Title of Report

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| **1. REPORT DATE** *(DD-MM-YYYY)*  (Added Just Before Publishing) | | | **2. REPORT TYPE**  Technical Report | | | | | | **3. DATES COVERED** *(From - To)*  Dates of Research |
| **4. TITLE AND SUBTITLE**  **Title of Report from Title Page** | | | | | | | **5a. CONTRACT NUMBER** | | |
| **5b. GRANT NUMBER** | | |
| **5c. PROGRAM ELEMENT NUMBER** | | |
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| **13. SUPPLEMENTARY NOTES**  COR: Name of COR | | | | | | | | | |
| **14. ABSTRACT**  **A succinct description of the work and who, what, when, where, etc. Usually taken from the Introduction or Executive Summary.** | | | | | | | | | |
| **15. SUBJECT TERMS**  **Keywords should be entered by author/PM** | | | | | | | | | |
| **16. SECURITY CLASSIFICATION OF:** | | | | **17. LIMITATION OF ABSTRACT** | **18. NUMBER OF PAGES**  xx | **19a. NAME OF RESPONSIBLE PERSON** | | | |
| **a. REPORT** | **b. ABSTRACT** | **c. THIS PAGE** | |
| **19b. TELEPHONE NUMBER** *(Include area code)* | | | |

**Standard Form 298** (Rev. 8/98)

Prescribed by ANSI Std. Z39.18

METRIC/ENGLISH CONVERSION FACTORS

| **ENGLISH TO METRIC** | | | | | **METRIC TO ENGLISH** | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **LENGTH (APPROXIMATE)** | | | | | **LENGTH (APPROXIMATE)** | | | | | |
| **1 inch (in)** | **=** | **2.5 centimeters (cm)** | | **1 millimeter (mm)** | | **=** | | | **0.04 inch (in)** | |
| **1 foot (ft)** | **=** | **30 centimeters (cm)** | | **1 centimeter (cm)** | | **=** | | | **0.4 inch (in)** | |
| **1 yard (yd)** | **=** | **0.9 meter (m)** | | **1 meter (m)** | | **=** | | | **3.3 feet (ft)** | |
| **1 mile (mi)** | **=** | **1.6 kilometers (km)** | | **1 meter (m)** | | **=** | | | **1.1 yards (yd)** | |
|  |  |  | | **1 kilometer (km)** | | **=** | | | **0.6 mile (mi)** | |
| **AREA (APPROXIMATE)** | | | | | **AREA (APPROXIMATE)** | | | | | |
| **1 square inch (sq in, in2)** | **=** | **6.5 square centimeters (cm2)** | | **1 square centimeter (cm2)** | | **=** | | | **0.16 square inch (sq in, in2)** | |
| **1 square foot (sq ft, ft2)** | **=** | **0.09 square meter (m2)** | | **1 square meter (m2)** | | **=** | | | **1.2 square yards (sq yd, yd2)** | |
| **1 square yard (sq yd, yd2)** | **=** | **0.8 square meter (m2)** | | **1 square kilometer (km2)** | | **=** | | | **0.4 square mile (sq mi, mi2)** | |
| **1 square mile (sq mi, mi2)** | **=** | **2.6 square kilometers (km2)** | | **10,000 square meters (m2)** | | **=** | | | **1 hectare (ha) = 2.5 acres** | |
| **1 acre = 0.4 hectare (he)** | **=** | **4,000 square meters (m2)** | |  | |  | | |  | |
| **MASS - WEIGHT (APPROXIMATE)** | | | | | **MASS - WEIGHT (APPROXIMATE)** | | | | | |
| **1 ounce (oz)** | **=** | **28 grams (gm)** | | **1 gram (gm)** | | **=** | | **0.036 ounce (oz)** | | |
| **1 pound (lb)** | **=** | **0.45 kilogram (kg)** | | **1 kilogram (kg)** | | **=** | | **2.2 pounds (lb)** | | |
| **1 short ton = 2,000 pounds (lb)** | **=** | **0.9 tonne (t)** | | **1 tonne (t)** | | **=**  **=** | | **1,000 kilograms (kg)**  **1.1 short tons** | | |
| **VOLUME (APPROXIMATE)** | | | | | **VOLUME (APPROXIMATE)** | | | | | |
| **1 teaspoon (tsp)** | **=** | **5 milliliters (ml)** | | | **1 milliliter (ml)** | | **=** | | | **0.03 fluid ounce (fl oz)** |
| **1 tablespoon (tbsp)** | **=** | **15 milliliters (ml)** | | | **1 liter (l)** | | **=** | | | **2.1 pints (pt)** |
| **1 fluid ounce (fl oz)** | **=** | **30 milliliters (ml)** | | | **1 liter (l)** | | **=** | | | **1.06 quarts (qt)** |
| **1 cup (c)** | **=** | **0.24 liter (l)** | | | **1 liter (l)** | | **=** | | | **0.26 gallon (gal)** |
| **1 pint (pt)** | **=** | **0.47 liter (l)** | | |  | |  | | |  |
| **1 quart (qt)** | **=** | **0.96 liter (l)** | | |  | |  | | |  |
| **1 gallon (gal)** | **=** | **3.8 liters (l)** | | |  | |  | | |  |
| **1 cubic foot (cu ft, ft3)** | **=** | **0.03 cubic meter (m3)** | | | **1 cubic meter (m3)** | | **=** | | | **36 cubic feet (cu ft, ft3)** |
| **1 cubic yard (cu yd, yd3)** | **=** | **0.76 cubic meter (m3)** | | | **1 cubic meter (m3)** | | **=** | | | **1.3 cubic yards (cu yd, yd3)** |
| **TEMPERATURE (EXACT)** | | | | | **TEMPERATURE (EXACT)** | | | | | |
| **[(x-32)(5/9)] F** | | **=** | **y C** | | **[(9/5) y + 32] C** | | **=** | | **x F** | |

