grouping:

- ☐ Whole class
- ☐ Pairs
- ☐ Small groups
- ☐ Individual work
- ☐ Teacher-supported group

Task: [Write or attach the practical task.]

Teacher Support:

- ☐ Model the first example.
- ☐ Give one instruction at a time.
- ☐ Ask guiding questions.
- ☐ Check the use of materials.
- ☐ Encourage oral explanation.

Step 3: Pictorial Representation

Time: [___ minutes]

Task: [Write or attach the pictorial task.]

Teacher Support:

- ☐ Model how to draw the representation.
- ☐ Provide a partially completed diagram.
- ☐ Label the first example together.
- ☐ Match the picture to the concrete model.
- ☐ Use colour-coding where helpful.

Step 4: Abstract Representation

Time: [___ minutes]

Task: [Write or attach the symbolic task.]

Teacher Support:



- ☐ Connect each symbol to the picture.
- ☐ Complete one shared example.
- ☐ Display the mathematical steps.
- ☐ Provide a number or vocabulary prompt.
- ☐ Ask pupils to explain the connection.

Step 5: Independent Application

Time: [___ minutes]

Pupils will:

- ☐ Complete a calculation.
- ☐ Solve a word problem.
- ☐ Match three representations.
- ☐ Explain the concept to a partner.
- ☐ Correct a mistake.
- ☐ Create their own example.
- ☐ Other: _____

Independent Task: [Write or attach the task.]

Step 6: Review and Final Check

Time: [___ minutes]

Choose one.

- ☐ Show one concept in all three forms.
- ☐ Match objects, a picture and a calculation.
- ☐ Explain how the representations are connected.
- ☐ Complete one short exit task.
- ☐ Correct an incorrect representation.
- ☐ Choose a confidence level.
- ☐ Other: _____

Final Question or Task: [Write one short task.]

9. Key Maths Vocabulary

Choose or add the vocabulary pupils will need.

- ☐ quantity
- ☐ group
- ☐ equal
- ☐ altogether
- ☐ difference
- ☐ part
- ☐ whole
- ☐ represent
- ☐ model
- ☐ equation
- ☐ symbol
- ☐ Other: _____

Lesson-Specific Words or Symbols:

1. _____
2. _____
3. _____

Vocabulary Support

- ☐ Display words with pictures or symbols.
- ☐ Say and repeat the words together.
- ☐ Model the words in short sentences.
- ☐ Provide sentence starters.
- ☐ Allow pupils to explain using objects or gestures.
- ☐ Other: _____

10. Support and Challenge

Additional Support

Choose the strategies that may be needed.

- ☐ Remain at the concrete stage for longer.
- ☐ Use fewer objects or smaller numbers.
- ☐ Provide a completed example.
- ☐ Give one instruction at a time.
- ☐ Use a partially completed picture.
- ☐ Provide a step-by-step card.
- ☐ Allow oral answers.
- ☐ Give additional thinking time.
- ☐ Use partner or teacher support.
- ☐ Reduce the number of tasks.
- ☐ Other: _____

Additional Challenge

- ☐ Use larger numbers or more complex examples.
- ☐ Represent the same idea in another way.
- ☐ Explain why the method works.
- ☐ Compare two visual models.
- ☐ Solve the task without concrete materials.
- ☐ Find and correct an incorrect representation.
- ☐ Create a problem for another pupil.
- ☐ Apply the concept in a real-life situation.
- ☐ Other: _____

11. Assessment Across the CPA Stages

Stage	Evidence of Understanding	Achieved	With Support	Not Yet
Concrete	Uses physical materials to represent the concept correctly.	☐	☐	☐
Pictorial	Draws, completes or interprets a suitable visual model.	☐	☐	☐
Abstract	Uses numbers, symbols or mathematical language correctly.	☐	☐	☐
Connection	Explains how the three representations show the same idea.	☐	☐	☐
Application	Applies the concept in a similar or new task.	☐	☐	☐

**Assessment Method:**

- ☐ Teacher observation
- ☐ Oral explanation
- ☐ Practical demonstration
- ☐ Drawing or diagram
- ☐ Written calculation
- ☐ Exit task
- ☐ Pupil-created example
- ☐ Other: _____

12. Next Step

Based on pupil responses:

- ☐ Repeat the concrete stage.
- ☐ Provide more pictorial practice.
- ☐ Strengthen the link between pictures and symbols.
- ☐ Provide more abstract practice.
- ☐ Re-teach selected pupils in a small group.
- ☐ Move to a new application of the concept.
- ☐ Provide an additional challenge.
- ☐ Other: _____

13. Quick Teacher Reflection

Which stage supported learning most effectively?

- ☐ Concrete
- ☐ Pictorial
- ☐ Abstract
- ☐ Connections between the stages

Where did pupils experience difficulty?

- ☐ Using the materials
- ☐ Drawing or understanding the model
- ☐ Moving from pictures to symbols
- ☐ Completing the abstract task
- ☐ Explaining the connections

What should be changed next time?

[Write one brief note.]



Diagnostic Assessment and Targeted Reteaching Mathematics Lesson Plan Template

A short planning format that identifies pupils' misunderstandings and provides focused teaching based on their responses.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ Other: _____

Maths Topic:

☐ Number ☐ Calculation ☐ Fractions ☐ Measurement
☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Key Skill Being Checked

- ☐ Understanding the concept
- ☐ Choosing the correct operation
- ☐ Following the correct steps
- ☐ Calculating accurately
- ☐ Using mathematical vocabulary
- ☐ Applying the skill to a problem
- ☐ Other: _____

3. Diagnostic Task

Task Type

- ☐ Short calculation
- ☐ Multiple-choice question
- ☐ Practical demonstration
- ☐ Diagram or model
- ☐ Word problem
- ☐ Explain your thinking
- ☐ Find the mistake
- ☐ Other: _____

Diagnostic Task

[Write one short task that reveals how pupils are thinking.]

4. Response Groups

Diagnostic Result	Teaching Route
Secure Understanding	Pupils complete an application or challenge task.
Partial Understanding	Pupils practise with another worked example.
Common Misunderstanding	The teacher reteaches the concept using a different model.

Missing Prior Skill

Pupils revisit the earlier skill needed for the lesson.

5. Targeted Teaching**Route A: Apply and Extend**

- ☐ Reasoning question
- ☐ More complex example
- ☐ Real-life problem
- ☐ Explain or compare strategies
- ☐ Other: _____

Route B: Guided Practice

- ☐ Worked example
- ☐ Step-by-step prompts
- ☐ Pair practice
- ☐ Partially completed task
- ☐ Other: _____

Route C: Reteach the Concept

- ☐ Concrete materials
- ☐ Visual model
- ☐ Simpler example
- ☐ Different explanation
- ☐ Teacher-supported small group
- ☐ Other: _____

Route D: Revisit Prior Learning

- ☐ Number facts
- ☐ Mathematical vocabulary
- ☐ Earlier concept
- ☐ Use of symbols
- ☐ Practical skill
- ☐ Other: _____

6. Lesson Flow

Stage	Time	Activity
Diagnose		Pupils complete the starting task independently.
Group Responses		The teacher identifies the support each pupil needs.
Teach by Route		Pupils complete the appropriate teaching activity.
Practise		Pupils apply the corrected or strengthened skill.
Recheck		All pupils complete a short final task.

7. Support Resources

- ☐ Concrete materials
- ☐ Visual example
- ☐ Number line or chart
- ☐ Step-by-step card
- ☐ Vocabulary prompts



- ☐ Smaller numbers
- ☐ Fewer questions
- ☐ Oral or practical response
- ☐ Other: _____

8. Final Recheck

Recheck Task

[Write one short task similar to the diagnostic task.]

Result

- ☐ Secure understanding
- ☐ Improved but needs more practice
- ☐ Still needs reteaching
- ☐ Needs individual support

9. Quick Teacher Reflection

Main Misunderstanding Identified:

Most Effective Teaching Route:

Next Step

- ☐ Continue to the next skill.
- ☐ Provide more guided practice.
- ☐ Repeat the reteaching activity.
- ☐ Revisit prior learning.
- ☐ Provide individual or small-group support.



Differentiated Practice and Assessment Lesson Plan Template

1. Basic Lesson Information

Lesson Title: [Write the lesson title.]

Age / Grade Level: [Write the age group or grade.]

Duration: [Write the lesson duration.]

Maths Topic: [Example: addition, subtraction, multiplication, division, measurement, money, time.]

Core Skill: [Write the main skill pupils will practise or demonstrate.]

Example: Pupils practise subtracting two-digit numbers with regrouping.

2. Lesson Objective

Mathematical Goal: [Pupils will practise and show understanding of:]

Example: Pupils will practise finding fractions of shapes and explain how they know the parts are equal.

Student-Friendly Objective: Today I will show that I can: [Write the objective in simple pupil-friendly language.]

Example: Today I will show that I can find one half, one third and one quarter in different ways.

3. Success Criteria

Pupils are successful when they can:

☐ [Write success criterion 1.]

☐ [Write success criterion 2.]

☐ [Write success criterion 3.]

☐ [Write success criterion 4.]

Example:

☐ I can choose the correct operation.

☐ I can solve the task accurately.

☐ I can explain my strategy.

☐ I can check if my answer makes sense.

4. Starting Point / Quick Check

How will you check what pupils already understand?

☐ Short warm-up task

☐ One question on the board

☐ Mini-whiteboard answer

☐ Matching task

☐ Oral question

☐ Practical task with objects

☐ Digital quiz

☐ Other: _____

Quick Check Task: [Write the task.]

What will you look for? [Write what the teacher should notice before choosing the level of support.]

5. Three Levels of Practice Tasks

Prepare three levels of tasks so pupils can practise the same core skill with different levels of support.

Level	Task Description	Support Provided
Supported Practice	[Simpler task linked to the same skill.]	[Examples, visual prompts, manipulatives, fewer items, partner support.]
Standard Practice	[Main task for most pupils.]	[Normal classroom support.]
Challenge Practice	[More complex task or reasoning task.]	[Extension question, explanation, problem creation.]

Teacher Note: All three levels should practise the same core skill. The difference is the amount of support, complexity or independence.

6. Choice-Based Student Activity

Pupils can choose how to practise or show understanding:

- ☐ Complete a worksheet.
- ☐ Use concrete materials.
- ☐ Draw a model or diagram.
- ☐ Explain orally to the teacher or a partner.
- ☐ Solve a digital task.
- ☐ Match cards or sort examples.
- ☐ Create their own example.
- ☐ Play a short practice game.
- ☐ Other: _____

Chosen Activity / Activities: [Write the activities used in this lesson.]

How will pupils know what to choose? [Write how the teacher will guide pupils.]

Example: Pupils choose one task from the “Practise”, “Show” or “Challenge” section.

7. Alternative Ways to Demonstrate Understanding

Pupils may show what they know by:

- ☐ Writing number sentences.
- ☐ Drawing a picture or model.
- ☐ Using manipulatives.
- ☐ Explaining orally.
- ☐ Pointing to the correct answer.
- ☐ Completing a digital activity.
- ☐ Matching problems and answers.
- ☐ Solving a word problem.

- ☐ Teaching the method to a partner.
- ☐ Other: _____

Accepted Ways to Show Understanding in This Lesson: [Write the options pupils may use.]

8. Lesson Steps

Step 1: Warm-Up / Quick Check

Time: [___ minutes]

What the teacher does: [Describe the quick check.]

What pupils do: [Describe the pupil activity.]

Step 2: Short Review

Time: [___ minutes]

Teacher reviews:

- ☐ Key vocabulary
- ☐ Important rule or strategy
- ☐ Worked example
- ☐ Common mistake
- ☐ Visual model
- ☐ Use of concrete materials

Review Notes: [Briefly describe the review.]

Step 3: Differentiated Practice

Time: [___ minutes]

What the teacher does: [Describe how the teacher explains the task levels and supports pupils.]

What pupils do: [Describe how pupils work: independently, in pairs, in groups or with teacher support.]

Grouping:

- ☐ Individual work
- ☐ Pair work
- ☐ Small-group work
- ☐ Teacher-supported group
- ☐ Choice-based stations
- ☐ Other: _____

Step 4: Assessment Activity

Time: [___ minutes]

Formative Assessment Method:

- ☐ Observation
- ☐ Questioning
- ☐ Exit ticket
- ☐ Short worksheet
- ☐ Practical demonstration



- ☐ Oral explanation
- ☐ Digital quiz
- ☐ Peer explanation
- ☐ Self-assessment
- ☐ Other: _____

Assessment Task: [Write the exact task pupils complete.]

Step 5: Reflection and Next Steps

Time: [___ minutes]

Pupils reflect by:

- ☐ Choosing a confidence level.
- ☐ Answering one reflection question.
- ☐ Showing thumbs up / sideways / down.
- ☐ Completing a self-assessment card.
- ☐ Explaining what helped them.
- ☐ Writing one thing they can do now.
- ☐ Other: _____

9. Teacher Observation Checklist

During the lesson, observe whether pupils can:

Skill / Behaviour	Yes	With Support	Not Yet
Understand the task instructions	☐	☐	☐
Use the correct Maths strategy	☐	☐	☐
Use concrete or visual support effectively	☐	☐	☐
Complete the core task	☐	☐	☐
Explain their thinking	☐	☐	☐
Check their answer	☐	☐	☐
Work independently or with a partner	☐	☐	☐
Show confidence in the task	☐	☐	☐

Observation Notes: [Write short notes.]

10. Student Self-Assessment

Pupil Self-Assessment Statement:

Pupils complete one or more statements.

- ☐ I can do this by myself.



- ☐ I can do this with some help.
- ☐ I need more practice.
- ☐ I can explain my strategy.
- ☐ I can use objects or drawings to help me.
- ☐ I can check my answer.

Reflection Question for Pupils:

[Choose one.]

What helped you today?

What was easy?

What was difficult?

Which strategy did you use?

What do you still need to practise?

How can you show this in another way?

11. Support for Pupils with Learning Difficulties

Use the strategies that are useful for your class:

- ☐ Give short and clear instructions.
- ☐ Provide a worked example.
- ☐ Use visual reminders.
- ☐ Use concrete materials.
- ☐ Reduce the number of tasks.
- ☐ Give extra time.
- ☐ Allow oral answers.
- ☐ Allow pupils to draw instead of write.
- ☐ Provide a partially completed task.
- ☐ Pair pupils with a supportive partner.
- ☐ Check understanding before independent work.
- ☐ Focus on understanding, not only speed.

Additional Support Needed: [Write any specific support.]

12. Next Steps After the Lesson

Based on pupil responses, the next step will be:

- ☐ Re-teach the core skill.
- ☐ Give more supported practice.
- ☐ Continue with standard practice.
- ☐ Move to a challenge task.
- ☐ Practise the skill in a word problem.
- ☐ Use a game or digital activity for revision.
- ☐ Provide individual or small-group support.
- ☐ Other: _____

Next Lesson / Follow-Up Activity: [Write the follow-up activity.]

13. Teacher Notes

What did most pupils understand well? [Write notes.]



Which pupils needed more support? [Write notes.]

Which task level worked best? [Write notes.]

Which assessment method gave useful information? [Write notes.]

What should be changed next time? [Write notes.]



Dual-Path Blended Mathematics Lesson Plan Template

A short planning format that provides equivalent digital and paper-based routes towards the same learning objective.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ Other: _____

Maths Topic:

☐ Number ☐ Calculation ☐ Fractions ☐ Measurement
☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ complete the main mathematical task;
- ☐ use a suitable strategy;
- ☐ explain or show their thinking;
- ☐ check their answer;
- ☐ other: _____

3. Learning Routes

How Will Routes Be Assigned?

- ☐ Pupils choose their route.
- ☐ The teacher assigns the route.
- ☐ Pupils use both routes.
- ☐ The route changes during the lesson.

Learning Route	Main Resource or Activity
Digital Route	[Write or link the digital task.]
Paper-Based Route	[Write or attach the equivalent non-digital task.]

Both routes practise the same skill:

4. Lesson Flow

Stage	Time	Digital Route	Paper-Based Route
Introduce		View or complete a digital example.	View or complete a printed example.
Practise		Use an app, activity or digital worksheet.	Use a worksheet, task card or materials.

Apply		Complete the main digital task.	Complete the equivalent paper-based task.
Check		Submit or show the answer digitally.	Record or show the answer on paper.

5. Resources

Digital

- ☐ Computer or tablet
- ☐ Interactive whiteboard
- ☐ Digital worksheet
- ☐ Maths app or game
- ☐ Calculator
- ☐ Other: _____

Paper-Based

- ☐ Worksheet
- ☐ Task cards
- ☐ Concrete materials
- ☐ Number or shape cards
- ☐ Drawing or recording sheet
- ☐ Other: _____

6. Access and Support

- ☐ Give short, step-by-step instructions.
- ☐ Demonstrate both routes before pupils begin.
- ☐ Provide visual examples.
- ☐ Allow pupils to change routes when needed.
- ☐ Provide concrete materials.
- ☐ Reduce the number of tasks.
- ☐ Allow oral or practical responses.
- ☐ Pair pupils strategically.
- ☐ Other: _____

Alternative Plan for Technical Problems:

- ☐ Use the paper-based route.
- ☐ Work with a partner.
- ☐ Use printed screenshots or task cards.
- ☐ Other: _____

7. Assessment

How Will Pupils Show Their Learning?

- ☐ Digital response
- ☐ Written response
- ☐ Oral explanation
- ☐ Drawing or model
- ☐ Practical demonstration
- ☐ Final shared exit task
- ☐ Other: _____

Final Check Task for All Pupils

[Write one short task that is independent of the chosen route.]



8. Quick Reflection

Which Route Supported Learning Most Effectively?

- ☐ Digital route
- ☐ Paper-based route
- ☐ Both routes equally
- ☐ Different routes helped different pupils

Teacher Note

What worked well? _____

What should be changed next time? _____

Efficient Maths Lesson Planning Template

1. Lesson Information

Lesson Title: [Write a short and clear lesson title.]

Age / Grade Level: [Write the age group or grade.]

Date: [Write the date.]

Duration: [Write the planned lesson duration.]

Maths Topic / Subtopic: [Write the main topic and the exact lesson focus.]

Curriculum Link: [Write the relevant curriculum outcome, standard or reference.]

2. Learning Focus

Main Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear and measurable learning objective.]

Student-Friendly Objective

Today I will learn to:

[Write the objective in simple pupil-friendly language.]

Success Criteria

Pupils can:

1. [Write one observable success criterion.]
2. [Write one observable success criterion.]
3. [Write one observable success criterion.]

Prior Knowledge

Pupils should already know or be able to:

[Write the knowledge or skills needed before the lesson.]

