

# how to make a crane

## How to Make a Crane: A Step-by-Step Guide to Crafting Your Own Crane

**how to make a crane** is a fascinating skill that blends creativity, patience, and precision. Whether you're interested in origami, building a mechanical model, or constructing a small crane for educational purposes, understanding the process can be both rewarding and fun. Cranes, whether paper or mechanical, have a rich history and practical applications that make learning to create one an engaging experience.

In this article, we'll explore the different ways you can make a crane, from the delicate art of folding paper to assembling a functional miniature crane. Along the way, you'll pick up tips and insights that will help you master this craft with confidence.

## Understanding the Crane: What Makes It Special?

Before diving into the making process, it helps to understand what a crane is and why it captures so much attention. The crane is not only a majestic bird known for its grace but also a symbol in many cultures, especially in Japanese tradition where the origami crane represents peace and hope.

From an engineering perspective, a crane is a machine used to lift and move heavy objects. The mechanical crane uses pulleys, levers, and counterweights to function effectively. Knowing this helps when you decide whether you want to make a paper crane for decoration or a mechanical crane model to understand basic physics and engineering principles.

## How to Make a Crane Out of Paper: The Classic Origami Crane

Origami cranes are perhaps the most well-known and beloved form of crane making. This traditional Japanese paper folding art can be mastered with a bit of practice and attention to detail.

## Materials You'll Need

- A square piece of paper (preferably origami paper, but any square sheet will do)
- A flat surface to fold on
- Patience and precision

## Step-by-Step Folding Instructions

1. **\*\*Start with a square piece of paper, colored side up.\*\*** Fold it diagonally in half to form a triangle.
2. **\*\*Fold the triangle in half again.\*\*** Crease well and unfold.

3. **Flip the paper over** and fold it in half diagonally the other way.
4. **Collapse the paper into a square base** by bringing the edges together along the creases.
5. **Fold the lower edges of the square base to the center line.** Repeat on both sides.
6. **Fold the top triangle flap down and crease well.** Then unfold the last three folds.
7. **Lift the bottom corner and fold it upwards along the creases to form a petal shape.**
8. **Flip the paper over** and repeat the petal fold on the other side.
9. **Fold the sides inward to narrow the neck and tail.**
10. **Create the head by folding down one tip of the neck.**
11. **Pull out the wings gently and flatten the body.**

This sequence of folds will result in a beautiful origami crane, a symbol of peace and elegance.

## Tips for Perfecting Your Origami Crane

- Use crisp, thin paper for sharper folds.
- Make sure your creases are precise and strong.
- Practice the base folds several times to get comfortable.
- Watch tutorial videos if you get stuck on certain steps.

## How to Make a Mechanical Crane Model: A Hands-on Engineering Project

If you're curious about mechanical cranes and want to build a functional model, it's a fantastic project that introduces basic engineering concepts like levers, pulleys, and counterweights.

### Choosing Your Materials

- Wooden sticks or craft sticks (popsicle sticks)
- String or thin rope
- Small pulleys or spools
- Glue and tape
- Cardboard or a small wooden base
- Weights (small washers or coins)

### Building the Crane Structure

1. **Create the base:** Use a sturdy piece of cardboard or wood to serve as the foundation.
2. **Construct the tower:** Glue together craft sticks to form a tall, triangular tower that will support the boom.
3. **Attach the boom:** The boom is the arm of the crane. Attach it at the top of the tower with a pivot point so it can move up and down.
4. **Set up the pulley system:** Attach pulleys to the boom and the tower. Run the string through

these pulleys to simulate the lifting cable.

5. **\*\*Add a hook or bucket:\*\*** Tie a small hook or container to the end of the string to act as the lifting mechanism.

6. **\*\*Balance with counterweights:\*\*** Add weights to the opposite end of the boom or the base to stabilize your crane.

## **Operating Your Mechanical Crane**

By pulling the string, you can raise or lower the hook or bucket, mimicking a real crane's lifting function. Experimenting with different weights and pulley configurations can help you understand mechanical advantage and the physics behind cranes.

## **Creative Variations: Beyond the Basics of How to Make a Crane**

Once you've mastered the basic paper crane or built a simple mechanical model, there are plenty of creative ways to expand your skills.