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For more exact and or other conversion factors, see NIST Miscellaneous Publication 286, Units of Weights and Measures. Price $2.50 SD Catalog No. C13 10286 **Updated 6/17/98**

Acknowledgements [Optional]

*Note: FRA staff should not be acknowledged for providing funding. If appropriate, they can be acknowledged for technical contributions.*

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# Executive Summary

Enter Text [Maximum 1,000 words; approximately 1–1 ½ pages]

*First paragraph should introduce the research by describing who conducted the research, when it was conducted, and where it was conducted. This is a narrative summary of the research for the public and should not mention deliverables or administrative information. Use the active voice (“The research team developed…”) rather than passive voice (“The research was developed by the team…”).*

# Introduction

Text [Introductory Paragraph]

*This should be a recap of the Executive Summary first paragraph describing the research. All subsections below must be completed.*

## Background

*Describe the reasons the research was conducted.*

## Objectives

*Describe what the research aimed to achieve.*

## Overall Approach

*Describe how the team conducted the research.*

## Scope

*Describe what was and was not included in the research.*

## Organization of the Report

*List the sections of the report and what they contain. Link to the sections.*

# Section 2 Title

Text [Introductory Paragraph]

**DO NOT convert equations to images**.

## Subsection 1

Text

*Sample table and figure:*

Table . [ENTER CAPTION]

|  |  |  |  |
| --- | --- | --- | --- |
| Header 1 | Header 2 | Header 3 | Header 4 |
| Row 1 |  |  |  |
| Row 2 |  |  |  |
| Row 3 |  |  |  |
| Row 4 |  |  |  |
| Row 5 |  |  |  |

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use "alt-text" for each image.

Figure 1. [ENTER CAPTION]

## Subsection 2

Text

Sample footnote reference.[[1]](#footnote-1)

### Subheading 1

Text

Reference in text sample (Author, Year).

### Subheading 2

Text

### Subheading 3

Text

#### Subheading 4

Text

##### **Subheading 5**

Text

# Conclusion

Maximum 500 words; approximately 1 page

*This should be a narrative summary of the research and the outcomes.*

# References

Author (Year). Book Title. In B. Author, *Book Title* (p. Pages). City: Publisher.

Author (Year). Conference Title. *Conference Publication Name* (p. Pages). City: Publisher.

Author (Year). Journal Title. *Journal Name*, *Volume*(Number), Pages.

Author (Year, Month Day). *Name of Web Page*. Retrieved from Name of Web Site: URL

# Appendix A. Appendix Heading (Optional)

[Add information related to the Appendix. Insert file text here.]

# Abbreviations and Acronyms

|  |  |
| --- | --- |
| **ACRONYM** | **DEFINITION** |
| AAA | List in alphabetical order |
| BBB | List in alphabetical order |
| CCC | List in alphabetical order |
| DDD | List in alphabetical order |
| EEE | List in alphabetical order |
| FFF | List in alphabetical order |

1. [sample foot note reference] [↑](#footnote-ref-1)