Quick Starting Check

[Write one short question, task or activity that will show what pupils already understand.]

3. Resources and Teaching Approach

Materials and Resources

[Write the concrete materials, printable resources and digital tools needed.]

Main Teaching Approach

- ☐ Concrete materials
- ☐ Visual model
- ☐ Maths talk
- ☐ Practical activity
- ☐ Game
- ☐ Digital activity
- ☐ Real-life problem
- ☐ Pair work
- ☐ Group work
- ☐ Other: _____

Key Maths Vocabulary

[Write the main mathematical words, phrases and symbols pupils will need.]

4. Lesson Flow

Get Ready

Time: [___ minutes]

Teacher Activity:

[Describe the warm-up or prior-knowledge check.]

Pupil Activity:

[Describe what pupils do.]

Quick Check / Support:

[Write what the teacher will observe and how support will be provided.]

Explore and Model

Time: [___ minutes]

Teacher Activity:

[Describe how the teacher introduces and demonstrates the concept.]

Pupil Activity:

[Describe how pupils observe, respond, discuss or use materials.]

Quick Check / Support:

[Write the questions, prompts, examples or visual supports used.]

Practise and Apply

Time: [___ minutes]

Teacher Activity:

[Describe how the teacher organises, monitors and supports practice.]

Pupil Activity:

[Describe the main individual, pair or group task.]

Quick Check / Support:

[Write how the teacher will check understanding during the activity.]

Review and Check

Time: [___ minutes]

Teacher Activity:

[Describe how the teacher reviews and consolidates the learning.]

Pupil Activity:

[Describe how pupils show or explain what they have learned.]

Final Check:

[Write one short question, task or exit activity.]

5. Support and Challenge

More Support

[Write how the task, instructions, materials or expected response will be made more accessible.]

Core Learning

[Write the main task that most pupils will complete.]

Additional Challenge

[Write how pupils can extend their thinking, explain a strategy or apply the skill in a new situation.]

6. Evidence of Learning

Pupils will show their understanding through:

- ☐ Teacher observation
- ☐ Oral explanation
- ☐ Practical demonstration
- ☐ Drawing or visual model
- ☐ Written task
- ☐ Mini-whiteboard response
- ☐ Exit question
- ☐ Digital response
- ☐ Peer explanation
- ☐ Other: _____

Evidence the Teacher Will Look For

[Write what pupils should say, do, show or complete successfully.]

7. Next Steps

Based on pupils' responses:

- ☐ Re-teach the concept.
- ☐ Provide more supported practice.
- ☐ Continue practising the skill.
- ☐ Move to the next concept.
- ☐ Provide an additional challenge.
- ☐ Support selected pupils individually or in a small group.
- ☐ Other: _____

Follow-Up Activity

[Write the next lesson step, practice task or homework activity.]

8. Quick Teacher Reflection

What worked well?

[Write a short note.]

Which pupils needed additional support?

[Write a short note.]

What should be changed next time?

[Write a short note.]



Evidence-First Backward Design Maths Lesson Plan Template

A practical planning format that begins with the evidence of learning and works backwards to the teaching activities.

1. Basic Lesson Information

Lesson Title: [Write a short lesson title.]

Age / Grade Level: [Write the age group or grade.]

Duration: [___ minutes]

Maths Topic:

- ☐ Number and place value
- ☐ Addition and subtraction
- ☐ Multiplication and division
- ☐ Fractions
- ☐ Measurement
- ☐ Geometry
- ☐ Patterns
- ☐ Data handling
- ☐ Problem-solving
- ☐ Other: _____

Exact Lesson Focus: [Write the specific skill or concept.]

2. Final Evidence of Learning

What will pupils do at the end of the lesson to show that they understand?

Choose one main final task:

- ☐ Solve one independent Maths problem.
- ☐ Complete a short exit ticket.
- ☐ Demonstrate the skill using concrete materials.
- ☐ Draw and label a mathematical model.
- ☐ Explain the strategy orally.
- ☐ Write a number sentence or calculation.
- ☐ Match a problem with the correct solution or model.
- ☐ Correct and explain a mathematical mistake.
- ☐ Apply the skill in a real-life situation.
- ☐ Complete a short digital task.
- ☐ Create their own example or problem.
- ☐ Other: _____

Final Task:

[Write or briefly describe the exact task pupils will complete.]

How will pupils be allowed to respond?

- ☐ Written answer
- ☐ Oral answer
- ☐ Drawing or diagram
- ☐ Concrete materials
- ☐ Number sentence
- ☐ Practical demonstration
- ☐ Digital response
- ☐ Choice of response format



3. Evidence the Teacher Will Look For

Pupils show understanding when they can:

- ☐ Choose the correct operation or strategy.
- ☐ Use the correct mathematical steps.
- ☐ Calculate accurately.
- ☐ Use concrete materials correctly.
- ☐ Draw or interpret a suitable model.
- ☐ Explain their thinking.
- ☐ Use key Maths vocabulary.
- ☐ Check whether the answer makes sense.
- ☐ Apply the skill in a new situation.
- ☐ Work independently.
- ☐ Other: _____

Most Important Evidence:

[Choose or write the one thing that will best show successful learning.]

4. Learning Objective

Based on the final evidence, complete the objective.

Mathematical Objective

By the end of the lesson, pupils will be able to:

[Write one clear and measurable objective.]

Student-Friendly Objective

Today I will learn to:

[Write the objective in simple pupil-friendly language.]

5. Success Criteria

Choose up to four criteria that match the final task.

Pupils can say:

- ☐ I can understand what the task is asking.
- ☐ I can choose a suitable strategy.
- ☐ I can use objects, pictures or diagrams to help me.
- ☐ I can complete the mathematical steps correctly.
- ☐ I can explain how I found my answer.
- ☐ I can use the correct Maths words and symbols.
- ☐ I can check my answer.
- ☐ I can correct a mistake.
- ☐ I can apply the skill to a different task.
- ☐ Other: _____

6. Plan the Learning Backwards

Step A: Final Independent Performance

What must pupils complete independently at the end?

- ☐ Calculation
- ☐ Word problem
- ☐ Practical task
- ☐ Diagram or model
- ☐ Oral explanation
- ☐ Exit ticket
- ☐ Other: _____



Task: [Write a short description.]

Step B: Supported Practice

What similar task will pupils complete with some support before the final task?

- ☐ Teacher-guided example
- ☐ Pair task
- ☐ Partially completed example
- ☐ Task with visual prompts
- ☐ Task using concrete materials
- ☐ Step-by-step task card
- ☐ Other: _____

Task: [Write a short description.]

Step C: Teacher Modelling

What will the teacher demonstrate before pupils practise?

- ☐ A complete worked example
- ☐ How to use concrete materials
- ☐ How to draw a model or diagram
- ☐ How to choose an operation
- ☐ How to follow the steps
- ☐ How to check an answer
- ☐ How to explain a strategy
- ☐ A common mistake and its correction
- ☐ Other: _____

Modelled Example: [Write or attach one example.]

Step D: Starting Point

What must pupils remember before the new learning begins?

- ☐ Number facts
- ☐ Mathematical vocabulary
- ☐ A previous strategy
- ☐ Use of a mathematical symbol
- ☐ Use of concrete materials
- ☐ A related concept
- ☐ Other: _____

Quick Starting Check:

- ☐ One oral question
- ☐ Mini-whiteboard response
- ☐ Matching task
- ☐ Practical task
- ☐ One short calculation
- ☐ Digital quiz
- ☐ Other: _____

Starting Question or Task: [Write one short task.]

7. Lesson Sequence

1. Starting Check

Time: [___ minutes]

Chosen Activity:

- ☐ Oral questions



- ☐ Mini-whiteboards
- ☐ Practical task
- ☐ Matching or sorting
- ☐ Short calculation
- ☐ Other: _____

Teacher Note: [Write only what the teacher needs to notice.]

2. Teacher Modelling

Time: [___ minutes]

The teacher will:

- ☐ Show one worked example.
- ☐ Think aloud while solving.
- ☐ Use concrete materials.
- ☐ Draw a visual model.
- ☐ Connect the model to numbers or symbols.
- ☐ Highlight the important steps.
- ☐ Model how to check the answer.

Key Example or Prompt: [Write or attach the example.]

3. Supported Practice

Time: [___ minutes]

Pupils will practise:

- ☐ With the teacher
- ☐ In pairs
- ☐ In a small group
- ☐ With concrete materials
- ☐ With a visual prompt
- ☐ With a partially completed example
- ☐ With a step-by-step card

Practice Task: [Write or attach the task.]

4. Independent Final Task

Time: [___ minutes]

Pupils will complete the final evidence task:

- ☐ Independently
- ☐ With approved support
- ☐ Using their chosen response format

Final Task Location:

- ☐ On the board
- ☐ Worksheet
- ☐ Task card
- ☐ Digital activity
- ☐ Attached resource
- ☐ Other: _____

5. Review

Time: [___ minutes]

Choose one:

- ☐ Discuss one successful strategy.
- ☐ Compare two methods.



- ☐ Correct a common mistake.
- ☐ Ask pupils to explain their answer.
- ☐ Review the success criteria.
- ☐ Complete a confidence check.
- ☐ Other: _____

8. Key Vocabulary and Resources

Key Maths Vocabulary

- ☐ [Word / symbol 1]: _____
- ☐ [Word / symbol 2]: _____
- ☐ [Word / symbol 3]: _____

Resources

- ☐ Counters
- ☐ Cubes or blocks
- ☐ Number line
- ☐ Ten frame
- ☐ Place value chart
- ☐ Number or shape cards
- ☐ Fraction strips
- ☐ Measuring tools
- ☐ Worksheet
- ☐ Visual support card
- ☐ Interactive whiteboard
- ☐ Tablet or computer
- ☐ Digital activity
- ☐ Other: _____

9. Support and Challenge

Support That May Be Needed

- ☐ Shorter instructions
- ☐ One instruction at a time
- ☐ Worked example
- ☐ Concrete materials
- ☐ Visual model
- ☐ Step-by-step card
- ☐ Partially completed task
- ☐ Fewer examples
- ☐ Additional thinking time
- ☐ Oral response
- ☐ Partner support
- ☐ Teacher-supported group
- ☐ Other: _____

Additional Challenge

- ☐ Explain why the strategy works.
- ☐ Solve the task in another way.
- ☐ Compare two methods.
- ☐ Find and correct a mistake.
- ☐ Create a similar problem.



- ☐ Apply the skill in a new context.
- ☐ Other: _____

10. Decision After the Final Task

Based on the final evidence:

- ☐ Most pupils are ready to continue.
- ☐ Some pupils need more supported practice.
- ☐ The concept needs to be re-taught.
- ☐ Selected pupils need small-group support.
- ☐ Pupils are ready for a more challenging application.
- ☐ More evidence is needed before deciding.

Next Step:

- ☐ Continue to the next skill.
- ☐ Repeat the skill with different materials.
- ☐ Provide another guided example.
- ☐ Practise through a game.
- ☐ Use the skill in a word problem.
- ☐ Give individual or small-group support.
- ☐ Other: _____

11. Quick Teacher Reflection

Did the final task provide clear evidence of learning?

- ☐ Yes
- ☐ Partly
- ☐ No

Which stage helped pupils most?

- ☐ Starting check
- ☐ Teacher modelling
- ☐ Supported practice
- ☐ Independent task
- ☐ Lesson review

What should be changed next time?

[Write one brief note.]



Family and Community Mathematics Lesson Plan Template

A short planning format for connecting classroom Maths with familiar activities at home and in the local community.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

- ☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ More than one lesson
☐ Other: _____

Maths Topic:

- ☐ Number ☐ Calculation ☐ Money ☐ Time
☐ Measurement ☐ Geometry ☐ Data ☐ Problem-solving
☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ use Maths in a familiar situation;
☐ collect or interpret relevant information;
☐ complete the required calculation or task;
☐ explain how Maths is useful in everyday life;
☐ other: _____

3. Home or Community Connection

Context

- ☐ Shopping
☐ Cooking
☐ Household planning
☐ Travel and timetables
☐ Local buildings and spaces
☐ Community services
☐ Sports and leisure
☐ Celebrations or events
☐ Recycling and saving resources
☐ Other: _____

Main Task or Question

[Describe the practical Maths task in one or two sentences.]

Where Will the Activity Take Place?

- ☐ In the classroom
☐ At home
☐ Around the school
☐ In the local community
☐ Using photographs, maps or prepared information

4. Lesson Flow

Stage	Time	Activity
Connect		Introduce the familiar home or community situation.
Explore		Pupils examine objects, prices, measurements, times or data.
Use Maths		Pupils calculate, compare, measure, organise or solve.
Share		Pupils explain their result or practical decision.
Check		Pupils complete one short related task independently.

5. Resources

- ☐ Everyday objects
- ☐ Prices or receipts
- ☐ Menus or shopping lists
- ☐ Maps or timetables
- ☐ Measuring tools
- ☐ Photographs
- ☐ Data table
- ☐ Task or recording sheet
- ☐ Digital resource
- ☐ Other: _____

Key Maths Vocabulary:

6. Family or Community Participation

Participation may include:

- ☐ discussing the task at home;
- ☐ collecting simple non-personal information;
- ☐ measuring or counting familiar objects;
- ☐ asking a family member to describe how they use Maths;
- ☐ completing a practical activity together;
- ☐ no participation outside school is required;
- ☐ other: _____

Alternative School-Based Activity

[Provide an equivalent activity for pupils who cannot complete the task outside school.]

7. Support and Challenge

Support

- ☐ Use pictures or real objects.
- ☐ Give short, numbered instructions.
- ☐ Provide the necessary information in class.
- ☐ Use simpler numbers or fewer choices.
- ☐ Allow oral, visual or practical responses.
- ☐ Complete the first example together.
- ☐ Other: _____

Challenge

- ☐ Compare two possible choices.
- ☐ Work within a budget or time limit.
- ☐ Collect and present additional data.



- ☐ Explain which option is most practical.
- ☐ Create a similar community Maths problem.
- ☐ Other: _____

8. Assessment and Reflection

How Will Pupils Show Their Learning?

- ☐ Calculation
- ☐ Completed practical task
- ☐ Table or graph
- ☐ Drawing or plan
- ☐ Oral explanation
- ☐ Written recommendation
- ☐ Other: _____

Final Check Task

[Write one short task pupils complete independently.]

Pupil Reflection

- ☐ I used Maths in a familiar situation.
- ☐ I explained how Maths helped me.
- ☐ I checked that my answer was realistic.
- ☐ I need more help with: _____

Teacher Note

What worked well? _____

What needs more practice? _____



Game-Based / Interactive Maths Lesson Plan Template

1. Basic Lesson Information

Lesson Title: [Write the lesson title.]

Age / Grade Level: [Write the age group or grade.]

Duration: [Write the lesson duration.]

Maths Topic: [Example: addition, subtraction, multiplication, division, measurement, money, time.]

Maths Skill Practised: [Write the exact skill pupils will practise.]

Example: Pupils practise addition facts within 20.

2. Lesson Objective

Mathematical Goal: [Pupils will learn to...]

Example: Pupils will practise solving multiplication facts and explaining their answers.

Student-Friendly Objective: Today I will learn to: [Write the objective in simple pupil-friendly language.]

Example: Today I will practise multiplication facts by playing a Maths game with a partner.

3. Type of Game / Interactive Activity

Choose the type of activity:

- ☐ Board game
- ☐ Card game
- ☐ Dice game
- ☐ Matching game
- ☐ Sorting game
- ☐ Pair challenge
- ☐ Team challenge
- ☐ Digital quiz
- ☐ Interactive whiteboard activity
- ☐ Escape-room task
- ☐ Movement game
- ☐ Other: _____

Game Format:

- ☐ Individual work
- ☐ Pair work
- ☐ Small-group work
- ☐ Whole-class activity
- ☐ Digital version
- ☐ Paper-based version
- ☐ Both digital and paper-based versions

4. Materials and Digital Tools

Paper-Based Materials:



- ☐ Game board
- ☐ Task cards
- ☐ Number cards
- ☐ Shape cards
- ☐ Dice
- ☐ Counters / tokens
- ☐ Spinner
- ☐ Worksheet
- ☐ Score sheet
- ☐ Answer key
- ☐ Other: _____

Digital Tools:

- ☐ Interactive board
- ☐ Tablet / computer
- ☐ Digital quiz
- ☐ Online matching activity
- ☐ Virtual manipulatives
- ☐ Presentation
- ☐ QR codes
- ☐ Other: _____

Concrete Materials: [Write any manipulatives pupils may use, for example cubes, counters, number lines, fraction strips, rulers.]

5. Game Rules

Number of Players: [Write how many pupils play together.]

Game Aim: [Explain what pupils need to do to complete or win the game.]

Example: Pupils answer Maths questions correctly to move along the board and reach the finish.

Rules of the Game:

1. [Write rule 1.]
2. [Write rule 2.]
3. [Write rule 3.]
4. [Write rule 4.]
5. [Write rule 5.]

How the Game Ends: [Explain when the game finishes.]

Example: The game ends when all task cards are used or when one player reaches the finish.

6. Accessibility Adaptations

Use the adaptations that are useful for your class:

- ☐ Use large, clear print.
- ☐ Use simple instructions.
- ☐ Show the rules with pictures or icons.
- ☐ Demonstrate the game before pupils start.
- ☐ Give pupils a visual step-by-step card.

- ☐ Reduce the number of cards or tasks.
- ☐ Allow extra thinking time.
- ☐ Allow pupils to use concrete materials.
- ☐ Allow pupils to use number lines, multiplication grids or visual supports.
- ☐ Pair pupils strategically.
- ☐ Use colour-coding.
- ☐ Provide an easier version and a challenge version.
- ☐ Allow oral answers instead of written answers.
- ☐ Check understanding before the game starts.

Other Adaptations: [Write any additional support needed.]

7. Lesson Steps

Step 1: Warm-Up

Time: [___ minutes]

What the teacher does: [Describe a short activity to activate prior knowledge.]

What pupils do: [Describe what pupils do.]

Example: Pupils answer quick questions, match facts, sort cards or solve one sample task.

Step 2: Teacher Demonstration

Time: [___ minutes]

Teacher demonstrates:

- ☐ The aim of the game
- ☐ The rules
- ☐ How to take turns
- ☐ How to answer
- ☐ How to check answers
- ☐ How to use the score or feedback system
- ☐ How to ask for help

Teacher Demonstration Notes: [Briefly describe how the teacher will model the game.]

Step 3: Game / Interactive Practice

Time: [___ minutes]

Pupil Task: [Describe what pupils do during the game.]