### **Decorative Paper Cranes**

- Use patterned or textured paper for a unique look.
- Create a mobile or garland by stringing multiple cranes together.
- Experiment with different sizes, from tiny cranes to large statement pieces.

### **Advanced Mechanical Cranes**

- Incorporate motors or gears to automate movement.
- Use stronger materials like balsa wood or plastic for larger models.
- Design a crane with a rotating base to simulate real construction cranes.

## **Why Learning How to Make a Crane Is Valuable**

Beyond the joy of crafting, learning how to make a crane teaches important skills. Origami cranes improve hand-eye coordination, patience, and spatial reasoning. Building mechanical cranes introduces concepts in physics and engineering that are foundational for STEM education.

Moreover, cranes have symbolic significance in many cultures, making the craft a meaningful way to connect with tradition and history.

# Tips for Success When Making Your Crane

- Take your time: Rushing can cause mistakes, especially with origami.
- Use quality materials to enhance your final product.
- Don't be afraid to start over if something feels off.
- Look for inspiration and tutorials online to refine your technique.
- Share your creations with friends or family; it's a great conversation starter.

Whether you want to make a delicate paper crane or an intricate mechanical model, the process is rewarding and educational. With practice and creativity, you can master how to make a crane and enjoy the blend of art, culture, and science it brings to life.

## Frequently Asked Questions

### What materials do I need to make a simple paper crane?

To make a simple paper crane, you need a square piece of origami paper. Traditional origami paper is thin and colored on one side, but any square paper will work.

### What are the basic steps to fold an origami crane?

Start with a square paper, fold it diagonally both ways, then fold it in half horizontally and vertically to create creases. Collapse the paper into a square base, fold the edges to the center, create the bird base, then fold down the wings and shape the head and tail to complete the crane.

### How can I make a crane using materials other than paper?

You can make a crane using materials like cardboard, metal sheets, or wood by cutting out the shapes and assembling them. For example, a wooden crane model might involve cutting pieces and gluing or screwing them together, while a metal crane might require welding or fastening parts.

### Are there any digital tools or software that can help me design a crane model?

Yes, software like AutoCAD, SolidWorks, or Blender can be used to design a crane model digitally. These tools allow you to create detailed 3D models and even prepare them for 3D printing or manufacturing.

### How do I make a functional small-scale crane model?

To make a functional small-scale crane, you need materials like wood or metal, a base, pulleys, strings or cables, and a mechanical arm. Assemble the frame, attach the pulleys and cables, and ensure the arm can move and lift small loads by manually operating the pulley system.

# Additional Resources

How to Make a Crane: A Detailed Exploration of Construction and Crafting Techniques

**how to make a crane** is a question that resonates across various fields—from construction engineering to crafting origami. Whether referring to the towering machines pivotal in building skyscrapers or the delicate paper figures symbolizing peace and hope, the process of creating a crane involves a blend of precision, understanding of mechanics or art, and the right materials. This article delves into the multifaceted approaches to making cranes, examining both the mechanical construction of industrial cranes and the traditional art of folding paper cranes, while emphasizing key considerations, techniques, and applications.

## Understanding the Basics of Crane Construction

When discussing how to make a crane in the context of heavy machinery, it is essential to grasp the fundamental components and types of cranes. Cranes are critical equipment in construction, manufacturing, and shipping industries due to their ability to lift and move heavy loads with precision.

## Types of Industrial Cranes

Industrial cranes vary widely, but the most common types include:

- **Tower Cranes:** Fixed to the ground or a building, these cranes are prominent in urban construction sites.
- **Mobile Cranes:** Mounted on trucks or crawlers, offering flexibility and mobility.
- **Overhead Cranes:** Suspended from ceiling rails, mostly used in warehouses and factories.
- **Gantry Cranes:** Similar to overhead cranes, but supported by legs that run on tracks.

Each crane type serves specific purposes, influencing the design and construction process.

## Key Components in Crane Manufacturing

To understand how to make a crane, one must consider the following core components:

- **Base and Mast:** Providing stability and height.
- **Jib or Boom:** The arm that extends to carry loads.

- **Hoist and Hook:** Mechanisms to lift and hold materials.
- **Counterweights:** Balancing the crane to prevent tipping.
- **Control Systems:** Enabling operator control for precise movements.

The engineering challenge lies in balancing strength, flexibility, and safety.

