



# Engineering Design Process

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Grade: Grade 3

## Part A: Fill in the Blank

Write the missing word or number on each line.

- Grade 3 engineers use \_\_\_\_\_ like strength and cost to compare designs.
- If a Grade 3 bridge must hold the most weight, the best design is the \_\_\_\_\_.
- When a Grade 3 car race has a time goal, the \_\_\_\_\_ car wins.
- If a Grade 3 design has a small budget, the \_\_\_\_\_ design is best.
- A \_\_\_\_\_ is a limit, like only using 10 straws in a Grade 3 tower build.
- Grade 3 engineers make a chart to \_\_\_\_\_ each idea against the criteria.
- The design that meets the most Grade 3 criteria is the \_\_\_\_\_ solution.
- Grade 3 engineers \_\_\_\_\_ each idea by giving it a score on every criterion.
- Sometimes two Grade 3 designs tie, so engineers pick the one with fewer \_\_\_\_\_.

## Part B: Matching

Match each item on the left to the correct answer on the right.

- Match each item to its correct answer.

Grade 3 bridge must hold 30 coins	→ _____	Strongest design wins
Grade 3 paper airplane must fly farthest	→ _____	Farthest-flying design wins
Grade 3 boat must be built for under \$2	→ _____	Cheapest design wins
Grade 3 umbrella must keep all water off	→ _____	Most waterproof design wins

## Answer Key · Engineering Design Process · Grade: Grade 3

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### Part A: Fill in the Blank

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Write the missing word or number on each line.

1. Grade 3 engineers use criteria like strength and cost to compare designs.
2. If a Grade 3 bridge must hold the most weight, the best design is the strongest.
3. When a Grade 3 car race has a time goal, the fastest car wins.
4. If a Grade 3 design has a small budget, the cheapest design is best.
5. A constraint is a limit, like only using 10 straws in a Grade 3 tower build.
6. Grade 3 engineers make a chart to compare each idea against the criteria.
7. The design that meets the most Grade 3 criteria is the best solution.
8. Grade 3 engineers evaluate each idea by giving it a score on every criterion.
9. Sometimes two Grade 3 designs tie, so engineers pick the one with fewer weaknesses.

### Part B: Matching

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Match each item on the left to the correct answer on the right.

1. Match each item to its correct answer.

Grade 3 bridge must hold 30 coins	→ <u>Strongest design wins</u>	Strongest design wins
Grade 3 paper airplane must fly farthest	→ <u>Farthest-flying design wins</u>	Farthest-flying design wins
Grade 3 boat must be built for under \$2	→ <u>Cheapest design wins</u>	Cheapest design wins
Grade 3 umbrella must keep all water off	→ <u>Most waterproof design wins</u>	Most waterproof design wins