Teacher Role During the Game:

The teacher:

- ☐ Observes pupils' strategies.
- ☐ Checks mathematical understanding.
- ☐ Supports pupils who need help.
- ☐ Encourages pupils to explain their thinking.
- ☐ Helps pupils follow the rules.
- ☐ Gives feedback.
- ☐ Notes common errors.
- ☐ Provides challenge questions where needed.

Step 4: Maths Talk During the Game

Pupils show their thinking by:

- ☐ Saying the answer aloud.
- ☐ Explaining their strategy.
- ☐ Showing the answer with objects.
- ☐ Writing a number sentence.
- ☐ Drawing a model.
- ☐ Choosing the correct card.
- ☐ Correcting an error.
- ☐ Helping a partner.

Useful Sentence Starters:

- I think the answer is...
- I know this because...
- I used...
- First, I...
- Then, I...
- My strategy was...
- I checked my answer by...

8. Scoring or Feedback System

Choose the feedback system:

- ☐ Points
- ☐ Stars
- ☐ Tokens
- ☐ Progress bar
- ☐ Game board movement
- ☐ Correct / try again feedback
- ☐ Peer feedback
- ☐ Teacher feedback
- ☐ Self-check with answer key
- ☐ No scoring, only practice

How pupils receive feedback: [Explain how pupils know whether their answer is correct.]

Example: Pupils check their answer using an answer key after explaining their strategy to a partner.

Important Note: The scoring system should encourage learning, participation and effort. It should not make pupils feel embarrassed if they need more support.

9. Differentiation

Level	Game Adaptation
More Support	[Fewer questions, easier numbers, visual support, manipulatives, partner help.]

Core Task	[Main version of the game for most pupils.]
Challenge	[Harder questions, time challenge, explanation task, pupil-created questions.]

Optional Challenge: [Write an additional challenge for pupils who finish early.]

Example: Pupils create three new task cards for the game.

10. Assessment

How will pupils show understanding?

- ☐ Correct answers during the game
- ☐ Oral explanations
- ☐ Written number sentences
- ☐ Completed task cards
- ☐ Drawings or models
- ☐ Peer explanation
- ☐ Exit task
- ☐ Digital quiz results
- ☐ Teacher observation

Pupils show understanding when they can:

- ☐ Use the practised Maths skill correctly.
- ☐ Explain their strategy.
- ☐ Check their answer.
- ☐ Correct mistakes with support.
- ☐ Apply the skill in a new task.
- ☐ Work with a partner or group respectfully.

11. Reflection Questions

At the end of the activity, pupils answer one or more questions:

- What Maths skill did you practise today?
- Which strategy helped you?
- What was easy?
- What was challenging?
- How did the game help you learn?
- What would you do differently next time?
- Can you create a similar question for another pupil?

Reflection Format:

- ☐ Oral discussion
- ☐ Pair discussion
- ☐ Exit ticket
- ☐ Drawing
- ☐ Short written answer
- ☐ Thumbs up / sideways / down
- ☐ Other: _____



12. Follow-Up Task

Choose one follow-up task:

- ☐ Complete a short worksheet.
- ☐ Solve one similar problem independently.
- ☐ Create a new game card.
- ☐ Explain one strategy in writing.
- ☐ Play a more difficult version of the game.
- ☐ Practise the same skill digitally.
- ☐ Use the skill in a word problem.
- ☐ Other: _____

Follow-Up Task: [Write the exact task.]

13. Teacher Notes

What worked well? [Write notes.]

Were the rules clear for pupils? [Write notes.]

Which pupils needed extra support? [Write notes.]

Which Maths errors did pupils make? [Write notes.]

How could the game be improved? [Write notes.]

Could this game be adapted for another topic? [Write notes.]



Guided Inquiry and Mathematical Discovery Lesson Plan Template

A structured planning format in which pupils investigate a mathematical question, identify patterns and develop a rule or conclusion through guided discovery.

1. Basic Lesson Information

Lesson Title: [Write a short and engaging title.]

Age / Grade Level: [Write the age group or grade.]

Duration: [___ minutes]

Maths Topic:

- ☐ Number and place value
- ☐ Addition and subtraction
- ☐ Multiplication and division
- ☐ Fractions
- ☐ Measurement
- ☐ Geometry
- ☐ Patterns and sequences
- ☐ Data handling
- ☐ Problem-solving
- ☐ Other: _____

Exact Lesson Focus: [Write the specific concept, pattern or relationship.]

2. Learning Objective

Mathematical Objective

By the end of the lesson, pupils will be able to:

[Write one clear and measurable objective.]

Student-Friendly Objective

Today I will investigate:

[Write the objective as a question or discovery challenge.]

Success Criteria

Choose up to four.

Pupils can say:

- ☐ I can make a sensible prediction.
- ☐ I can try different examples.
- ☐ I can record my results clearly.
- ☐ I can notice a mathematical pattern.
- ☐ I can describe what stays the same and what changes.
- ☐ I can explain the rule I discovered.
- ☐ I can test whether the rule always works.
- ☐ I can apply the rule to a new task.
- ☐ Other: _____

3. Inquiry Question or Puzzle

Choose the type of starting challenge.

- ☐ Pattern to continue
- ☐ Missing number puzzle
- ☐ Odd-one-out task
- ☐ “Always, sometimes or never” statement
- ☐ Sorting or classification challenge
- ☐ Practical investigation

- ☐ Number relationship
- ☐ Shape investigation
- ☐ Measurement challenge
- ☐ Real-life mathematical problem
- ☐ Mistake to investigate
- ☐ Other: _____

Main Inquiry Question

[Write one clear question that pupils will investigate.]

Examples of suitable question structures:

- What do you notice when...?
- What changes if...?
- What stays the same when...?
- Can you find all the possible...?
- Does this rule always work?
- How many different ways can...?
- Which example does not belong, and why?
- What rule connects these examples?

Important Note: The question should allow pupils to explore before the teacher explains the rule.

4. Expected Discovery

Mathematical Rule, Pattern or Conclusion

[Write the main idea pupils are expected to discover.]

Key Evidence Pupils May Notice

- ☐ Numbers increase or decrease regularly.
- ☐ The same operation is repeated.
- ☐ A quantity remains unchanged.
- ☐ A shape has a repeated property.
- ☐ Different examples produce the same result.
- ☐ Changing one value affects another value.
- ☐ A relationship can be shown in several ways.
- ☐ Some examples follow the rule and others do not.
- ☐ Other: _____

Possible Pupil Explanation

[Write a simple explanation that would show successful understanding.]

5. Prior Knowledge and Starting Check

Pupils should already be able to:

- ☐ Count or calculate within the required number range.
- ☐ Recognise the numbers, shapes or symbols used.
- ☐ Follow a simple pattern.
- ☐ Compare mathematical examples.
- ☐ Record information in a table or diagram.
- ☐ Use concrete materials correctly.
- ☐ Explain a simple observation.
- ☐ Other: _____

Quick Starting Check

Choose one.

- ☐ Oral question
- ☐ Mini-whiteboard response



- ☐ Matching task
- ☐ Practical demonstration
- ☐ Short calculation
- ☐ Continue a simple pattern
- ☐ Sort examples into groups
- ☐ Other: _____

Starting Task: [Write one short question or task.]

6. Materials and Resources

Materials

- ☐ Counters
- ☐ Cubes or blocks
- ☐ Number cards
- ☐ Shape cards
- ☐ Dice
- ☐ Coins
- ☐ Measuring tools
- ☐ Grid paper
- ☐ Pattern blocks
- ☐ Sorting cards
- ☐ Investigation sheet
- ☐ Mini-whiteboards
- ☐ Other: _____

Visual or Digital Resources

- ☐ Picture or diagram
 - ☐ Number line
 - ☐ Table or chart
 - ☐ Interactive whiteboard
 - ☐ Virtual manipulatives
 - ☐ Digital puzzle
 - ☐ Spreadsheet
 - ☐ Presentation
 - ☐ Other: _____
-

7. Inquiry Lesson Sequence

Step 1: Spark Curiosity

Time: [___ minutes]

Present the inquiry question through:

- ☐ A surprising example
- ☐ A puzzle
- ☐ A picture or diagram
- ☐ A practical demonstration
- ☐ A short story or real-life situation
- ☐ An incorrect solution
- ☐ A set of examples to compare
- ☐ Other: _____

Teacher Prompt:

[Write the question or challenge exactly as pupils will see or hear it.]

The teacher will:



- ☐ Give pupils quiet thinking time.
 - ☐ Avoid explaining the rule.
 - ☐ Ask pupils what they notice.
 - ☐ Accept several possible ideas.
 - ☐ Record initial responses on the board.
-

Step 2: Make Predictions

Time: [___ minutes]

Pupils will predict:

- ☐ What comes next
- ☐ Which answer is correct
- ☐ What will change
- ☐ What will stay the same
- ☐ Which examples belong together
- ☐ Whether a statement is true
- ☐ How many possibilities there are
- ☐ Other: _____

Prediction Format:

- ☐ Oral response
- ☐ Mini-whiteboard
- ☐ Drawing
- ☐ Number sentence
- ☐ Pair discussion
- ☐ Vote or choice
- ☐ Other: _____

Pupil Prediction:

I think _____ because _____.

Step 3: Explore and Test

Time: [___ minutes]

Grouping:

- ☐ Individual work
- ☐ Pair work
- ☐ Small-group work
- ☐ Teacher-supported group
- ☐ Whole-class investigation

Pupils will:

- ☐ Build examples with objects.
- ☐ Try different numbers.
- ☐ Draw or complete diagrams.
- ☐ Sort examples.
- ☐ Measure and compare.
- ☐ Complete a table.
- ☐ Continue several patterns.
- ☐ Test whether a statement is true.
- ☐ Find more than one solution.
- ☐ Other: _____

Investigation Task:

[Write or attach the task.]



Recording Method

- ☐ Table
 - ☐ List
 - ☐ Diagram
 - ☐ Drawing
 - ☐ Number sentences
 - ☐ Sorting chart
 - ☐ Photograph
 - ☐ Digital record
 - ☐ Other: _____
-

Step 4: Notice and Discuss

Time: [___ minutes]

The teacher will use selected questions:

- ☐ What do you notice?
- ☐ What is the same in each example?
- ☐ What is different?
- ☐ Can you describe the pattern?
- ☐ What changed when you changed the number?
- ☐ Did everyone get the same result?
- ☐ Can you organise your examples differently?
- ☐ Can you find an example that does not work?
- ☐ What evidence supports your idea?
- ☐ Other: _____

Important Observations to Collect:

[Write the observations that should lead pupils towards the discovery.]

Step 5: Formulate the Rule

Time: [___ minutes]

Pupils will express the discovery through:

- ☐ An oral explanation
- ☐ A sentence
- ☐ A number rule
- ☐ A calculation
- ☐ A diagram
- ☐ A table
- ☐ A worked example
- ☐ A pupil-created poster
- ☐ Other: _____

Sentence Starters

- ☐ I noticed that...
- ☐ The pattern is...
- ☐ When _____ changes, _____ changes.
- ☐ The answer stays the same because...
- ☐ This works because...
- ☐ The rule is...
- ☐ I know this because my examples show...
- ☐ Other: _____

Class Rule or Conclusion:

[Write the rule using clear mathematical language.]

Step 6: Test the Discovery**Time:** [___ minutes]

Pupils will test the rule using:

- ☐ A new number
- ☐ A larger number
- ☐ A different shape
- ☐ A new diagram
- ☐ A real-life example
- ☐ A possible exception
- ☐ An incorrect example
- ☐ A challenge question
- ☐ Other: _____

Test Question:

[Write one new example that was not used during the investigation.]

The rule:

- ☐ Works for the new example.
 - ☐ Needs to be changed.
 - ☐ Works only in certain situations.
 - ☐ Requires more investigation.
-

Step 7: Apply the Learning**Time:** [___ minutes]

Choose one application task.

- ☐ Solve a similar problem independently.
- ☐ Complete a missing example.
- ☐ Apply the rule to a word problem.
- ☐ Create a new example that follows the rule.
- ☐ Create an example that breaks the rule.
- ☐ Explain the rule to a partner.
- ☐ Correct an incorrect solution.
- ☐ Use the rule in a practical situation.
- ☐ Other: _____

Application Task:[Write or attach the task.]

8. Teacher Guidance Without Giving the Answer

Use prompts in this order.

First-Level Prompts

- ☐ Look carefully at the examples.
- ☐ Try one more example.
- ☐ Show the task using objects.
- ☐ Draw what is happening.
- ☐ Compare these two examples.
- ☐ Explain what you have tried.

Second-Level Prompts

- ☐ What changes each time?
- ☐ What stays the same?
- ☐ Can you organise your results in a table?



- ☐ Can you test your idea with another number?
- ☐ Does your idea work for every example?

Stronger Support

- ☐ Provide fewer examples.
- ☐ Give a partially completed table.
- ☐ Highlight one important feature.
- ☐ Model how to record one example.
- ☐ Offer two possible ideas to compare.
- ☐ Explore one example with the pupil.

Teacher Reminder: Guide pupils towards the discovery without stating the rule too early.

9. Key Maths Vocabulary

Lesson-Specific Words or Symbols

1. _____
2. _____
3. _____
4. _____

Vocabulary Support

- ☐ Display words with pictures or examples.
 - ☐ Explain words using simple language.
 - ☐ Repeat key words during discussion.
 - ☐ Provide sentence starters.
 - ☐ Allow pupils to point, draw or demonstrate.
 - ☐ Model a complete mathematical explanation.
 - ☐ Other: _____
-

10. Support and Challenge

Additional Support

- ☐ Use smaller numbers or simpler examples.
- ☐ Provide concrete materials.
- ☐ Reduce the number of possibilities.
- ☐ Give one instruction at a time.
- ☐ Provide a visual recording frame.
- ☐ Complete the first example together.
- ☐ Pair pupils strategically.
- ☐ Allow oral answers.
- ☐ Give additional thinking time.
- ☐ Repeat or rephrase the inquiry question.
- ☐ Other: _____

Additional Challenge

- ☐ Find all possible solutions.
- ☐ Prove that the rule works.
- ☐ Find an exception to the rule.
- ☐ Explain why the pattern occurs.
- ☐ Create a more difficult example.
- ☐ Compare two possible rules.
- ☐ Represent the discovery in another way.
- ☐ Write a new inquiry question.
- ☐ Apply the rule to a real-life situation.
- ☐ Other: _____

11. Assessment of Inquiry Skills and Mathematical Understanding

During the lesson, observe whether pupils can:

Evidence of Learning	Yes	With Support	Not Yet
Understand the inquiry question	☐	☐	☐
Make a relevant prediction	☐	☐	☐
Try more than one example	☐	☐	☐
Record results clearly	☐	☐	☐
Identify a pattern or relationship	☐	☐	☐
Explain the discovered rule	☐	☐	☐
Support an idea with evidence	☐	☐	☐
Test the rule using a new example	☐	☐	☐
Apply the discovery independently	☐	☐	☐

Assessment Method

- ☐ Teacher observation
 - ☐ Pupil discussion
 - ☐ Investigation record
 - ☐ Practical demonstration
 - ☐ Oral explanation
 - ☐ Written conclusion
 - ☐ Application task
 - ☐ Exit task
 - ☐ Other: _____
-

12. Final Reflection

Pupil Reflection

Choose one or more.

- ☐ My first prediction was correct.
- ☐ I changed my idea after testing it.
- ☐ I discovered a pattern.
- ☐ I can explain the rule.
- ☐ I can use the rule in another task.
- ☐ I still need help to understand the rule.

Reflection Question:

- ☐ What did you discover?
- ☐ Which example helped you most?
- ☐ Did your prediction change? Why?
- ☐ How did you test your idea?
- ☐ Does the rule always work?
- ☐ What would you investigate next?



13. Quick Teacher Reflection

Did the inquiry question encourage useful mathematical thinking?

- ☐ Yes
- ☐ Partly
- ☐ No

Were pupils able to discover the rule without being told directly?

- ☐ Most pupils
- ☐ Some pupils
- ☐ Very few pupils

Which part supported the discovery most?

- ☐ Starting puzzle
- ☐ Predictions
- ☐ Practical exploration
- ☐ Recording results
- ☐ Class discussion
- ☐ Testing the rule

What should be changed next time?

[Write one brief note.]

Inclusive Maths Lesson Plan Template

1. Lesson Information

Lesson Title: [Write a short and clear title for the lesson.]

Age / Grade Level: [Write the age group or grade level.]

Duration: [Write the planned lesson duration.]

Maths Topic: [Choose the main topic, for example: number sense, addition, subtraction, multiplication, division, measurement, geometry, patterns, fractions.]

Subtopic: [Specify the exact focus of the lesson.]

Class Profile: [Briefly describe the class, including pupils' general level, learning needs, language needs, attention needs, motor needs or other relevant information.]

2. Learning Objective

Main Learning Objective: By the end of the lesson, pupils will be able to: [Write one clear and measurable learning objective.]

Example: By the end of the lesson, pupils will be able to solve addition problems within 20 using concrete materials, drawings or number sentences.

Success Criteria:

Pupils can:

1. [Write one observable success criterion.]
2. [Write one observable success criterion.]
3. [Write one observable success criterion.]

3. Prior Knowledge Needed

Before this lesson, pupils should already be able to:

- [Write the first prior skill or concept.]
- [Write the second prior skill or concept.]
- [Write the third prior skill or concept.]

Possible Prior Knowledge Check: [Describe a short starter activity, question, quick task or visual prompt that helps the teacher check what pupils already know.]

4. Key Vocabulary

Key Word / Phrase	Simple Explanation for Pupils	Visual / Concrete Support
[Word 1]	[Simple explanation]	[Picture, object, gesture, symbol or example]
[Word 2]	[Simple explanation]	[Picture, object, gesture, symbol or example]
[Word 3]	[Simple explanation]	[Picture, object, gesture, symbol or example]

Vocabulary Support Strategies: [Tick or adapt the strategies used in the lesson.]

- ☐ Use pictures or symbols.
- ☐ Use real objects or manipulatives.
- ☐ Model the words in short sentences.
- ☐ Repeat key words during the lesson.
- ☐ Display the vocabulary on the board.
- ☐ Allow pupils to explain using words, drawings, gestures or objects.

5. Materials and Digital Tools

Concrete Materials: [Examples: counters, cubes, number cards, ten frames, fraction strips, rulers, shapes, coins, dice.]

Printable Materials: [Examples: worksheet, task cards, visual support sheet, exit ticket.]

Digital Tools: [Examples: interactive whiteboard, tablet, online quiz, digital game, virtual manipulatives, presentation.]

Accessibility Notes for Materials: [Describe how the materials will be made easier to access.]