## Step-by-Step Process: How to Make a Crane (Mechanical)

Manufacturing a functional crane requires meticulous planning and execution, often involving multidisciplinary teams. The process generally unfolds in the following stages:

### 1. Design and Engineering

The initial phase focuses on structural design and load calculations. Engineers use software like AutoCAD or SolidWorks to develop blueprints that meet safety standards and operational requirements. Structural analysis ensures that the crane can handle expected loads without failure.

### 2. Material Selection

High-strength steel is commonly used for structural components due to its durability and tensile strength. Other materials, such as aluminum alloys or composites, might be employed for specific parts to reduce weight.

### 3. Fabrication of Components

Steel beams are cut, welded, and assembled into parts such as the mast, jib, and base. Precision in fabrication affects the crane's stability and functionality.

### 4. Assembly and Integration

Once individual components are ready, they are assembled on-site or in a factory setting. The hoist mechanism, control systems, and counterweights are integrated during this phase.

## 5. Testing and Certification

Before deployment, cranes undergo rigorous load testing to ensure compliance with safety regulations. Certifications from regulatory bodies verify that the crane meets industry standards.

## The Art of How to Make a Crane: Origami Perspective

Switching focus from industrial machinery, the phrase how to make a crane is also synonymous with the traditional Japanese art of origami, where a crane symbolizes peace and longevity. The process of folding a paper crane is an intricate craft that combines precision and patience.

### Materials Needed for Origami Crane

- Square sheet of origami paper (preferably 6x6 inches)
- Flat surface for folding
- Optional: Bone folder for crisp folds

### Step-by-Step Origami Crane Folding

1. Begin with the colored side facing down.
2. Fold the paper diagonally in both directions to form creases.
3. Collapse the paper into a square base by bringing corners together.
4. Fold the edges to the centerline, creating kite shapes on both sides.
5. Repeat folds on the reverse side.
6. Pull out the "legs" to form the neck and tail.
7. Fold down the tips to shape the crane's head and tail.
8. Spread the wings gently to complete the crane.

The process requires attention to detail and can be learned through guided tutorials or practice.

# Comparative Insights: Mechanical Crane vs. Origami Crane

While vastly different in scale and purpose, both versions of how to make a crane share underlying principles of structure and form. Mechanical cranes demand engineering precision and robust materials to perform heavy-duty tasks safely. Origami cranes, though delicate, rely on mathematical folding sequences and symmetry to achieve their iconic shape.

The mechanical crane's complexity involves advanced physics and safety codes, whereas the origami crane emphasizes cultural significance and artistic expression. Both have become symbols in their respective domains—one representing industrial progress and the other embodying peace and tradition.

## Environmental and Practical Considerations

In mechanical crane manufacturing, sustainability is gaining traction. Selecting eco-friendly materials, optimizing manufacturing processes to reduce waste, and improving energy efficiency in crane operation are emerging trends. Additionally, innovations such as electric-powered cranes and modular designs aim to minimize environmental impact.

On the origami front, the choice of recyclable and biodegradable paper aligns with environmental consciousness, especially given the symbolic nature of the crane as a messenger of peace.

## Applications and Significance of Cranes

Understanding how to make a crane extends beyond construction sites and craft tables. Industrial cranes facilitate urban development, enabling the erection of buildings that shape city skylines. Their precision and load capacity directly impact project timelines and worker safety.

Origami cranes, conversely, hold cultural and emotional significance, often used in ceremonies, art installations, and educational settings to promote messages of hope and healing.

## Technological Advancements in Crane Design

Modern cranes incorporate cutting-edge technologies such as:

- Automated control systems and remote operation
- Load sensors and real-time monitoring
- Lightweight composite materials

- Modular components for easy transportation

These innovations improve efficiency, safety, and adaptability, reflecting ongoing evolution in crane manufacturing.

## Challenges in Making Cranes

For industrial cranes, challenges include:

- Balancing load capacity with structural weight
- Ensuring operator safety amid complex controls
- Adhering to stringent regulatory standards

In origami, challenges are more related to achieving precise folds and mastering the sequence to produce an aesthetically pleasing crane.

The practice of how to make a crane, whether mechanical or artistic, embodies a blend of science, skill, and creativity. From the towering steel giants that redefine skylines to the fragile paper birds symbolizing hope worldwide, cranes continue to captivate and serve humanity in profound ways.

