

Part A: What Do Engineers Do?

Engineers solve problems by designing and building solutions!

Match the type of engineer to what they do:

- | | |
|--------------------------|----------------------------------|
| Civil engineer ● | ● Designs bridges and roads |
| Mechanical engineer ● | ● Designs machines and engines |
| Environmental engineer ● | ● Helps keep air and water clean |
| Computer engineer ● | ● Designs software and hardware |

Part B: Find Engineering Around You

List 5 things in your home that an engineer helped design:

- | | |
|----------|---------------------|
| 1. _____ | How it helps: _____ |
| 2. _____ | How it helps: _____ |
| 3. _____ | How it helps: _____ |
| 4. _____ | How it helps: _____ |
| 5. _____ | How it helps: _____ |

Part C: The Engineering Design Process

Put these steps in order: Ask, Imagine, Plan, Create, Improve

Order: ____ → ____ → ____ → ____ → ____

Part A: Identify the Problem

Read each scenario. What is the PROBLEM that needs solving?

1. The playground gets too hot in summer.

Problem: _____

Who is affected? _____

2. Books keep falling off the shelf.

Problem: _____

Who is affected? _____

3. The school garden doesn't get enough water.

Problem: _____

Who is affected? _____

Part B: Ask Good Questions

Write 3 questions you would ask before solving one of the problems above:

1. _____
2. _____
3. _____

Part A: Brainstorm Solutions

Problem: Design a device to carry 10 marbles across the room without dropping any.

Brainstorm 3 possible solutions:

Idea 1:	Idea 2:	Idea 3:
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Part B: Choose the Best Solution

Criteria	Idea 1	Idea 2	Idea 3
Easy to build?			
Uses few materials?			
Will it work?			
Can be improved?			
TOTAL			

Best solution: Idea ____ because _____

Part A: Build & Test Your Model

Build your solution from Idea _____. Record what happens.

Drawing of My Model:

Materials Used:

Part B: Test Results

Test #	What Happened	Did It Work?	What to Change
1		Y / N	
2		Y / N	
3		Y / N	

Conclusion: My model worked / didn't work because _____

Science Investigation Planner

Question: What do I want to find out? _____

Prediction: I think _____

Materials I need: _____

Steps:

Step 1: _____

Step 2: _____

Step 3: _____

Step 4: _____

Observations

What I saw / What happened:

Data Table

Trial / Item	Observation 1	Observation 2	Result

Conclusion

What did I learn? _____

Was my prediction correct? YES / NO Explain: _____

Part A: Science Around Me

Find examples of this unit's science topics in your daily life!

1. I noticed: _____ This connects to: _____
2. I noticed: _____ This connects to: _____
3. I noticed: _____ This connects to: _____
4. I noticed: _____ This connects to: _____

Part B: Draw & Explain

Draw something from nature that relates to what you learned this unit.

My Drawing:

What I learned:

Part C: Teach Someone!

Explain one thing you learned to a family member. Write what you told them:

I taught _____ about _____

They thought it was interesting because: _____

A question they asked me: _____

Science Vocabulary for This Unit

Define each word and draw a picture to help you remember.

Word 1: _____	Draw:
Definition: _____	

Word 2: _____	Draw:
Definition: _____	

Word 3: _____	Draw:
Definition: _____	

Word 4: _____	Draw:
Definition: _____	

Word 5: _____	Draw:
Definition: _____	

Word 6: _____	Draw:
Definition: _____	

Concepts I Can Explain

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

What I Learned

The most interesting thing I learned: _____

Something I want to explore more: _____

A question I still have: _____

Self-Assessment

I can observe carefully and describe what I see: Great / Good / Need Practice

I can ask scientific questions: Great / Good / Need Practice

I can predict what will happen in an experiment: Great / Good / Need Practice

I can record data in tables and charts: Great / Good / Need Practice

I can explain my thinking using evidence: Great / Good / Need Practice

I can work with others to solve problems: Great / Good / Need Practice

My Science Goal