Possible adaptations:

- Use large and clear fonts.
- Avoid overcrowded pages.
- Use strong visual contrast.
- Provide one task at a time.
- Use icons or pictures to support instructions.
- Offer both digital and paper-based options.
- Provide manipulatives for pupils who need concrete support.

6. Expected Difficulties

Possible Mathematical Difficulties: [Pupils may find it difficult to...]

- [Difficulty 1]
- [Difficulty 2]
- [Difficulty 3]

Possible Language Difficulties: [Pupils may find it difficult to understand...]

- [Key vocabulary, instruction type or word problem language]

Possible Attention, Memory or Processing Difficulties: [Pupils may need support with...]

- [Remembering steps, staying focused, processing instructions, moving from concrete materials to symbols, etc.]

7. Support Strategies

Universal Support for All Pupils:

- Present the lesson objective in simple language.
- Use a clear lesson structure: “First – Then – Next – Finally”.
- Model the task before pupils work independently.
- Use concrete materials and visual supports.
- Give short instructions, one step at a time.
- Check understanding before pupils start.

- Allow enough thinking time.
- Use positive and specific feedback.

Targeted Support for Pupils with Learning Difficulties:

- Provide worked examples.
- Reduce the number of tasks without reducing the learning goal.
- Use manipulatives for as long as needed.
- Highlight key information in word problems.
- Provide number lines, ten frames, multiplication grids or visual reminders.
- Pair the pupil with a supportive partner.
- Allow oral answers, pointing, drawing or using objects.
- Repeat and rephrase instructions when needed.

Extension for Pupils Who Need More Challenge:

- Provide a more complex problem.
- Ask pupils to explain their strategy.
- Ask pupils to create their own example.
- Include a reasoning question.
- Ask pupils to compare two methods.

8. Lesson Steps**Step 1: Warm-Up / Activation of Prior Knowledge**

Time: [Write time.]

Teacher Activity: [Describe what the teacher does to activate prior knowledge.]

Pupil Activity: [Describe what pupils do.]

Inclusion Notes: [Describe how pupils with different needs can participate.]

Step 2: Introduction of the New Concept

Time: [Write time.]

Teacher Activity: [Explain how the teacher introduces the concept using simple language, visuals and concrete examples.]

Pupil Activity: [Describe how pupils observe, answer, manipulate objects, repeat vocabulary or discuss.]

Inclusion Notes: [Describe concrete, visual, language or attention support.]

Step 3: Teacher Modelling

Time: [Write time.]

Teacher Activity: [Describe how the teacher demonstrates the task step by step.]

Suggested structure:

1. Show the problem or task.
2. Think aloud.
3. Use concrete materials or a visual model.
4. Connect the model to numbers or symbols.
5. Check the answer.

Pupil Activity: [Describe how pupils follow, answer questions, use mini-whiteboards, point, repeat or complete a guided example.]

Inclusion Notes: [Describe how modelling is made clear and accessible.]

Step 4: Guided Practice

Time: [Write time.]

Teacher Activity: [Describe how the teacher supports pupils while they practise together.]

Pupil Activity: [Describe how pupils solve tasks with support.]

Support During Guided Practice:

- ☐ Use prompts.
- ☐ Ask guiding questions.
- ☐ Provide manipulatives.
- ☐ Use visual reminders.
- ☐ Give immediate feedback.
- ☐ Allow peer support.

Step 5: Independent or Pair Practice

Time: [Write time.]

Teacher Activity: [Describe how the teacher monitors, supports and checks understanding.]

Pupil Activity: [Describe the task pupils complete independently, in pairs or in small groups.]

Step 6: Reflection and Consolidation

Time: [Write time.]

Teacher Activity: [Describe how the teacher brings the class together and reviews the learning.]

Pupil Activity: [Pupils explain, show, draw, choose an answer, complete an exit ticket or reflect.]

Possible Reflection Questions:

- What did you learn today?
- Which strategy helped you?
- What was easy?
- What was still difficult?
- Can you show your answer in another way?

9. Assessment

Formative Assessment During the Lesson: [Describe how the teacher checks understanding during the lesson.]

Possible methods:

- Observation
- Questioning
- Mini-whiteboard answers
- Matching activity
- Practical demonstration
- Exit ticket
- Short worksheet



- Digital quiz
- Pupil explanation

Evidence of Learning:

Pupils show understanding when they can:

- [Evidence 1]
- [Evidence 2]
- [Evidence 3]

Assessment Adaptations: [Describe how assessment is adapted for pupils with learning difficulties.]

Possible adaptations:

- Allow extra time.
- Allow oral responses.
- Allow use of manipulatives.
- Reduce the number of examples.
- Assess the strategy, not only the final answer.
- Use visual or practical tasks instead of text-heavy tasks.

11. Reflection

What worked well? [Write observations after using the lesson.]

Which pupils needed additional support? [Write observations.]

Which part of the lesson was difficult for pupils? [Write observations.]

Were the materials accessible and clear? [Write observations.]

How did pupils respond to the activities? [Write observations.]

What should be improved before the lesson is used again? [Write improvements.]



Integrated Cross-Curricular Mathematics Lesson Plan Template

A short planning format for connecting mathematical learning with another subject or a meaningful everyday context.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ Other: _____

Maths Topic:

☐ Number ☐ Calculation ☐ Fractions ☐ Measurement
☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

Connected Area:

☐ Science
☐ Art
☐ Language
☐ Geography
☐ Technology
☐ Health
☐ Everyday life
☐ Other: _____

2. Learning Focus

Mathematics Objective

By the end of the lesson, pupils will be able to:

[Write one clear Maths objective.]

Cross-Curricular Connection

Pupils will use Maths to:

☐ investigate;
☐ measure;
☐ compare;
☐ design;
☐ organise information;
☐ interpret data;
☐ solve a practical problem;
☐ other: _____

3. Main Learning Task

Context or Activity

[Describe the connected task in one or two sentences.]

Final Outcome

☐ Calculation
☐ Diagram or model
☐ Table or graph
☐ Written explanation
☐ Design or artwork
☐ Map or plan
☐ Practical product
☐ Presentation
☐ Other: _____

4. Lesson Flow

Stage	Time	Activity
Connect		Introduce the topic from the connected subject or context.
Explore		Pupils observe, read, measure, collect or discuss information.
Use Maths		Pupils apply the required mathematical skill.
Create or Solve		Pupils complete the main outcome.
Review		Pupils explain how Maths helped them complete the task.

5. Resources

- ☐ Pictures or texts
- ☐ Maps or plans
- ☐ Scientific materials
- ☐ Art materials
- ☐ Measuring tools
- ☐ Concrete Maths materials
- ☐ Data table or recording sheet
- ☐ Digital resource
- ☐ Everyday objects
- ☐ Other: _____

Key Maths Vocabulary:

Key Cross-Curricular Vocabulary:

6. Support and Challenge

Support

- ☐ Explain unfamiliar subject vocabulary.
- ☐ Use pictures, objects or examples.
- ☐ Divide the task into smaller steps.
- ☐ Provide a recording frame.
- ☐ Use simpler numbers or less information.
- ☐ Allow oral, visual or practical responses.
- ☐ Other: _____

Challenge

- ☐ Use more complex information or data.
- ☐ Compare two possible outcomes.
- ☐ Explain the mathematical connection.
- ☐ Apply the learning in another context.
- ☐ Create a related question or task.
- ☐ Other: _____

7. Assessment and Reflection

The Teacher Will Check Whether Pupils Can:

- ☐ use the required mathematical skill;
- ☐ apply Maths within the connected context;



- ☐ record information clearly;
- ☐ explain their result or decision;
- ☐ complete a similar Maths task independently.

Final Check Task

[Write one short task pupils complete independently.]

Quick Teacher Note

Did the cross-curricular connection support Maths learning?

☐ Yes ☐ Partly ☐ No

What worked well? _____

What needs more practice? _____



Mathematical Error Analysis Lesson Plan Template

A short planning format in which pupils examine an incorrect solution, identify the error and explain how to correct it.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ Other: _____

Maths Topic:

☐ Number ☐ Calculation ☐ Fractions ☐ Measurement
☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ identify where an error was made;
- ☐ explain why the solution is incorrect;
- ☐ correct the error;
- ☐ show the correct method;
- ☐ check that the new answer makes sense;
- ☐ other: _____

3. Mistake to Analyse

Incorrect Problem and Solution

[Write, paste or attach the incorrect solution.]

Type of Mistake

- ☐ Incorrect operation
- ☐ Calculation error
- ☐ Incorrect mathematical rule
- ☐ Missing step
- ☐ Incorrect number or symbol
- ☐ Misunderstood question
- ☐ Incorrect diagram or model
- ☐ Incorrect unit
- ☐ Other: _____

4. Key Questions

Choose the questions pupils will answer.

- ☐ What did the pupil do correctly?
- ☐ Where did the mistake occur?
- ☐ Why is this step incorrect?
- ☐ How can we correct it?
- ☐ What should the correct answer be?
- ☐ How can we check the answer?
- ☐ How could this mistake be avoided?

5. Lesson Flow

Stage	Time	Activity
Notice		Pupils examine the incorrect solution independently.
Discuss		Pupils identify and explain the possible mistake.
Correct		Pupils complete the solution correctly.
Compare		The class compares the incorrect and corrected methods.
Apply		Pupils complete one similar task independently.

6. Explanation Support

Pupils may use:

- ☐ The mistake is in the step where...
- ☐ This is incorrect because...
- ☐ The pupil should have...
- ☐ The correct method is...
- ☐ The answer should be...
- ☐ I checked the answer by...

Key Maths Vocabulary:

7. Support and Challenge

Support

- ☐ Highlight the possible error.
- ☐ Show one step at a time.
- ☐ Provide concrete materials or a visual model.
- ☐ Offer two possible corrections.
- ☐ Allow pupils to explain orally.
- ☐ Let pupils discuss with a partner first.
- ☐ Other: _____

Challenge

- ☐ Find more than one mistake.
- ☐ Explain how the mistake may have happened.
- ☐ Correct the solution in another way.
- ☐ Create an incorrect solution for a partner to analyse.
- ☐ Write advice to help pupils avoid this mistake.
- ☐ Other: _____

8. Assessment

The Teacher Will Check Whether Pupils Can:

- ☐ locate the error;
- ☐ explain the error clearly;
- ☐ complete the correct method;
- ☐ use suitable mathematical language;
- ☐ solve a similar task independently.

Independent Check Task

[Write one short related task.]



9. Quick Reflection

Pupil Reflection

- ☐ I found the mistake.
- ☐ I explained why it was incorrect.
- ☐ I corrected the solution.
- ☐ I know how to avoid this mistake.

Teacher Note

Most common difficulty: _____

Next step: _____



Mathematical Talk and Reasoning Lesson Plan Template

A short planning format for developing mathematical discussion, questioning and clear explanations.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ Other: _____

Maths Topic:

☐ Number ☐ Calculation ☐ Fractions ☐ Measurement
☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ share a mathematical idea;
- ☐ explain how they found an answer;
- ☐ use suitable Maths vocabulary;
- ☐ respond to another pupil's reasoning;
- ☐ give an example or evidence;
- ☐ other: _____

3. Discussion Task

Main Question, Problem or Image

[Write, draw or attach the discussion task.]

Type of Discussion

- ☐ Which one does not belong?
- ☐ True or false?
- ☐ Always, sometimes or never?
- ☐ Find the mistake.
- ☐ Compare two methods.
- ☐ Explain the pattern.
- ☐ Solve and justify.
- ☐ Other: _____

4. Key Teacher Questions

Choose the questions that will guide the discussion.

- ☐ How did you work it out?
- ☐ Why do you think that?
- ☐ Can you show your idea another way?
- ☐ Does anyone have a different method?
- ☐ Do you agree? Why or why not?
- ☐ What do you notice?
- ☐ Can you give an example?
- ☐ How can we check the answer?

5. Sentence Starters

Pupils may use:

- ☐ I think _____ because _____.
- ☐ First, I _____. Then, I _____.
- ☐ My strategy was _____.
- ☐ I agree with _____ because _____.
- ☐ I disagree because _____.
- ☐ Another way is _____.
- ☐ I noticed that _____.
- ☐ I checked my answer by _____.

Key Maths Vocabulary:

6. Lesson Flow

Stage	Time	Activity
Think		Pupils consider the question independently.
Talk		Pupils share ideas with a partner or group.
Discuss		The class compares strategies and explanations.
Record		Pupils write, draw or model their reasoning.
Check		Pupils answer one final question independently.

7. Support and Challenge

Support

- ☐ Give thinking time.
- ☐ Provide pictures or concrete materials.
- ☐ Display sentence starters.
- ☐ Allow pupils to point, draw or demonstrate.
- ☐ Discuss with a partner before speaking.
- ☐ Other: _____

Challenge

- ☐ Explain the idea in another way.
- ☐ Compare two strategies.
- ☐ Prove that the answer is correct.
- ☐ Find an example that does not work.
- ☐ Create a similar question.
- ☐ Other: _____

8. Assessment and Reflection

The Teacher Will Listen For

- ☐ correct mathematical ideas;
- ☐ clear explanations;
- ☐ suitable Maths vocabulary;
- ☐ evidence or examples;



- ☐ responses to other pupils' ideas;
- ☐ independent understanding.

Final Check Task

[Write one short question pupils complete independently.]

Quick Teacher Note

What worked well? _____

What needs more practice? _____



Mini-Project Mathematics Lesson Plan Template

A short planning format for organising mathematical learning around a small investigation, product or class project.

1. Lesson Information

Project Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ One lesson ☐ Two lessons ☐ Three lessons ☐ Other: _____

Maths Topic:

☐ Number ☐ Calculation ☐ Fractions ☐ Measurement
☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the project, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ use the required mathematical skill;
- ☐ collect or organise information;
- ☐ complete the planned product;
- ☐ explain their mathematical decisions;
- ☐ check and improve their work;
- ☐ other: _____

3. Project Task

Project Type

- ☐ Investigation
- ☐ Model or design
- ☐ Poster or display
- ☐ Survey and graph
- ☐ Budget or plan
- ☐ Game creation
- ☐ Class book
- ☐ Other: _____

Main Project Question or Task

[Describe the project in one or two sentences.]

Final Product

- ☐ Model
- ☐ Poster
- ☐ Chart or graph
- ☐ Written plan
- ☐ Presentation
- ☐ Game
- ☐ Digital product
- ☐ Other: _____

4. Project Steps



Stage	Time	Pupil Activity
Plan		Decide what to create and how to begin.
Investigate		Collect information, measure, calculate or test ideas.
Create		Produce the final project outcome.
Check		Review the Maths and improve the work.
Share		Present or display the completed project.

5. Organisation and Resources

Pupils Work:

- ☐ Individually
- ☐ In pairs
- ☐ In small groups
- ☐ As a whole class

Materials

- ☐ Paper and card
- ☐ Concrete materials
- ☐ Measuring tools
- ☐ Art materials
- ☐ Calculator
- ☐ Tablet or computer
- ☐ Other: _____

Key Maths Vocabulary:

6. Support and Challenge

Support

- ☐ Provide a project checklist.
- ☐ Divide the task into smaller steps.
- ☐ Show an example or model.
- ☐ Provide a recording frame.
- ☐ Use simpler numbers or less information.
- ☐ Allow oral, visual or practical responses.
- ☐ Other: _____

Challenge

- ☐ Add another project condition.
- ☐ Compare different solutions.
- ☐ Use more complex numbers or data.
- ☐ Explain why the chosen method works.
- ☐ Present the product in another format.
- ☐ Other: _____

7. Assessment

The Teacher Will Assess:

- ☐ mathematical accuracy;
- ☐ use of a suitable strategy;
- ☐ organisation of information;



- ☐ quality of the final product;
- ☐ explanation of mathematical thinking;
- ☐ individual contribution;
- ☐ other: _____

Evidence of Learning

- ☐ Teacher observation
- ☐ Project work
- ☐ Calculations or measurements
- ☐ Oral explanation
- ☐ Presentation
- ☐ Individual final question
- ☐ Other: _____

8. Quick Reflection

Pupil Reflection

- ☐ I used Maths successfully in the project.
- ☐ I contributed to the final product.
- ☐ I checked and improved my work.
- ☐ I can explain what I learned.
- ☐ I need more help with: _____

Teacher Note

What worked well? _____

What should be changed next time? _____

Multisensory Maths Lesson Plan Template

1. Basic Lesson Information

Lesson Title: [Write the lesson title.]

Age / Grade Level: [Write the age group or grade.]

Duration: [Write the lesson duration.]

Maths Topic: [Example: addition, subtraction, multiplication, division, measurement, money, time.]

Maths Concept: [Write the exact concept pupils will learn.]

Example: Understanding that one whole can be divided into equal parts.

2. Lesson Objective

Mathematical Goal: [Pupils will learn to...]

Example: Pupils will learn to solve word problems by finding the difference between two amounts.

Student-Friendly Objective: Today I will learn to: [Write the objective in simple pupil-friendly language.]

Example: Today I will learn to use a diagram to understand and solve a word problem.

3. Multisensory Focus

This lesson will help pupils learn through:

- ☐ Seeing
- ☐ Touching
- ☐ Moving
- ☐ Saying
- ☐ Drawing
- ☐ Building
- ☐ Listening
- ☐ Writing

Main Multisensory Approach: [Briefly describe how pupils will experience the Maths concept.]

Example: Pupils will build numbers with cubes, say the number aloud, show it on a ten frame and write the number sentence.

4. Materials

Concrete Materials: [Choose or add materials.]

- ☐ Counters
- ☐ Cubes / blocks
- ☐ Number cards
- ☐ Ten frames
- ☐ Base-ten blocks
- ☐ Fraction strips
- ☐ Shape cards

- ☐ Measuring tools
- ☐ Coins
- ☐ Dice
- ☐ Other: _____

Visual Supports:

- ☐ Pictures
- ☐ Diagrams
- ☐ Number line
- ☐ Place value chart
- ☐ Fraction wall
- ☐ Shape poster
- ☐ Step-by-step card
- ☐ Colour-coded examples
- ☐ Other: _____

Digital Tools: [Example: interactive board, virtual manipulatives, digital matching activity, short video, online quiz.]

5. Key Vocabulary

Word / Phrase	Simple Meaning	Action / Object / Picture
[Word 1]	[Meaning]	[Support]
[Word 2]	[Meaning]	[Support]
[Word 3]	[Meaning]	[Support]

How will pupils practise the vocabulary?

- ☐ Say the word aloud.
- ☐ Match the word to a picture.
- ☐ Show the word with objects.
- ☐ Use the word in a sentence.
- ☐ Point to the correct example.
- ☐ Explain the word to a partner.

6. Lesson Steps**Step 1: Warm-Up**

Time: [___ minutes]

What the teacher does: [Describe a short warm-up activity.]