## How To Make A Crane

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**how to make a crane:** *The Cranes* Curt Meine, George Archibald, 1996 The Cranes are among the most ancient and distinctive families of birds on Earth, yet they are among the world's most threatened groups of birds. This Action Plan describes the many different sorts of threats facing cranes, especially as they migrate through different countries, and the many solutions that have been attempted to overcome them. It is intended for all those involved in crane conservation, including conservation biologists; conservation organizations, other non-governmental organizations, inter-national development agencies; political, civic, and business leaders; funding agencies and foundations; educators; and members of the general public.

**how to make a crane:** *Killer Camera Rigs that You Can Build* Dan Selakovich, 2004 Killer

Camera Rigs shows filmmakers step-by-step how to build 11 different rigs for filmmaking. Includes plans for camera cranes, car mounts, stabilizers, dollies and more.

**how to make a crane:** A Guide to the Makers of American Wooden Planes Thomas L. Elliott, 2018-09-07 With its initial publication in 1983, A Guide to the Makers of American Wooden Planes profoundly transformed the emphasis and direction of tool collecting. After several years of meticulous research, Thomas L. Elliott has completely redesigned, revised, and expanded this fifth edition to include entries and information accumulated since the fourth edition. The heart of this guide is the alphabetical directory of plane makers and dealers. This fifth edition now includes: 4590 biographical entries; 6160 imprint illustrations; 3030 wedge outlines; and over 3000 individual ratings for judging relative scarcity and value. Also included are sections providing insights helpful in buying and selling planes, an illustrated glossary of plane terms and styles, and an extensive bibliography for further research. This book is useful to both the beginner and the advanced collector, to historians and genealogists, and to all other with an interest in the subject.

**how to make a crane:** Adequacy of Federal OSHA Tower Crane Regulations United States. Congress. House. Committee on Government Operations. Employment and Housing Subcommittee, 1990

**how to make a crane:** 101 Mathematical Projects Brian Bolt, David Hobbs, 1989-06-29 This book for teachers suggests projects which cater for a wide range of concepts and skills, and links with other curriculum subjects.

**how to make a crane:** **Broken Heart Club** Cathy Cassidy, 2016-04-21 Andie, Eden, Ryan, Tasha and Hasmita love being part of the Heart Club. They've promised to stay best friends forever and nothing can tear them apart. But sometimes things happen that you couldn't ever have expected and forever might not be as long as you think. Now, two years later, Eden and Ryan are haunted by memories of the past. Can they find a way to bring the club back together or is it too late to mend a broken heart? A gorgeous new story from the bestselling author of the Chocolate Box Girls series.

**how to make a crane:** **Children's Literature from Asia in Today's Classrooms** Yukari Takimoto Amos, Daniel Miles Amos, 2018-07-15 This new volume, Children's Literature from Asia in Today's Classrooms: Towards Culturally Authentic Interpretations, aims to provide readers with interpretation guides and practical ideas when they endeavor to make use of Asian international children's literature in the classroom. It attempts to help readers interpret stories from Asia more authentically, and focuses both on international children's literature and also on international literature read by young adults. In an increasingly interconnected world, understanding Asian international children's literature and effectively using it are worthy goals for PK-16 classrooms and teacher education programs. The book is divided into two parts. Part I discusses how to authentically read children's literature from four countries: India, Thailand, China, and Japan. These chapters provide guides for meaningful interpretations of cultural aspects of children's stories from these countries. Part II consists of annotated bibliographies of international children's literature from selected Asian societies: China, Taiwan, Indonesia, Japan, Philippines, South Korea, and Thailand. The editors believe that readers will find each author's cultural insights fascinating and useful as they attempt to read with cultural authenticity.

**how to make a crane:** **Thomas Middleton and Early Modern Textual Culture** Gary Taylor, John Lavagnino, MacDonald P. Jackson, Valerie Wayne, John Jowett, 2007-11-22 A comprehensive companion to 'The Collected Works of Thomas Middleton', providing detailed introductions to and full editorial apparatus for the works themselves as well as a wealth of information about Middleton's historical and literary context.