What pupils do: [Describe what pupils do.]

Example: Pupils count objects, sort shapes, build a number, or answer a quick visual question.

Step 2: Teacher Demonstration

Time: [___ minutes]

Teacher demonstrates the concept using:

- ☐ Real objects
- ☐ Pictures
- ☐ Movement
- ☐ Drawing
- ☐ Spoken explanation
- ☐ Symbols / numbers

Teacher Demonstration: [Describe how the teacher shows the concept step by step.]

Example: The teacher uses 12 cubes, groups them into tens and ones, says the number aloud, shows it on a place value chart and writes $12 = 1 \text{ ten} + 2 \text{ ones}$.

Step 3: Concrete Practice

Time: [___ minutes]

Concrete Task: [Describe how pupils use objects or hands-on materials.]

Example: Pupils use counters to make equal groups.

Teacher Support:

- ☐ Model the first example.
- ☐ Give one instruction at a time.
- ☐ Check that pupils are using materials correctly.
- ☐ Ask pupils to explain what they are doing.
- ☐ Give extra time where needed.

Step 4: Visual Practice

Time: [___ minutes]

Visual Task: [Describe how pupils use pictures, drawings, diagrams or visual organisers.]

Example: Pupils draw the groups they made with counters.

Visual Support Used: [Write the visual support.]

Example: Number line, ten frame, place value chart, fraction wall, shape diagram.

Step 5: Movement-Based Activity

Time: [___ minutes]

Movement Activity: [Describe how pupils use movement to understand the concept.]

Examples:

- Pupils stand in groups to show multiplication.
- Pupils step forward and backward on a floor number line.
- Pupils use their arms to show angles.
- Pupils move to different corners of the room to sort shapes.
- Pupils measure classroom objects by walking, comparing or placing objects.

Safety / Classroom Management Notes: [Write short notes, if needed.]

Step 6: Oral Explanation Task

Time: [___ minutes]

Pupils explain their thinking by:

- ☐ Saying what they built.
- ☐ Explaining their drawing.

- ☐ Describing the steps.
- ☐ Using the key vocabulary.
- ☐ Answering a teacher question.
- ☐ Talking to a partner.

Sentence Starters:

- I made...
- I can see...
- First, I...
- Then, I...
- The answer is...
- I know this because...

Step 7: From Concrete to Symbols**Time:** [___ minutes]**How will pupils move from objects to Maths symbols?**

Stage	What Pupils Do
Concrete	[Use objects, blocks, counters, shapes or measuring tools.]
Visual	[Draw, colour, match or complete a diagram.]
Symbolic	[Write numbers, signs, equations or labels.]

Symbolic Representation: [Write the number sentence, equation, measurement, label or mathematical notation pupils will use.]

Example:

$$3 + 4 = 7$$

$$4 \times 3 = 12$$

$$1/2$$

25 cm

Step 8: Student Practice**Time:** [___ minutes]**Practice Task:** [Describe the main task.]**Differentiation:**

Level	Task
More Support	[Use concrete materials, fewer examples, visual prompts or partner help.]
Core Task	[Main task for most pupils.]
Challenge	[More complex task, explanation task or pupil-created example.]

Step 9: Lesson Review**Time:** [___ minutes]



Review Activity: [Choose or describe one.]

- ☐ Pupils show one example with objects.
- ☐ Pupils complete one drawing.
- ☐ Pupils write one number sentence.
- ☐ Pupils explain one idea orally.
- ☐ Pupils answer a short exit question.
- ☐ Other: _____

7. Support for Attention, Memory and Processing Difficulties

Use the strategies that are useful for your class:

- ☐ Give one instruction at a time.
- ☐ Use a visual step-by-step card.
- ☐ Keep materials organised.
- ☐ Use the same routine for similar tasks.
- ☐ Give extra thinking time.
- ☐ Repeat and rephrase instructions.
- ☐ Provide a completed example.
- ☐ Reduce the number of tasks if needed.
- ☐ Allow pupils to show answers with objects or pointing.
- ☐ Use short movement breaks.
- ☐ Check understanding before independent work.

8. Assessment Through Observation

During the lesson, observe whether pupils can:

- ☐ Use concrete materials correctly.
- ☐ Match objects to pictures or diagrams.
- ☐ Explain what they are doing.
- ☐ Use key vocabulary.
- ☐ Move from objects to drawings.
- ☐ Move from drawings to numbers or symbols.
- ☐ Complete the task with support.
- ☐ Complete the task independently.

Observation Notes: [Write short notes about pupil understanding.]

9. Teacher Notes

What worked well? [Write notes.]

Which materials helped pupils most? [Write notes.]

Which part was difficult for pupils? [Write notes.]

What support was useful? [Write notes.]

What would you change next time? [Write notes.]



Narrative-Based Mathematics Lesson Plan Template

A simple planning format that introduces mathematical learning through a story, character, mission or meaningful situation.

1. Lesson Information

Lesson Title: [Write a short story-based title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ Other: _____

Maths Topic:

☐ Number ☐ Calculation ☐ Fractions ☐ Measurement

☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ use the required mathematical skill;
- ☐ choose a suitable strategy;
- ☐ solve the story challenge;
- ☐ explain or show their thinking;
- ☐ check their answer;
- ☐ other: _____

3. Story Setting

Story Format

- ☐ Character with a problem
- ☐ Mission or adventure
- ☐ Mystery to solve
- ☐ Journey with several challenges
- ☐ Message or request for help
- ☐ Familiar real-life situation
- ☐ Other: _____

Main Character: _____

Setting: _____

Story Situation

[Describe the situation in two or three short sentences.]

Main Mission or Question

[Write the mathematical challenge pupils must complete.]

4. Lesson Flow

Stage	Time	Activity
Enter the Story		Introduce the character, setting and mission.
Explore the Maths		Model or practise the mathematical skill.

Complete the Mission		Pupils solve the main story challenge.
Share the Solution		Pupils explain how they solved it.
Story Ending		Review the learning and reveal the outcome.

5. Story Resources

- ☐ Picture or illustration
- ☐ Character card or puppet
- ☐ Story letter or message
- ☐ Map
- ☐ Objects or concrete materials
- ☐ Task cards
- ☐ Props
- ☐ Short presentation
- ☐ Other: _____

Key Maths Vocabulary:

6. Support and Challenge

Support

- ☐ Read the story aloud.
- ☐ Use pictures or real objects.
- ☐ Divide the mission into smaller steps.
- ☐ Provide a worked example.
- ☐ Use simpler numbers.
- ☐ Allow pupils to draw or demonstrate.
- ☐ Other: _____

Challenge

- ☐ Add another story condition.
- ☐ Find a second solution.
- ☐ Explain why the solution works.
- ☐ Create a new challenge for the character.
- ☐ Write a different story ending.
- ☐ Other: _____

7. Assessment

How Will Pupils Show Their Learning?

- ☐ Calculation
- ☐ Oral explanation
- ☐ Drawing or diagram
- ☐ Practical demonstration
- ☐ Written answer
- ☐ Completed mission card
- ☐ Other: _____

Final Check Task

[Write one short task that pupils complete independently.]

8. Quick Reflection



Pupil Reflection

- ☐ I completed the mission.
- ☐ I used a helpful Maths strategy.
- ☐ I explained my solution.
- ☐ I checked my answer.
- ☐ I need more help with: _____

Teacher Note

What worked well? _____

What needs more practice? _____



Online Mathematics Lesson Plan Template

A short planning format for delivering a fully online Maths lesson with clear instructions, interaction, accessible tasks and digital assessment.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ 60 minutes ☐ Other: _____

Lesson Format:

- ☐ Live online lesson
☐ Independent online lesson
☐ Combination of live and independent work

Online Platform:

- ☐ Microsoft Teams
☐ Google Meet
☐ Zoom
☐ Learning platform
☐ Other: _____

Maths Topic:

- ☐ Number ☐ Calculation ☐ Fractions ☐ Measurement
☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to: [Write one clear objective.]

Success Criteria

Pupils can:

- ☐ complete the main Maths task;
☐ use a suitable strategy;
☐ explain or show their thinking;
☐ submit their work successfully;
☐ other: _____

3. Digital Resources

Lesson Link:

Main Resources

- ☐ Presentation
☐ Video explanation
☐ Digital worksheet
☐ Interactive Maths activity
☐ Online quiz
☐ Digital whiteboard
☐ Downloadable task sheet
☐ Other: _____

Resource Links:

4. Online Lesson Flow

Stage	Time	Online Activity
Connect		Welcome pupils, check access and introduce the objective.
Teach		Explain or demonstrate the Maths concept online.
Practise		Pupils complete a guided digital activity.
Apply		Pupils complete the main task independently.
Check		Review answers and complete a final assessment task.

5. Pupil Interaction

Pupils will participate through:

- ☐ Microphone responses
- ☐ Chat responses
- ☐ Digital whiteboard
- ☐ Poll or quiz
- ☐ Breakout rooms
- ☐ Screen sharing
- ☐ Emoji or reaction buttons
- ☐ Other: _____

Main Discussion Question:

6. Access and Support

- ☐ Give short, numbered instructions.
- ☐ Display one task at a time.
- ☐ Provide a recorded explanation.
- ☐ Use pictures, symbols or worked examples.
- ☐ Allow pupils to answer orally.
- ☐ Provide a downloadable or printable version.
- ☐ Reduce the number of tasks.
- ☐ Give additional completion time.
- ☐ Provide individual online support.
- ☐ Other: _____

7. Assessment and Submission

How Will Understanding Be Checked?

- ☐ Oral questions
- ☐ Chat answers
- ☐ Online quiz
- ☐ Digital worksheet
- ☐ Photograph of completed work
- ☐ Screen sharing
- ☐ Short exit task
- ☐ Other: _____

Final Check Task

[Write one short task.]

How Will Pupils Submit Their Work?



- ☐ Upload a file
- ☐ Submit through the learning platform
- ☐ Send a photograph
- ☐ Complete an online form
- ☐ Show work during the lesson
- ☐ Other: _____

Submission Deadline: _____

8. Technical Backup Plan

If a pupil cannot access the online lesson:

- ☐ Send the recording.
- ☐ Provide written instructions.
- ☐ Share a printable task.
- ☐ Send the materials by email or platform message.
- ☐ Allow later submission.
- ☐ Provide an alternative individual session.
- ☐ Other: _____

9. Quick Teacher Reflection

Pupils Were Able to:

- ☐ access the lesson successfully;
- ☐ participate in the online activities;
- ☐ complete the main task;
- ☐ submit their work;
- ☐ ask for help when needed.

What worked well?

What should be changed next time?



Outdoor Mathematical Exploration Lesson Plan Template

A short planning format for developing mathematical skills through movement, observation and practical activities in the school environment.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ Other: _____

Outdoor Area:

- ☐ School playground
- ☐ School garden
- ☐ Sports area
- ☐ School building exterior
- ☐ Local environment
- ☐ Other: _____

Maths Topic:

- ☐ Number ☐ Measurement ☐ Geometry ☐ Patterns
- ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ observe and collect mathematical information;
- ☐ measure, count, compare or classify accurately;
- ☐ record their findings clearly;
- ☐ explain what they discovered;
- ☐ other: _____

3. Outdoor Maths Task

Main Activity

- ☐ Count objects
- ☐ Find numbers, shapes or patterns
- ☐ Measure length, distance or area
- ☐ Estimate and check
- ☐ Sort or classify objects
- ☐ Collect data
- ☐ Follow or create a route
- ☐ Solve an outdoor challenge
- ☐ Other: _____

Task or Challenge

[Write one short description.]

4. Materials

- ☐ Clipboards
- ☐ Recording sheets



- ☐ Pencils
- ☐ Rulers
- ☐ Measuring tapes
- ☐ Chalk
- ☐ Counters or markers
- ☐ Shape or number cards
- ☐ Tablet or camera
- ☐ Other: _____

5. Lesson Flow

Stage	Time	Activity
Prepare		Explain the task, area and safety rules.
Explore		Pupils observe, move, count, measure or collect data.
Record		Pupils write, draw, photograph or organise their findings.
Discuss		Pupils compare results and explain what they noticed.
Check		Pupils complete one short final task.

6. Organisation and Safety

Pupils Work:

- ☐ Individually
- ☐ In pairs
- ☐ In small groups
- ☐ As a whole class

Important Arrangements

- ☐ Set clear boundaries.
- ☐ Demonstrate safe use of equipment.
- ☐ Check the weather and outdoor conditions.
- ☐ Use a clear signal for stopping and returning.
- ☐ Provide an accessible route or alternative activity.
- ☐ Other: _____

7. Support and Challenge

Support

- ☐ Use a visual task card.
- ☐ Give one instruction at a time.
- ☐ Provide marked measuring points.
- ☐ Reduce the number of items to find.
- ☐ Pair pupils strategically.
- ☐ Allow pupils to photograph or point to answers.
- ☐ Other: _____

Challenge

- ☐ Make an estimate before measuring.
- ☐ Compare two areas or objects.
- ☐ Explain any differences in results.
- ☐ Create a new outdoor Maths question.



- ☐ Present findings in a table or graph.
- ☐ Other: _____

8. Assessment and Reflection

How Will Pupils Show Their Learning?

- ☐ Teacher observation
- ☐ Completed recording sheet
- ☐ Accurate measurements or calculations
- ☐ Drawing, map or diagram
- ☐ Oral explanation
- ☐ Table or graph
- ☐ Other: _____

Final Check Task

[Write one short task pupils complete independently.]

Quick Teacher Note

What worked well? _____

What needs more practice? _____



Rotating Maths Learning Stations Lesson Plan Template

A simple planning format for organising several short Maths activities that pupils complete in rotation.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ 60 minutes ☐ Other: _____

Maths Topic:

- ☐ Number and place value
- ☐ Addition and subtraction
- ☐ Multiplication and division
- ☐ Fractions
- ☐ Measurement
- ☐ Geometry
- ☐ Patterns
- ☐ Data handling
- ☐ Problem-solving
- ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ complete the main Maths task;
- ☐ use an appropriate strategy;
- ☐ explain or show their thinking;
- ☐ check their answer;
- ☐ other: _____

3. Station Organisation

Number of Stations:

☐ 3 ☐ 4 ☐ 5 ☐ Other: _____

Time at Each Station:

☐ 5 minutes ☐ 10 minutes ☐ 15 minutes ☐ Other: _____

Pupils Work:

- ☐ Individually
- ☐ In pairs
- ☐ In small groups
- ☐ In mixed formats

How Pupils Move Between Stations:

- ☐ Teacher signal
- ☐ Timer
- ☐ Visual timetable
- ☐ Pupils move when the task is completed
- ☐ Other: _____

4. Station Plan

Station	Activity	Materials	Support or Challenge
Station 1	[Write or attach the task.]		
Station 2	[Write or attach the task.]		
Station 3	[Write or attach the task.]		
Station 4	[Write or attach the task.]		
Optional Station 5	[Write or attach the task.]		

Possible Station Types

- ☐ Teacher-guided station
- ☐ Concrete materials station
- ☐ Worksheet station
- ☐ Game station
- ☐ Problem-solving station
- ☐ Digital station
- ☐ Maths talk station
- ☐ Challenge station
- ☐ Revision station
- ☐ Other: _____

5. Rotation Plan

Group	First Station	Second Station	Third Station	Fourth Station
Group 1				
Group 2				
Group 3				
Group 4				

6. Teacher Role

During the station work, the teacher will:

- ☐ lead one station;
- ☐ observe pupil understanding;
- ☐ support pupils who need help;
- ☐ ask guiding questions;
- ☐ check completed tasks;
- ☐ provide challenge questions;
- ☐ other: _____

7. Support and Challenge

Support

- ☐ Give short, step-by-step instructions.
- ☐ Use pictures or task cards.
- ☐ Demonstrate the activity first.
- ☐ Provide concrete materials.



- ☐ Reduce the number of questions.
- ☐ Pair pupils strategically.
- ☐ Allow extra time.
- ☐ Other: _____

Challenge

- ☐ Use larger numbers or harder examples.
- ☐ Ask pupils to explain their strategy.
- ☐ Add a reasoning question.
- ☐ Ask pupils to create their own task.
- ☐ Other: _____

8. Assessment

How will the teacher check learning?

- ☐ Observation
- ☐ Completed station tasks
- ☐ Oral explanation
- ☐ Practical demonstration
- ☐ Pupil recording sheet
- ☐ Self-check answers
- ☐ Final exit question
- ☐ Other: _____

Final Check Question or Task

[Write one short task that all pupils complete.]

9. Quick Teacher Reflection

Which station supported learning most effectively?

Which station needs to be changed?

Next Step

- ☐ Repeat selected stations.
- ☐ Provide more supported practice.
- ☐ Continue with the next skill.
- ☐ Provide an additional challenge.

Schema-Based Word Problem Lesson Plan Template

1. Basic Lesson Information

Lesson Title: [Write the lesson title.]

Age / Grade Level: [Write the age group or grade.]

Duration: [Write the lesson duration.]

Maths Topic: [Example: addition, subtraction, multiplication, division, measurement, money, time.]

Word Problem Type: [Choose one.]

- ☐ Change problem
- ☐ Compare problem
- ☐ Combine problem
- ☐ Equal groups problem
- ☐ Sharing problem
- ☐ Other: _____

2. Lesson Objective

Mathematical Goal: [Pupils will learn to...]

Example: Pupils will learn to solve word problems by finding the difference between two amounts.

Student-Friendly Objective: Today I will learn to: [Write the objective in simple pupil-friendly language.]

Example: Today I will learn to use a diagram to understand and solve a word problem.

3. Key Vocabulary

Write the most important words pupils need to understand.

Word / Phrase	Simple Meaning
[Word 1]	[Meaning]
[Word 2]	[Meaning]
[Word 3]	[Meaning]

Useful words may include:

- altogether
- left
- more than
- fewer than
- difference
- each
- equally
- shared between
- groups of

- in total

4. Visual Schema / Diagram

Choose the schema used in this lesson:

- ☐ **Change:** Start $\rightarrow$ Change $\rightarrow$ Result
- ☐ **Combine:** Part + Part = Whole
- ☐ **Compare:** Amount 1 and Amount 2 $\rightarrow$ Difference
- ☐ **Equal Groups:** Groups $\times$ Number in each group = Total
- ☐ **Sharing:** Total $\div$ Number of groups = Amount in each group

Draw or paste the schema here: [Space for teacher's diagram]

5. Materials

Concrete Materials: [Example: counters, cubes, number cards, coins, measuring tools.]

Printable Materials: [Example: worksheet, schema organiser, word problem cards.]

Digital Tools: [Example: interactive board, digital quiz, virtual manipulatives.]