**how to make a crane:** **New York Magazine** , 1979-03-26 New York magazine was born in 1968 after a run as an insert of the New York Herald Tribune and quickly made a place for itself as the trusted resource for readers across the country. With award-winning writing and photography covering everything from politics and food to theater and fashion, the magazine's consistent mission has been to reflect back to its audience the energy and excitement of the city itself, while celebrating New York as both a place and an idea.

**how to make a crane: Congressional Record** United States. Congress, 1910 The Congressional Record is the official record of the proceedings and debates of the United States Congress. It is published daily when Congress is in session. The Congressional Record began publication in 1873. Debates for sessions prior to 1873 are recorded in The Debates and Proceedings in the Congress of the United States (1789-1824), the Register of Debates in Congress (1824-1837), and the Congressional Globe (1833-1873)

**how to make a crane: Time and the Literary** Karen Newman, Jay Clayton, Marianne Hirsch, 2013-09-13 Time and the literary: the immediacy of information technology has supposedly annihilated both. Email, cell phones, satellite broadcasting seem to have ended the long-standing tradition of encoding our experience of time through writing. Paul de Man's seminal essay *Literary History and Literary Modernity* and newly commissioned essays on everything from the human genome to grammatical tenses argue, however that the literary constantly reconstructs our understanding of time. From eleventh-century France or a science-fiction future, *Time and the Literary* shows how these two concepts have been and will continue to influence each other.

**how to make a crane: 60 Space Sci-Fi Books** Jules Verne, Percy Greg, David Lindsay, Edward Everett Hale, John Jacob Astor, Murray Leinster, H. Beam Piper, Frederik Pohl, Fritz Leiber, Irving E. Cox, Philip K. Dick, Richard Stockham, H. G. Wells, E. E. Smith, Edwin Lester Arnold, Gustavus W. Pope, 2023-12-26 Delve into the compelling cosmos of '60 Space Sci-Fi Books,' a masterful anthology that encapsulates the spirit of adventure and exploration that defines space science fiction. This expansive collection presents a kaleidoscope of stories ranging from the imaginative voyages of Jules Verne to the dystopian visions of Philip K. Dick. Within these pages, the reader will encounter a multitude of literary styles that traverse futuristic worlds, alternative realities, and the ever-fascinating possibility of extraterrestrial life. From fascinating tales of cosmic odysseys to mind-bending narratives of time travel, each piece is a testament to the timeless allure of the genre. The anthology draws from the creative wells of venerated authors who have collectively shaped science fiction's literary landscape. Writers like H.G. Wells and E.E. Smith have pioneered narratives that challenge and exhilarate, while others such as Frederik Pohl and Murray Leinster offer works that reflect the sociopolitical and technological anxieties of their times. The inclusion of multifaceted voices from across different eras lays a rich tapestry of space-inspired storytelling that speaks to the genre's evolution, enabling the anthology to connect with historical and modern audiences alike. Readers are invited to embark on a literary journey that spans galaxies and explores the human condition through speculative fiction. With such a diverse constellation of narratives at their disposal, those who open this collection will be treated to a plethora of unique viewpoints and scenarios that spark the imagination and challenge preconceptions. Whether for educational purposes or pure enjoyment, '60 Space Sci-Fi Books' promises a thought-provoking engagement with the genre's best, providing a wellspring of insights into both the known and unknown universes.

**how to make a crane: Allen Tate** Thomas A. Underwood, 2021-04-13 Despite his celebrity and his fame, a series of literary feuds and the huge volume of sources have, until now, precluded a satisfying biography of Allen Tate. Anyone interested in the literature and history of the American South, or in modern letters, will be fascinated by his life. Poetry readers recognize Tate, whom T. S. Eliot once called the best poet writing in America, as the author of some of the twentieth century's most powerful modernist verse. Others know him as a founder of *The Fugitive*, the first significant poetry journal to emerge from the South. Tate joined William Faulkner and others in launching what came to be known as the Southern Literary Renaissance. In 1930, he became a leader of the Southern Agrarian movement, perhaps America's final potent critique of industrial capitalism. By 1938, Tate had departed politics and written *The Fathers*, a critically acclaimed novel about the dissolution of the antebellum South. He went on to earn almost every honor available to an American poet. His fatherly mentoring of younger poets, from Robert Penn Warren to Robert Lowell, and of southern novelists—including his first wife, Caroline Gordon—elicited as much rebellion as it did loyalty. Long-awaited and based on the author's unprecedented access to Tate's personal papers and surviving relatives, *Orphan of the South* brings Tate to 1938. It explores his attempt, first through