6. Lesson Steps

Step 1: Warm-Up

Time: [___ minutes]

What the teacher does: [Shortly describe the warm-up.]

What pupils do: [Shortly describe the pupil activity.]

Step 2: Teacher Modelling

Time: [___ minutes]

Model Word Problem: [Write the word problem.]

Teacher shows pupils how to:

1. Read the problem.
2. Say what is happening.
3. Find the known information.
4. Find what is missing.
5. Choose the schema.
6. Complete the schema.
7. Choose the operation.
8. Solve the problem.
9. Check if the answer makes sense.

Step 3: Guided Practice

Time: [___ minutes]

Practice Problems: [Write or attach 2–3 similar word problems.]

Teacher Support: The teacher helps pupils to:

- ☐ Retell the problem.
- ☐ Find important information.
- ☐ Complete the schema.
- ☐ Choose the operation.

- ☐ Explain the answer.

Step 4: Independent / Pair Practice

Time: [___ minutes]

Task: [Describe what pupils solve independently, in pairs or in small groups.]

Differentiation:

Level	Task
More Support	[Simpler task, fewer problems, partially completed schema.]
Core Task	[Main task for most pupils.]
Challenge	[More difficult problem or pupils create their own word problem.]

Step 5: Exit Task

Time: [___ minutes]

Choose one short exit task:

- ☐ Pupils complete one schema.
☐ Pupils match a problem to the correct schema.
☐ Pupils explain which operation they used.
☐ Pupils create one similar word problem.
☐ Other: _____

Exit Task: [Write the exact task.]

7. Common Difficulties and Support

Possible Difficulty	Teacher Support
Pupils choose an operation too quickly.	Ask pupils to retell the problem before calculating.
Pupils focus only on key words.	Help pupils understand the whole situation.
Pupils do not know what is missing.	Mark the question and place the missing part in the schema.
Pupils struggle with reading.	Read the problem aloud and use pictures or symbols.
Pupils struggle with calculation.	Allow counters, number lines or ten frames.

8. Support for Pupils with Learning Difficulties

Use the strategies that are useful for your class:

- ☐ Read the word problem aloud.
☐ Use short and clear sentences.
☐ Present one problem at a time.



- ☐ Highlight important information.
- ☐ Use concrete materials.
- ☐ Use the same schema several times.
- ☐ Provide a partially completed diagram.
- ☐ Allow pupils to answer orally.
- ☐ Give extra thinking time.
- ☐ Reduce the number of problems if needed.

9. Assessment

How will you check understanding?

- ☐ Observation
- ☐ Completed schema
- ☐ Oral explanation
- ☐ Worksheet
- ☐ Exit task
- ☐ Digital quiz
- ☐ Other: _____

Pupils show understanding when they can:

- ☐ Identify what is known.
- ☐ Identify what is missing.
- ☐ Choose a suitable schema.
- ☐ Choose a suitable operation.
- ☐ Explain why the answer makes sense.

10. Teacher Notes

What worked well? [Write notes.]

What was difficult for pupils? [Write notes.]

What support helped pupils most? [Write notes.]

What would you change next time? [Write notes.]

11. Attachments

Attach or link the materials used in the lesson:

- ☐ Word problem worksheet
- ☐ Schema organiser
- ☐ Visual support cards
- ☐ Vocabulary support sheet
- ☐ Digital activity
- ☐ Exit task
- ☐ Answer key
- ☐ Challenge task



Structured Peer Tutoring Mathematics Lesson Plan Template

A short planning format for organising partner teaching, guided practice, helpful feedback and individual understanding.

1. Lesson Information

Lesson Title: [Write a short title.]

Age / Grade Level: _____

Duration:

☐ 30 minutes ☐ 40 minutes ☐ 45 minutes ☐ Other: _____

Maths Topic:

☐ Number ☐ Calculation ☐ Fractions ☐ Measurement
☐ Geometry ☐ Data ☐ Problem-solving ☐ Other: _____

2. Learning Focus

Learning Objective

By the end of the lesson, pupils will be able to:

[Write one clear objective.]

Success Criteria

Pupils can:

- ☐ demonstrate the correct method;
- ☐ explain the steps clearly;
- ☐ complete repeated practice;
- ☐ give and use helpful feedback;
- ☐ solve a similar task independently;
- ☐ other: _____

3. Partner Organisation

Pairs Will Be Formed:

- ☐ By similar learning needs
- ☐ By different levels of confidence
- ☐ Randomly
- ☐ By the teacher
- ☐ Other: _____

Partner Roles

Tutor

- ☐ demonstrates the first example;
- ☐ gives one instruction at a time;
- ☐ asks questions instead of giving the answer;
- ☐ checks each step;
- ☐ gives helpful feedback.

Learner

- ☐ listens to the explanation;
- ☐ completes the task;
- ☐ explains each step;
- ☐ asks for help when needed;
- ☐ corrects mistakes.

Roles Will:

- ☐ change after each task;
- ☐ change halfway through the lesson;



- ☐ remain the same;
☐ other: _____

4. Peer Tutoring Task

Practice Task

[Write or attach the problems pupils will practise.]

Tutor Support

- ☐ Worked example
☐ Answer card
☐ Step-by-step guide
☐ Question prompts
☐ Concrete materials
☐ Visual model
☐ Other: _____

5. Lesson Flow

Stage	Time	Activity
Model		The teacher demonstrates effective tutoring and feedback.
Tutor		One pupil explains while the partner completes the task.
Repeat		The pair practises with similar examples.
Change Roles		Pupils exchange tutor and learner roles.
Check Independently		Each pupil completes a related task alone.

6. Helpful Tutor Prompts

- ☐ What is the task asking?
☐ Which step comes first?
☐ Can you show your thinking?
☐ Why did you choose that method?
☐ How can you check your answer?
☐ Try this step again.
☐ Your method is correct because...
☐ Check the part where...

7. Support and Challenge

Support

- ☐ Use shorter or simpler tasks.
☐ Provide a completed example.
☐ Use concrete materials or pictures.
☐ Give the tutor a prompt card.
☐ Allow additional practice time.
☐ Other: _____

Challenge

- ☐ Explain the method in another way.
☐ Compare two strategies.
☐ Find and correct a mistake.



- ☐ Create a task for the partner.
- ☐ Apply the skill to a new problem.
- ☐ Other: _____

8. Individual Check

Each pupil will:

- ☐ solve one similar problem;
- ☐ complete one calculation;
- ☐ explain the strategy;
- ☐ draw or label a model;
- ☐ correct an error;
- ☐ complete an exit task;
- ☐ other: _____

Individual Check Task

[Write one short task.]

9. Quick Reflection

Pupil Reflection

- ☐ I explained the method clearly.
- ☐ I gave helpful feedback.
- ☐ I used my partner's feedback.
- ☐ I can complete the task independently.
- ☐ I need more practice with: _____

Teacher Note

What worked well? _____

What needs more practice? _____

5 ALTERNATIVE MATHEMATICS LESSON PLAN TEMPLATES

Grades 1–5 | English | Detailed and Distinct Formats

PLAN 1 – Phase-Oriented Competence-Based Plan

Classic phase model. Teacher and student actions, differentiation and formative observation in each phase.

General Information

Grade / Level	.....
Topic / Unit	.....
Duration	45 / 90 min
Content area	Numbers ☐ Operations ☐ Measurement ☐ Geometry ☐ Data ☐ Problem solving ☐

Learning Objectives

By the end of the lesson students will be able to: • • •

Lesson Phases

Phase	Time	Teacher action	Student action	Differentiation
1. Motivation	5 min			
2. Prior knowledge	5–7 min			
3. Sharing the goal	2–3 min			
4. Development	15–20 min			Support / Standard / Enrichment
5. Practice	10–12 min			
6. Transfer	5 min			
7. Reflection	5 min			

Formative Observation + Teacher Reflection

Observation: Strategy ☐ Explanation ☐ Error correction ☐ Independence ☐ Mathematical language ☐

Reflection: What went well? Who reached the goal? What to change next lesson?

PLAN 2 – Three-Level Differentiated Practice Plan

Three difficulty levels for the same learning goal (Support – Standard – Enrichment).

General Information

Grade: Topic: Duration: Main objective:

Introduction (10 min)

Organisation → Activation of prior knowledge → Goal statement

Main Activity – Three Levels (20–25 min)

Level	1 – Support	2 – Standard	3 – Enrichment
Task			
Material / Support	Concrete materials, partial template, example	Standard worksheet	Open-ended problem, create own problem
Expected outcome			

Closing + Observation Table

Check + self-assessment + observation notes

Skill	Full	Partial	Needs support
Correct operation choice	☐	☐	☐
Calculation accuracy	☐	☐	☐

Explaining strategy	☐	☐	☐
Independent work	☐	☐	☐

PLAN 3 – Station Work (Learning Stations)

Students learn by rotating through different stations. Ideal for heterogeneous classes.

General Information

Grade: Topic: Duration: Number of stations:

Learning Objectives

Common goal: Extended: Support:

Stations

Station	Task	Material	Check / Product
A – Basics			
B – Practice			
C – Problem solving			
D – Game / Creative			
E – Check	Self-check card		

Rotation + Evaluation

Time per station: min | Change signal: | Group size: | Teacher: circulating support

Self-assessment + observation: Which station was most effective? Who needed extra support?

PLAN 4 – Real-Life Problem-Oriented Plan

Meaningful real-life problem in which mathematics is used (modelling / problem solving).

General Information

Grade: Mathematical focus: Duration: Context: Shopping ☐ Travel ☐ Event ☐ Measuring ☐
Other:

Problem Situation

Context (2–3 sentences):

Main question:

Learning Objective + Performance Criteria

Objective: | Student language: “Today I will use mathematics to ...”

☐ Explain the problem ☐ Select information ☐ Choose strategy ☐ Calculate correctly ☐ Check realism ☐
Justify

Lesson Flow

Phase	Time	Activity
Understand the problem	8–10 min	Read, restate in own words, known/unknown
Plan	5–7 min	Strategy + sketch / table / diagram
Solve	12–15 min	Individual / pair / group + differentiation
Check + present	8–10 min	Compare, realism check, justify
Reflect	5 min	“What did I learn? Which strategy helped?”

Differentiation + Evaluation + Reflection

Support: Enrichment:

Observation: Problem understanding, strategy, calculation, justification | Product: Calculation + explanation/drawing
Teacher reflection: Who solved independently? Most frequent error? What to change next lesson?

PLAN 5 – Cooperative Learning / Role-Switch Pair Work

Structured pair work: One student in the “teacher” role, the other in the “student” role; roles switch. Includes explaining, feedback and individual check.

General Information

Grade: Topic: Duration: Content area:

Learning Objective + Performance Criteria

Objective:

☐ Demonstrate the method ☐ Explain the steps ☐ Give useful feedback ☐ Use feedback ☐ Solve a similar task independently

Pair Organisation

Pairing: Similar needs ☐ Different confidence levels ☐ Random ☐ Teacher choice ☐

Roles: “Teacher” role → demonstrates, asks guiding questions, checks steps, gives feedback

“Student” role → listens, carries out, explains steps, asks for help if needed

Role switch: After each task ☐ Mid-lesson ☐ No switch ☐

Lesson Flow

Phase	Time	Activity
Teacher modelling	5–7 min	Model how to explain and give feedback
Pair work	12–15 min	One student explains, the other carries out
Role switch + practice	8–10 min	Roles switch, similar examples are solved
Individual check	5–7 min	Each student solves a similar task alone
Reflection	3–5 min	Self-assessment + short class share

Support + Enrichment + Evaluation

Support: Shorter task, worked example, guiding question card, concrete materials

Enrichment: Explain a different strategy, find the error, create a task for the partner

Individual check task:

Student reflection: My explanation was clear ☐ I gave useful feedback ☐ I used the feedback ☐ I can do it independently ☐

Teacher note: What went well? What still needs practice?

Note: These 5 plans are based on different pedagogical approaches and can be adapted for mathematics teaching in grades 1–5.

TURKEY MEB-COMPATIBLE

5 ALTERNATIVE MATHEMATICS LESSON PLAN TEMPLATES

Grades 1–5 | English | Outcome-based according to Turkish curriculum | Detailed formats

PLAN 1 – Classic Outcome-Based Phase Plan (MEB Structure)

Closest to the Turkish MEB lesson plan structure. Learning outcome, process, assessment and differentiation clearly separated.

Lesson Identity

School / Grade	.....
Subject / Unit	Mathematics /
Topic	.....
Duration	40 / 80 min
Learning outcome(s)	M. (from MEB curriculum)

Teaching–Learning Process

Phase	Time	Teacher activity	Student activity
Attention	5 min		
Motivation / Goal	3 min		
Review	5 min		
Development	15–18 min		
Consolidation	8–10 min		
Assessment	5 min		
Closure / Summary	3–4 min		

Assessment

Process: Observation form ☐ Worksheet ☐ Oral question ☐ Peer assessment ☐

Product: Short written ☐ Performance task ☐ Self-assessment ☐

Differentiation and Support

Support activity: | Enrichment activity:

Adaptation for students with special needs:

Materials and Sources

• • •

PLAN 2 – 5E Model (Engage–Explore–Explain–Elaborate–Evaluate)

Constructivist approach. Especially suitable for discovery learning and concept building.

Lesson Identity

Grade: Topic: Outcome: M. Duration:

5E Phases

Phase	Time	Content / Activity
Engage	5–7 min	Spark curiosity with a question / situation / visual
Explore	10–12 min	Students try and discover by themselves with materials or questions
Explain	8–10 min	Students explain findings, teacher clarifies the concept
Elaborate	8–10 min	Apply in a new situation, different examples, problem solving
Evaluate	5–7 min	Short check, self-assessment, exit ticket

Differentiation + Assessment

Support: Enrichment:



Assessment: Observation ☐ Worksheet ☐ Exit ticket ☐ Oral explanation ☐

PLAN 3 – Learning Stations Plan (MEB-compatible)

Learning by rotating through stations. Addresses different learning styles.

Lesson Identity

Grade: Topic: Outcome: M. Duration: Number of stations:

Stations

Station	Task / Activity	Material	Assessment
A – Basics			
B – Practice			
C – Problem			
D – Game			
E – Check	Self-check / teacher check		

Process Management + Assessment

Time per station: min | Transition: | Group size:

Teacher role: Circulating guidance and observation

Assessment: Station products + self-assessment form + observation

PLAN 4 – Problem-Solving Oriented Plan (MEB 4 Steps)

Based on the MEB problem-solving steps (understand – plan – solve – check).

Lesson Identity

Grade: Topic: Outcome: M. Duration:

Problem Situation

Real-life context:

Problem text:

Lesson Flow (4 Steps)

Step	Time	Activity
1. Understand the problem	8–10 min	Read, restate in own words, given–required
2. Plan	5–7 min	Choose strategy, create sketch / table
3. Solve	12–15 min	Individual / group practice, differentiated support
4. Check + present	8–10 min	Check the result, realism, explain

Differentiation + Assessment + Reflection

Support: Enrichment:

Assessment: Problem-solving rubric ☐ Worksheet ☐ Oral justification ☐

Student reflection: What did I learn today? Which step was difficult?

PLAN 5 – Level-Group Plan (Support–Standard–Advanced)

Three difficulty levels for the same learning outcome. Suitable for managing ability differences within the class.

Lesson Identity

Grade: Topic: Outcome: M. Duration:

Common Introduction (8–10 min)

Attention + goal sharing + short common example

Level Groups (18–22 min)

Level	Support	Standard	Advanced
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Task			
Material / Support	Concrete materials, worked example, partial template	Standard worksheet	Open-ended problem, create own problem
Expected outcome			

Common Closure + Assessment (8–10 min)

Sharing of level work + short check + self-assessment

Observed skill	Full	Partial	Needs support
Outcome-appropriate operation choice	☐	☐	☐
Correct calculation	☐	☐	☐
Explanation / justification	☐	☐	☐
Independent work	☐	☐	☐

Teacher Reflection

Which level group reached the goal better? What to change next lesson?

Note: These 5 plans are structured according to the Turkish MEB Mathematics Curriculum (grades 1–5) and are outcome-based. Each plan has a different pedagogical structure.

Teaching Math through Gamification

Lesson title	....
Grade	....
Duration	40 – 45 min
Topic(s)	Addition, subtraction, multiplication, Division, Order of operations, Word problems, etc.
Method	Gamification

Learning objectives /by the end of the lesson students will be able to:/

-
-
-

1. Warm-up — “Math Power-Up” (5 min)

- 3–4 quick problems (simple calculations).
- Each correct answer earns a “power-up” point or badge.

2. Main game — “Treasure Hunt” (25 min)

- Divide the class into small groups (teams). Each group gets a map to the treasure (routes can be different)
- Prepare 5–6 challenge cards with math problems (according to the lesson topic) and place them around the classroom. Number of the cards should be equal to the map “clue points” (each team receives the same sets of cards)
- A correct solution gives the team a clue leading to the next clue point.
- Teams earn points for correct answers, teamwork, and completing challenges.

3. Final challenge — “Boss Level” (10 min)

- When all teams get to the treasure they need to work together to open the “chest”
- Students need to solve a slightly harder problem (the whole class).
- Students can use points earned during the game to receive hints.
- Celebrate successful problem-solving and opening the treasure chest (it is good to prepare rewards – stickers, or candies...)

4. Reflection — “Level Up” (5 min)

Ask:

- “What strategy helped you most?”
- “What was challenging?”
- “What would you try differently next time?”

Gamification elements: points, badges, levels, clues, teamwork, challenges, rewards, and a final “boss level.”

Tip: Keep rewards focused on progress and mathematical thinking—not just speed—so that all students can experience success.

CRA Math Lesson Plan

Lesson title	....
Grade	....
Duration	40 – 45 min
Topic(s)	Differentiated by grade*
Method	Concrete – Representational - Abstract

Learning objectives /by the end of the lesson students will be able to:/

- Understand the mathematical concept using physical objects.
- Represent the concept visually.
- Solve mathematical problems using numbers and symbols.
- Explain the strategy used to reach an answer.

Phase 1: Concrete (10-15 min)

- Teacher provides manipulatives such as counters, blocks, base-ten cubes, or fraction strips. Model the problem.
- Students physically build and solve problems (for ex. $24 + 13$ using blocks or sticks)

Phase 2: Representational (10-15 min)

- Teacher draws pictures, diagrams, number lines, or bar models based on the concrete activity to give an example
- Then students draw or interpret visual representations of the given tasks (for ex. $24 + 13$ – they draw the numbers as tens and ones and then combine them)

Phase 3: Abstract (10-15 min)

- Teacher introduces mathematical symbols and written procedures
- Students solve equations independently or in pairs using only symbols (for ex. $24 + 13 = 37$)

Phase 4: Reflection (5 min)

- Teacher asks students to explain how the concrete model connects to the equation
- Students explain their thinking and compare strategies.

Reflection (5 min)	Ask students to explain how the concrete model connects to the equation.	Students explain their thinking and compare strategies.	“How does your drawing show why $24 + 13 = 37$?”
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***Differentiation by grade**

- **Grade 1:** Counting, addition/subtraction within 20 using counters and pictures.
- **Grade 2:** Two-digit addition/subtraction; multiplication/division using base-ten blocks and drawings.



- **Grade 3:** Three-digit addition/subtraction; multiplication/division using arrays, groups, and equations.
- **Grade 4:** Order of operations; word problems; geometry, using visual models, drawings, tables and diagrams.
- **Grade 5:** Decimals, fractions, or multi-step problems using manipulatives, diagrams, and symbolic calculations.

Assessment: Observe students during the concrete stage, check their representations, and finish with 2–3 independent abstract problems. A student demonstrates mastery when they can solve the problem **and explain how the concrete and visual models connect to the symbolic solution.**

Hands-On Math

Lesson title	....
Grade	....
Duration	40 – 45 min
Topic(s)	Differentiated by grade*
Method	Hands-on

Learning objectives

- Understand math concepts through physical manipulation.
- Use objects or physical activities to model mathematical problems.
- Explain mathematical thinking using words, drawings, and numbers.

1. Warm-up — Real life problem (5 min)

- Teacher presents a simple real-life problem, e.g., “We have 8 apples and get 5 more. How many do we have?”.
- Discussing possible solutions (Brain storm)

2. Exploration — (15 min)

- Students use counters, cubes, buttons or any other small objects. Teacher demonstrates how to build the problem.
- Students work individually or in pairs to model some simple calculation problems (for ex. addition and subtraction).
- A correct solution gives the team a clue leading to the next clue point.
- Teams earn points for correct answers, teamwork, and completing challenges.

3. Challenge — (10 min)

- The class is divided into groups.
- Each group gets a set of several problem cards of increasing difficulty. Students use manipulatives to solve each problem.
- Students are asked to explain their strategy.

4. Record – (10 min)

- Students are asked to draw their model and write the corresponding equation..

5. Reflection — (5 min) –

Teacher asks the following questions:

- “What strategy helped you most?”
- “What was challenging?”
- “What would you try differently next time?”



Assessment: Observe how students manipulate the objects, ask them to explain their reasoning, and check whether they can connect the physical model to a mathematical equation.

Key principle: Let students **touch, move, build, and experiment** before expecting them to solve problems using symbols alone.

Inquiry & Problem-Based Math Lesson Plan

Lesson title	....
Grade	....
Duration	40 – 45 min
Topic(s)	Solving real-life mathematical problems
Method	Inquiry-Based Learning (IBL) and Problem-Based Learning (PBL)

Learning objectives

- Develop mathematical reasoning and problem-solving skills.
- Ask questions and explore different strategies.
- Apply mathematics to a real-life situation.
- Explain and justify solutions.

1. Warm-up — (5 min)

- Teacher presents a real-life problem appropriate to the grade. Example: “We need to organize 24 objects into equal groups. How could we do it?”.
- Students observe, discuss, and identify what they know and what they need to find out (Brain storm).

2. Investigation - (10 min)

- Teacher asks guiding questions rather than immediately giving a solution; provides (age appropriate) manipulatives, drawings, or other resources
- Students explore the problem, ask questions, make predictions, and try different strategies (might be a group activity)

3. Finding solution - (15 min)

- Teacher encourages students to work individually or in small groups; Provides support without giving the answer.
- Students test different strategies, calculate, draw models, discuss within the group, and develop one or more solutions.

4. Sharing - (10 min)

- Teacher invites groups (or their representatives) to present their solutions.
- Groups (or their representatives) present the solutions they came up with, explain their reasoning, and strategies they used.
- Other students listen to classmates, give feedback; compare different approaches and discuss which strategies work and why.

4. Reflection - (5 min)

- Teacher asks:



- o “What did you discover?”
 - o “What was challenging?”
 - o “Was there another way to solve the problem?”
 - o “Which strategy/approach you found the most useful?”
- Students reflect on their strategy and what they learned.

Adaptation of the real life situations by grade

- **Grade 1:** “We have 12 apples. How can we share them equally among 3 children?”
Use counters and drawings.
- **Grade 2:** “We have 36 stickers to put equally into groups. What groups are possible?”
Explore multiplication and division.
- **Grade 3:** “A class has 48 students’ books to organize equally on shelves. How many different arrangements can we make?”
- **Grade 4:** “We have a budget of \$100 for a class party. What combination of items can we buy?” Use addition, multiplication, and money.
- **Grade 5:** “How can we design a rectangular garden with an area of 48 m² using the least amount of fencing?” Explore area, perimeter, and optimization.

Assessment: Focus on the **process**, not only the final answer. Assess students' ability to ask questions, choose strategies, explain their reasoning, use mathematical representations, and evaluate whether their solution makes sense.

Key principle: In IBL/PBL, the teacher acts primarily as a **facilitator**. Instead of showing students how to solve the problem immediately, provide a meaningful problem and guide them with questions so they can investigate and construct the solution themselves.

Kinaesthetic Math Lesson Plan

Lesson title	....
Grade	....
Duration	40 – 45 min
Topic(s)	Numbers; Arithmetic operations; word problems; Geometry
Method	Learning through movement

Learning objectives

- Understand mathematical concepts through physical movement and action.
- Use body movement and manipulatives to represent mathematical ideas.
- Develop problem-solving, calculation, and communication skills.
-

1. Warm-up — (5 min)

- Teacher calls out numbers and simple calculations.
- Students move, clap, jump, or step the required number of times.

2. Exploration — (15 min)

- Teacher creates a large number line on the floor using cards or tape. Give mathematical challenges.
- Students have to physically move along the number line to add, subtract, compare, or locate numbers..

3. Hands-on Challenge — (15 min)

- The class is divided into pairs or small groups.
- Each group gets a separate mathematical task, which they need to solve using objects or movement.
- For example: to build groups, to arrange objects (forming a triangle, or a circle), to measure distances, or act out mathematical problems.

4. Math Game – (10 min)

- Teacher can organize a movement-based team game, such as “Find the Answer.”
- Students move from one station to the other, solving different math problems until they get to the final station (the correct answer station); through the way they can be asked to change groups, to share data they found, to ask each other questions, or to complete some physical tasks.

5. Reflection — (5 min)

- Teacher asks students to explain how movement helped them understand the concept.



- Students together discuss strategies, share experience (what they liked, what didn't like) and are asked to record their observations in their notebooks.

Adaptation by grade (ideas)

- **Grade 1:** Jump along a number line to practise addition and subtraction.
- **Grade 2:** Use students or objects to create equal groups and practise multiplication/division.
- **Grade 3:** Create physical arrays to explore multiplication and area.
- **Grade 4:** Measure classroom objects or distances to practise length, perimeter, and area.
- **Grade 5:** Use students' positions, floor grids, or movement to explore coordinates, fractions, angles, and geometry.

Assessment: Observe students during activities and ask them to explain what their movements represent mathematically. Finish with a short written or oral problem to check whether they can transfer the physical experience to mathematical notation.

Key principle: Move → experience → represent → explain. The physical activity should always be connected explicitly to the mathematical concept, so movement becomes a tool for understanding rather than just a break from classroom work.



ALTERNATIVE LESSON PLAN FOR TEACHING MATHEMATICS GRADE 1

THE PLACE-VALUE ADVENTURE

Topic: Understanding the meaning of numbers according to position: ones, tens and hundreds

Teacher: _____

Date: _____

Class: _____

Duration: _____

Number of learners: _____

LEARNING JOURNEY

1. What are we learning? Big Idea: A digit does not always have the same value. **Its position in a number tells us its value.**

Example: 3 2 5 $325 = 300 + 20 + 5$

- 3 hundreds
- 2 tens
- 5 ones

Learning Intentions: By the end of the learning experience, learners will be able to:

- recognize the **ones, tens and hundreds** positions;
- build numbers using objects or pictures;
- connect quantities with written numbers;
- explain the value of a digit according to its position;
- represent a number in different ways;
- notice how a number changes when digits change position.

“I Can...” Statements

I can...

- ☐ find the ones, tens and hundreds.
- ☐ build a number using objects.
- ☐ read and write a number.
- ☐ explain what a digit is worth.
- ☐ show a number in more than one way.

2. What will make learning successful?

Learners demonstrate understanding when they can: **BUILD** → **SAY** → **DRAW** → **WRITE** → **EXPLAIN**

For example: **247**

→ build 2 hundreds, 4 tens and 7 ones

→ say “two hundred forty-seven”

→ draw/represent it

→ write **247**

→ explain **200 + 40 + 7**

3. Materials Station

Prepare a selection of: counters/cubes, bundles of 10, hundred grids or blocks, number cards, place-value mats, dice, paper and pencil, mini-whiteboards, classroom objects, or any other material the teachers consider appropriate.

Classroom Setup

Station 1: Build It

Station 2: Number Detectives

Station 3: Mystery Numbers

Station 4: Change the Digit

DISCOVER & EXPLORE

4. Teacher's Role

The teacher does **not begin by giving a long explanation**. Instead, the teacher:

OBSERVES: What do learners already understand?

ASKS QUESTIONS: “What do you notice?”; “How could we make ten?”; “What happens when we put ten ones together?”

CHALLENGES: “Can you make 24 in another way?”

LISTENS: What mathematical language are learners using?

SUPPORTS: Provides materials, examples or prompts when learners become stuck.

EXTENDS: Asks confident learners to explain, compare or create.

5. Launch Activity — “How Many?”

Time: _____ minutes

Place a collection of objects in front of the class. Ask: “**How many do you think there are?**”

Students estimate, count and discuss. Then ask: “How can we organize them so that counting becomes easier?” Allow students to discover **groups of ten**.

Teacher records children's ideas:

.....

Important discovery: 10 ones = 1 ten

Then, where appropriate: **10 tens = 1 hundred**

6. Exploration Station A — BUILD IT!

Time: _____ minutes

Learners work in pairs. One learner takes a number card. The pair must **build the number** using available materials.

Example: Number card: **136**

Students make: **1 hundred + 3 tens + 6 ones** Partners check each other's construction.

Teacher observation

Learner	Builds correctly	Explains position	Needs support
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐

7. Exploration Station B — NUMBER DETECTIVES

Learners receive clues rather than numbers.

Example: “I have 4 hundreds, 2 tens and 6 ones.” **What number am I?**

Create additional clues: “I have _____ hundreds, _____ tens and _____ ones.” **My number is:** _____

Learners give their clues to another pair.

PLAY, MOVE & THINK

8. Activity — HUMAN PLACE-VALUE CHART

Create three spaces in the classroom: **HUNDREDS | TENS | ONES**

Give students digit cards. Call out a number, for example: **352** Three learners holding **3**, **5** and **2** move into the appropriate positions. The class discusses:

- Which digit is in the hundreds position?
- What is its value?
- Which digit is in the tens position?
- Which digit represents ones?

Movement challenge

Call: **235** → **325** → **352** Students rearrange themselves. Discuss:

“What changed?”

“Why did the value of the digit change?”

9. Activity — SAME DIGIT, NEW VALUE

Display: **25** and **52** Ask: “Is the 5 worth the same in both numbers?” Students investigate using blocks/counters.

Complete: In **25**, the **5** is worth _____. In **52**, the **5** is worth _____.

Repeat with: 34 and 43, 107 and 170.

Challenge: Can learners create another pair where the same digit has a different value?

10. Activity — BUILD, BREAK, REBUILD

Give students a number such as: **248**. Students build it. Then ask them to **break it apart**:

248 = 200 + 40 + 8 Now ask: “Can you rebuild 248 without looking at the original number?”

Partner challenge: Partner A says the expanded form. Partner B builds the number. Then switch.

11. Differentiation Through Choice

Rather than giving every learner the same task, allow learners to choose an appropriate challenge.

LEVEL 1 — BUILD: Build numbers using objects.

Examples: 12, 25, 43

LEVEL 2 — REPRESENT: Build and write the number.

Examples: 125, 236, 304

LEVEL 3 — EXPLAIN: Explain how changing the position of a digit changes its value.

LEVEL 4 — CREATE: Create a mystery number and challenge a classmate to solve it.

Teacher notes:

CHECK, FEEDBACK & REFLECTION

12. Learning Check — “Show Me!”

Instead of a traditional worksheet, the teacher calls out challenges.

Challenge 1: Show me 34 using objects.

☐ Correct ☐ Developing ☐ Needs support

Challenge 2: Show me 2 hundreds, 5 tens and 3 ones.

Number: _____

☐ Correct ☐ Developing ☐ Needs support

Challenge 3: Which is greater: 245 or 425? Explain.

Challenge 4: What is the value of the 6 in 362?

Challenge 5: Change 352 to make the 5 worth 50.

13. Feedback in the Moment

When the learner is successful: “You showed _____ correctly because...”

When the learner is unsure: “Let's build it together.”

To encourage reasoning: “How can you prove that?”

To encourage another strategy: “Can you show it in a different way?”

Teacher notes on feedback:

14. Student Reflection — “My Mathematics Today”

Students complete orally, with pictures, or in writing.

Today I discovered.....

I can build...

☐ ones
☐ tens

- ☐ hundreds
- ☐ all three

**I can explain why a digit's value changes
when.....**

My confidence today:

- ☒ I can explain it to someone else.
- ☐ I understand but need more practice.
- ☐ I need help.

15. Exit Challenge

Choose one:

- A. Draw 3 hundreds, 4 tens and 2 ones.**
- B. Write the number represented by: 5 hundreds + 2 tens + 7 ones**

Answer: _____

- C. Explain why the 4 has a different value in: 45 and 405.**

16. Teacher Reflection

What did I notice?

Learners who quickly understood place value:

Learners who needed concrete materials/support:

Common misconception:

What worked?

What should I change?

Next learning step

- ☐ More work with ones and tens
- ☐ Introduce/reinforce hundreds
- ☐ Compare numbers
- ☐ Expanded form
- ☐ Digit value
- ☐ Number composition/decomposition
- ☐ Other: _____

Notes for the next lesson:



Differentiated Mathematics Lesson Plan Template – Grade 2

1. Lesson Information

- **Teacher:** _____
- **Date:** _____
- **Class/Grade:** 2nd Grade
- **Mathematics topic:** _____
- **Lesson title:** _____
- **Duration:** _____
- **Number of students:** _____
- **Key mathematical concept:** _____
- **Previous knowledge:** _____
- **Materials/resources:** _____

Students may work:

- ☐ Individually
- ☐ In pairs
- ☐ In mixed-ability groups
- ☐ In similar-readiness groups
- ☐ In teacher-led groups
- ☐ In learning stations
- ☐ Whole class

Grouping strategy and reason:

2. Learning Objectives

Core Learning Objective

All students will:

Learning Objectives by Readiness

Students needing additional support will:

Students working at the expected level will:

Students ready for extension will:

Success Criteria

All students should be able to:

-
-

Additional success criteria:

Support: _____

Core: _____

Extension: _____

3. Differentiation Plan

Student Need/Readiness	Teacher Support	Student Task	Expected Outcome
Support	Concrete materials, visuals, modeling, sentence starters, guided questions		
Core	Verbal prompts and occasional guidance		
Extension	Open-ended questions, less scaffolding, additional challenge		

Other Factors to Consider

Language/literacy needs (where necessary):

Learning difficulties or barriers (if applicable):

Students who need additional challenge:

Student interests or preferred ways of learning:

4. Teacher's Role

The teacher will:

- Identify students' prior knowledge and readiness.
- Provide different levels of support while maintaining the same mathematical focus.
- Model strategies when necessary.
- Use questioning to encourage mathematical reasoning.
- Provide concrete materials and visual representations.
- Move between groups and provide targeted support.
- Monitor misconceptions and adjust instruction during the lesson.
- Encourage students to explain and compare different strategies.
- Gradually remove scaffolding as students become more independent.
- Provide appropriate challenges for students who are ready to go further.

Differentiated Teacher Questions

For students needing support:

- “Can you show me by using the counters?”
- “What do you know already?”
- “What is the first step?”
- “Can we solve one together?”

For students working at the expected level:

- “How did you find your answer?”
- “Can you explain your strategy?”
- “Can you represent it another way?”

For students ready for extension:

- “Can you find another solution?”
- “Can you create a problem for someone else?”
- “Can you prove that your strategy always works?”
- “What would happen if we changed the numbers?”

5. Lesson Activities

A. Differentiated Warm-Up – ____ minutes

Whole-class mathematical starter:



Purpose:

Adaptations

Support:

Use _____ to help students access the task.

Core:

Students complete _____.

Extension:

Students investigate _____.

B. Explicit Teaching / Modeling – ____ minutes

Mathematical concept to model:

Representation/model used:

- ☐ Objects/manipulatives
- ☐ Pictures
- ☐ Number line
- ☐ Ten frames
- ☐ Bar model
- ☐ Symbols/numbers
- ☐ Other: _____

Gradual Release

I DO – Teacher models:

WE DO – Teacher and students solve together:

YOU DO – Students work independently/with peers:

Differentiation



Additional scaffolding:

Questions/prompts:

Extension:

6. Differentiated Main Activity – ____ minutes

Activity: _____

Mathematical objective:

Level 1 – Supported Task

Students who need additional support:

Materials/scaffolds:

- ☐ Counters
- ☐ Number line
- ☐ Visual example
- ☐ Worked example
- ☐ Sentence starters
- ☐ Teacher/peer support
- ☐ Reduced number range
- ☐ Other: _____

Level 2 – Core Task

Students working at the expected level:

Materials:

Expected strategy/strategies:



Level 3 – Extension Task

Students ready for greater challenge:

Challenge:

Possible open-ended problem:

7. Alternative Ways to Show Understanding

Students may demonstrate their learning by:

- ☐ Solving using objects
- ☐ Drawing a representation
- ☐ Using numbers and symbols
- ☐ Explaining verbally
- ☐ Writing an explanation
- ☐ Demonstrating with a partner
- ☐ Creating their own mathematical problem
- ☐ Solving a challenge problem

Product options:

8. Differentiated Assessment and Feedback

Formative Assessment

The teacher will gather evidence through:

- ☐ Observation
- ☐ Questioning
- ☐ Student discussion
- ☐ Manipulative activity
- ☐ Independent task
- ☐ Exit ticket
- ☐ Student explanation
- ☐ Self-assessment
- ☐ Peer assessment



Assessment by Readiness

Support group:

What will demonstrate understanding?

Core group:

What will demonstrate understanding?