politics and then through art, to reconcile his fierce talent and ambition with the painful history of his family and of the South. Tate was subjected to, and also perpetuated, fictional interpretations of his ancestry. He alternately abandoned and championed Southern culture. Viewing himself as an orphan from a region where family history is identity, he developed a curious blend of spiritual loneliness and ideological assuredness. His greatest challenge was transforming his troubled genealogy into a meaningful statement about himself and Southern culture as a whole. It was this problem that consumed Tate for the first half of his life, the years recorded here. This portrait of a man who both made and endured American literary history depicts the South through the story of one of its treasured, ambivalent, and sometimes wayward sons. Readers will gain a fertile understanding of the Southern upbringing, education, and literary battles that produced the brilliant poet who was Allen Tate.

**how to make a crane: Animal Stories** Bill Sherwonit, 2014-09-15 These timeless, beautifully written essays share encounters and observations on a variety of Alaskan wildlife and include natural history information.

**how to make a crane: Repatriation, Science and Identity** Cressida Fforde, Hilary Howes, Gareth Knapman, Lyndon Ormond-Parker, 2023-11-30 Repatriation, Science, and Identity explores the entanglement of race, history, identity and ethics inherent in the application of scientific techniques to determine the provenance of Indigenous Ancestral Remains in repatriation claims and processes. The book considers how these issues relate to collections of Indigenous Ancestral (bodily) Remains but also their resonance with emerging concerns about the relatively unknown history of scientific interest in Indigenous hair and blood samples. It also explores the more recent practice of sampling for the purposes of DNA analysis and issues concerning the data that has been produced from all of the above types of research. Placing recent interest in applying scientific techniques to repatriation in their historical context, it enables discourses of identity and scientific authority, an assessment of their efficacy and an exploration of ethical and practical challenges and opportunities. In doing so, this book reveals new histories about scientific interest in Indigenous biology and the collections that resulted, as well as providing reflection for all repatriation practitioners considering scientific investigation when faced with the challenges inherent in the repatriation of unprovenanced or poorly provenanced Ancestral Remains. Providing the reader with a means to approach the value, or otherwise, of the scientific information they may encounter, Repatriation, Science, and Identity is an invaluable resource for researchers and professionals working with Indigenous Ancestral Remains.

**how to make a crane: Caverns of Night** William B. Thesing, 2000 An exploration of the aesthetic challenges of representing Western European and American coal-mining experiences in art, literature and film. It features 19 essays offering critical analyses of topics such as gender, class and ethnicity as portrayed in 19th- and 20th-century works.

**how to make a crane: Ethik im Mittelstand** Ingo Gestring, Torsten Gonschorek, Anne-Katrin Haubold, Ralph Sonntag, Rüdiger von der Weth, 2016-06-17 Unternehmer und Geschäftsführer mittelständischer Unternehmen werden zunehmend mit Fragen zu ethisch-moralischen Grundsätzen, Corporate Social Responsibility und Nachhaltigkeit konfrontiert. Wie sieht ein ethisch korrektes Unternehmen aus? Wie geht man gerecht und zukunftsorientiert mit seinen Mitarbeiter um? Wo ist die Grenze zwischen ehrlichem Marketing und „greenwashing“? Ist der ehrbare Kaufmann auch heute noch ein Leitbild? Dies sind nur wenige der Überlegungen, die täglich aufkommen. Dieses Buch gibt einen Überblick über die Grundsätzlichkeiten des ethischen Handelns und zeigt, wie die unterschiedlichsten Unternehmensbereiche von ethischen Grundsätzen tangiert werden. In Beispielen stellen die Autoren den Bezug zur Praxis in mittelständischen Unternehmen her und geben Methoden und Instrumente zur Impelmentierung an die Hand. Studierende erhalten einen umfassenden Einblick in das Thema Ethik im Mittelstand.

**how to make a crane: Land Beyond the Map** Kenneth Bulmer, 2011-09-29 Expressway to an Uncharted Sphere Theyre about! the woman whispered, and Crane abruptly saw a strange light shining through the heavy black curtains that shrouded the house. He crossed to the window and



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