Extension group:

What will demonstrate deeper understanding?

9. Feedback Plan

Feedback for Students Needing Support

Focus on:

- Understanding the concept
- Following the steps
- Using appropriate representations
- Building confidence and independence

Feedback:

Feedback for Core Learners

Focus on:

- Accuracy
- Mathematical vocabulary
- Explaining strategies
- Making connections

Feedback:

Feedback for Extension Learners

Focus on:



- Reasoning
- Justification
- Multiple strategies
- Generalization
- Problem-solving

Feedback:

10. Student Self-Assessment

Today I can...

- ☐ I can explain the mathematical idea.
- ☐ I can solve a problem using a strategy.
- ☐ I can explain how I found my answer.
- ☐ I can represent my thinking in different ways.
- ☐ I can solve a more challenging problem.

My learning today

- 😊 I can do this independently.
- 😐 I can do this with some help.
- 😞 I need more practice and support.

My strategy was:

Something I found easy:

Something I found challenging:

11. Teacher Reflection and Next Steps

Evidence of Learning

Students who achieved the objective:

Students who need further support:



Students ready for additional challenge:

Reflection

Which differentiation strategies worked well?

Which students benefited from scaffolding?

Which students needed more challenge?

Were the groups appropriate?

What misconceptions were identified?

Next Lesson

Students needing reinforcement:

Students ready to progress:

Planned differentiation for the next lesson:

Differentiation Reminder for Teachers

When planning a differentiated mathematics lesson, ask:

Same goal? - Are all students working toward an important mathematical concept?

Different access? - Do students have different ways to access mathematics?



Different support? - Have scaffolds been provided where needed?

Different challenges? - Can students who are ready go deeper rather than simply doing more work?

Different ways to demonstrate learning? - Can students show their mathematical thinking in more than one way?

Flexible, not fixed groups? - Are groups based on the current learning need and able to change as students progress?



GAME-BASED ALTERNATIVE MATHEMATICS LESSON PLAN

Grade 3 Teacher Template

1. LESSON SNAPSHOT

Teacher: _____

Date: _____

Class: _____

Topic: _____

Lesson title: _____

Length of lesson: _____

Number of learners: _____

Mathematical skill/concept:

Game/activity name:

Equipment and materials:

Lesson Setting

- ☐ Individual work
- ☐ Pair work
- ☐ Small teams
- ☐ Whole-class game
- ☐ Learning stations
- ☐ Outdoor activity
- ☐ Digital game

2. WHAT SHOULD STUDENTS LEARN?

Main Learning Goal

At the end of the lesson, students will:



Students Will Practise

- ☐ Number sense
- ☐ Addition/subtraction
- ☐ Multiplication/division
- ☐ Fractions
- ☐ Measurement
- ☐ Geometry
- ☐ Patterns
- ☐ Problem-solving
- ☐ Mental calculation
- ☐ Mathematical reasoning
- ☐ Other: _____

Learning Outcomes

Students will be able to:

1. _____
2. _____
3. _____

3. *GAME DESIGN*

Why This Game?

What mathematical learning does the game support?

Game Challenge

The mathematical challenge/problem is:

How to Play

Starting point:

Rules:

- 1.
- 2.
- 3.

How does a player/team win or complete the challenge?

Estimated Playing Time: minutes

Number of Players per Group: students

4. TEACHER AS FACILITATOR

During the lesson, the teacher's main role is to *guide mathematical thinking rather than simply give answers*.

Before the game, the teacher will:

- Introduce the mathematical challenge.
- Demonstrate the game.
- Check that students understand the rules.
- Organize students into teams/pairs.
- Explain how students should record their mathematical thinking.

During the game, the teacher will:

- Observe students' strategies.
- Ask probing questions.
- Encourage students to explain their reasoning.
- Identify misconceptions.
- Give hints when necessary.
- Adjust the difficulty when appropriate.
- Encourage cooperation and respectful communication.
- Record evidence of student learning.

Teacher's Key Questions

Understanding: “What do you need to find?”

Strategy: “What could you try?”

Reasoning: “Why did you choose that strategy?”



Checking: “How can you know your answer is correct?”

Extension: “Can you find another solution?”

5. STUDENT PARTICIPATION

Team/Pair Roles

Assign roles when appropriate:

Player/Solver: _____

Recorder: _____

Checker: _____

Explainer: _____

Roles can be rotated so that every student has an opportunity to practise different skills.

Students Are Expected To

- ☐ Participate actively
- ☐ Follow the rules
- ☐ Explain their thinking
- ☐ Listen to others
- ☐ Check answers
- ☐ Use mathematical vocabulary
- ☐ Try different strategies
- ☐ Encourage team members

6. LESSON FLOW

Phase 1 – ENGAGE

Time: _____ minutes

Starter/challenge:

How will the teacher capture students' interest?

Phase 2 – DISCOVER

Time: _____ minutes



Students explore the mathematical idea through:

- ☐ Manipulatives
- ☐ Puzzle
- ☐ Card game
- ☐ Board game
- ☐ Movement game
- ☐ Problem-solving challenge
- ☐ Digital game
- ☐ Mathematical investigation
- ☐ Other: _____

Student task:

Phase 3 – PLAY & PRACTISE

Time: _____ minutes

Main game:

What mathematical skill is being practised?

Teacher observations:

Phase 4 – THINK & EXPLAIN

Time: _____ minutes

Students stop and discuss:

- What strategy did you use?
- What worked?
- What did not work?
- Did another player use a different strategy?
- How can you prove your answer?

Discussion task:



Phase 5 – APPLY

Time: _____ minutes

Students use what they learned to complete:

7. MAKE THE GAME WORK FOR EVERY LEARNER

If students need more support, the teacher can:

- ☐ Use smaller numbers
- ☐ Provide manipulatives
- ☐ Provide visual examples
- ☐ Use a number line
- ☐ Model the first example
- ☐ Provide a strategy card
- ☐ Reduce the number of rules
- ☐ Pair students strategically
- ☐ Provide additional time
- ☐ Give guiding questions

Specific adaptation:

If students need more challenge, the teacher can:

- ☐ Increase the number range
- ☐ Add a new rule
- ☐ Introduce a time/strategy challenge
- ☐ Require students to justify answers
- ☐ Ask students to find multiple solutions
- ☐ Ask students to create a new version of the game
- ☐ Ask students to create a problem for another team

Specific extension:

8. OBSERVATION & ASSESSMENT

“What am I looking for?”

Learning Area

Evidence I will look for



Mathematical understanding _____
Accuracy _____
Strategy selection _____
Reasoning _____
Communication _____
Collaboration _____
Independence _____

Assessment During the Game

The teacher records:

Students demonstrating secure understanding:

Students showing partial understanding:

Students requiring additional support:

Students ready for extension:

9. FEEDBACK MOMENTS

Feedback While Playing

Instead of immediately correcting an error, the teacher can ask:

“Can you check that again?”

“What makes you think that?”

“Can you show it another way?”

“What could you change?”

“Can your partner explain the strategy?”

Feedback After Playing

One mathematical strength:

One area for improvement:

Next learning step:

10. EXIT CHALLENGE

Before leaving the lesson, students complete one short task:

Challenge:

Students Show Their Answer By:

- ☐ Solving
- ☐ Drawing
- ☐ Explaining
- ☐ Demonstrating with materials
- ☐ Writing a mathematical sentence
- ☐ Creating their own example

11. STUDENT REFLECTION

Today I...

- ☐ Solved a mathematical problem.
- ☐ Used a strategy.
- ☐ Explained my thinking.
- ☐ Learned from another student.
- ☐ Changed my strategy when something did not work.
- ☐ Helped my team.

Complete the sentence:

The strategy that helped me most was:

The most challenging part was:



One thing I understand better now is:

12. TEACHER'S AFTER-LESSON NOTES

Engagement: Were students motivated by the game? Why/why not?

Mathematics: What mathematical understanding did the game reveal?

Differentiation: Which adaptations were effective?

Classroom Management: Did the game rules and group organization work well?

Improvement: What would I change if I taught this lesson again?

Next Step: What should students practise or explore next?



GRADE 4 ALTERNATIVE MATHEMATICS

ACTIVE LEARNING LESSON PLAN

Teacher: _____

Date: _____

Class/Grade: Grade 4

Topic: _____

Duration: _____

Number of students: _____

1. Lesson Focus

Mathematical concept/skill:

Connection to real life:

Previous knowledge needed:

2. Learning Objectives

By the end of the lesson, students will be able to:

- 1.
- 2.
- 3.

Student-friendly goal:

“Today I can _____.”

3. Success Criteria

Students can:

- ☐ Explain the mathematical idea.
- ☐ Solve a related problem.
- ☐ Explain their strategy.
- ☐ Work with others.
- ☐ Check or justify their answer.

4. Resources



- ☐ Manipulatives ☐ Cards ☐ Worksheets ☐ Whiteboard
☐ Digital resources ☐ Games ☐ Other: _____

5. Teacher's Role

The teacher will:

- Introduce the mathematical problem or situation.
- Activate students' prior knowledge.
- Facilitate discussion rather than give immediate answers.
- Ask questions that encourage reasoning.
- Observe and support students during activities.
- Provide feedback and additional challenges.

Key teacher questions:

- What do you notice?
- How did you find your answer?
- Can you explain your thinking?
- Is there another way?
- Can you prove/check your answer?

6. Lesson Activities

Stage	Time	Teacher	Students
Engage	min	Introduces a question/problem	Think, predict, discuss
Explore	min	Facilitates and questions	Investigate/solve
Collaborate	min	Observes and supports	Work in pairs/groups
Apply	min	Gives a new challenge	Apply and explain
Reflect	min	Leads discussion	Share learning

7. Main Active Learning Task

Problem/challenge:

Students will work:

- ☐ Individually ☐ In pairs ☐ In small groups

Students will demonstrate their thinking through:

- ☐ Drawing ☐ Manipulatives ☐ Calculation ☐ Explanation
☐ Diagram/table ☐ Presentation ☐ Other: _____

8. Differentiation

Support for students who need help:



Extension/challenge for advanced students:

9. Assessment

How will learning be assessed?

- ☐ Observation
- ☐ Questioning
- ☐ Student work
- ☐ Group discussion
- ☐ Peer assessment
- ☐ Self-assessment
- ☐ Exit ticket

Evidence of learning:

10. Feedback

Teacher feedback:

What did students do well?.....

What needs improvement?.....

Peer feedback:

“One thing my partner did well was...”

“One question/suggestion I have is...”

11. Student Reflection

Today I learned:

A strategy that helped me:



I still need help with:

My understanding:

☐ 😊 Very good ☐ 😊 Good ☐ 😐 Need more practice ☐ 😞 Need help

12. Teacher Reflection

Were the learning objectives achieved?

Which activity worked best?

What difficulties/misconceptions did students have?

What should be reinforced or extended in the next lesson?

13. Next Steps

For students needing support:

For students ready for extension:

Focus of the next lesson:

ACTIVE LEARNING LESSON PLAN

GRADE 5 ALTERNATIVE MATHEMATICS

1. Lesson Information

Item	Details
Teacher	
Date	
Grade	5
Subject	Alternative Mathematics
Topic	Geometry – Points, Lines and Angles
Duration	_____ minutes
Number of students	_____
Lesson type	☐ Introduction ☐ Exploration ☐ Practice ☐ Review
Grouping	☐ Individual ☐ Pairs ☐ Small groups ☐ Whole class
Resources	Protractors, rulers, paper, string, cards, board, worksheets

2. Lesson Focus

Students explore and represent basic geometric objects and develop an understanding of angles through **hands-on activities, mathematical discussion, drawing, measuring and constructing**.

Prior knowledge:

Connection to everyday life:

3. Learning Objectives

By the end of the lesson/unit, students will be able to:

- Identify and describe a **point, line, plane, half-plane, ray and line segment**.
- Represent and use appropriate **geometric notation**.
- Identify and describe an **angle** and its parts.
- Measure angles accurately using a **protractor**.
- Construct angles of a given measure using a protractor.
- Identify **congruent angles** and explain why they are congruent.
- Classify angles as **null, acute, right, obtuse or straight**.
- Explain and communicate mathematical reasoning using appropriate vocabulary and notation.

4. Student-Friendly Learning Goals

At the end of the lesson, students can say:

“I can identify, draw and name basic geometric objects.”

“I can measure and construct an angle using a protractor.”

“I can classify angles and explain how I know what type of angle they are.”

5. Teacher's Role - The teacher acts primarily as a **facilitator and guide**.

Before learning, the teacher:

- Prepares geometric materials and protractors.
- Activates students' prior knowledge.
- Presents a visual or real-life mathematical situation.
- Introduces the learning objectives and success criteria.

During learning, the teacher:

- Encourages students to discover and describe geometric concepts.
- Asks questions rather than immediately providing answers.
- Models correct mathematical vocabulary and notation when necessary.
- Observes students' strategies and misconceptions.
- Supports students in using rulers and protractors correctly.
- Encourages students to compare and explain different solutions.

Useful teacher questions

- “What do you notice?”
- “How could you represent this?”
- “How is a ray different from a line segment?”
- “Where are the endpoints?”
- “How do you know this is an angle?”
- “How can you check your measurement?”
- “Why do you think these angles are congruent?”
- “What makes an angle acute, right or obtuse?”
- “Can you find an example in the classroom?”

6. Active Learning Activities

Activity 1 — Geometry Around Us Time: _____ minutes

Students work in pairs/groups to find examples of geometric objects and angles in the classroom or school environment.

Students identify:

- ☐ Points
- ☐ Lines
- ☐ Line segments
- ☐ Rays
- ☐ Planes/surfaces
- ☐ Angles

Student task: Find an example → draw it → name/describe it → explain why it fits the definition.

Teacher's role: Observe, question and guide.

Activity 2 — Geometry Card Sort Time: _____ minutes

Students receive cards containing **definitions, diagrams and mathematical notation**. They work collaboratively to match: **Concept ↔ Representation ↔ Notation ↔ Description**

Examples: point, line, ray, segment, angle, half-plane

Challenge:

Students create one additional example for another group to identify.

Activity 3 — Build and Draw Time: _____ minutes

Using string, rulers, paper or other manipulatives, students construct examples of: a line, a ray, a line segment, different angles. Students then draw their constructions and add the appropriate notation.

Teacher prompts:

“How many endpoints does it have?”

“Does it continue indefinitely?”

“How would you represent it mathematically?”

7. Activity 4 — Angle Detectives Time: _____ minutes

Students investigate different angles presented on cards, worksheets, objects or classroom photographs. For each angle, students:

1. Identify the vertex.
2. Identify the sides/rays.
3. Estimate its size.
4. Measure it using a protractor.
5. Record the measurement.
6. Classify the angle.

Angle	Estimate	Measured	Classification
A	°	°	
B	°	°	
C	°	°	
D	°	°	



Angle Classification

Type	Measure
Null angle	0°
Acute angle	Greater than 0° and less than 90°
Right angle	90°
Obtuse angle	Greater than 90° and less than 180°
Straight angle	180°

8. Activity 5 — Protractor Challenge

Time: _____ minutes

Students work in pairs.

Part A — Measure: Students measure angles provided by the teacher.

Important steps:

1. Place the center of the protractor on the vertex.
2. Align one side of the angle with 0° .
3. Read the correct scale.
4. Record the measurement.
5. Check the result.

Part B — Construct: Students are given target measurements:

Construct:

- _____ $^\circ$ acute angle
- _____ $^\circ$ right angle
- _____ $^\circ$ obtuse angle
- _____ $^\circ$ straight angle

Challenge:

Partner A constructs an angle. Partner B measures it and checks whether it matches the requested measurement.

9. Activity 6 — Congruent Angle Detectives

Time: _____ minutes

Students receive several pairs of angles. They must determine: **Are the angles congruent?**
How do you know? Students measure the angles and compare their measurements.

Pair	Angle 1	Angle 2	Congruent?	Explanation
A	_____ $^\circ$	_____ $^\circ$	☐ Yes ☐ No	_____
B	_____ $^\circ$	_____ $^\circ$	☐ Yes ☐ No	_____
C	_____ $^\circ$	_____ $^\circ$	☐ Yes ☐ No	_____

Key idea: Congruent angles have **equal measures**, even when their orientation or position is different.

10. Differentiation

Support

- ☐ Provide partially completed diagrams.
- ☐ Use color coding for vertices and sides.
- ☐ Provide a protractor-use guide.
- ☐ Allow students to work with a partner.
- ☐ Use concrete materials and visual examples.
- ☐ Provide vocabulary cards.

Extension

- ☐ Create angles with specified measures.
- ☐ Find congruent angles in the classroom.
- ☐ Create a geometry puzzle for classmates.
- ☐ Explain and correct a deliberately incorrect solution.
- ☐ Construct several different representations of the same angle.

Extension task:

11. Assessment and Evidence of Learning

Formative assessment

The teacher assesses learning through:

- ☐ Observation
- ☐ Questioning
- ☐ Card sorting
- ☐ Student drawings
- ☐ Group discussions
- ☐ Protractor activities
- ☐ Student explanations
- ☐ Peer checking
- ☐ Exit ticket

Assessment Criteria

Learning objective	Evidence	Achieved
Identifies geometric objects	Correct identification/description	☐ Yes ☐ Partly ☐ Not yet
Uses geometric notation	Correct notation	☐ Yes ☐ Partly ☐ Not yet
Measures angles	Accurate protractor use	☐ Yes ☐ Partly ☐ Not yet

Learning objective	Evidence	Achieved
Constructs angles	Correct construction	☐ Yes ☐ Partly ☐ Not yet
Identifies congruent angles	Correct comparison	☐ Yes ☐ Partly ☐ Not yet
Classifies angles	Correct classification	☐ Yes ☐ Partly ☐ Not yet

12. Feedback

Teacher feedback

What students did well:

Common errors/misconceptions:

Feedback/action for improvement:

Peer feedback

Students check a partner's work:

“Your angle measurement is accurate because.....”

“One thing to check/improve is”

13. Exit Ticket

Before the end of the lesson, students answer:

1. Draw and name a ray.
2. What is the measure of a right angle?
3. Classify an angle measuring 125° .
4. What does it mean when two angles are congruent?
5. What is one thing you learned today?

14. Student Self-Assessment

- ☐ 😊 I can do this independently.
- ☐ 😊 I understand, but I need more practice.
- ☐ 😊 I understand some parts.
- ☐ 😊 I need additional help.



The concept I understand best:

The concept I need to practise:

15. Teacher Reflection

Which activities produced the most active participation?

What misconceptions did students demonstrate?

Which students need additional support?

Which students need extension activities?

What should be changed or improved for the next lesson?

Next Lesson / Follow-Up