

ROOF SHAPES MATCH UP

Interactive Construction Card Challenge



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Introduction:

This interactive card-matching activity introduces learners to a wide range of roof shapes commonly found in domestic and commercial construction. Students work collaboratively to match **Name Cards**, **Image Cards**, **Photo Cards**, and **Description Cards**, building confidence in identifying roof types through visual recognition, terminology recall, and applied understanding. The activity encourages discussion, teamwork, and deeper understanding of how roof shapes differ in structure, function, and appearance.

Aim:

To develop learners' ability to accurately identify, describe, and differentiate between key roof shapes used in construction by matching terminology, images, and functional descriptions.

Learning Objectives

By the end of this activity, learners will be able to:

- Recognise and name **11 common roof shapes**: Gable, Flat, Gambrel, Mansard, Saltbox, Hipped, Jerkinhead, Mono, Pyramid, Dutch, and Valley.
- Match each roof shape to its correct visual representation.
- Match each roof shape to its functional description or defining characteristics.
- Explain the differences between roof shapes and where they are typically used.
- Work collaboratively to justify choices and discuss reasoning using construction vocabulary.

Activity Overview:

Learners work in small groups with a set of three card types:

- **Name Cards** – the roof type (e.g., “Gambrel Roof”)
- **Photo Cards** – real-world or model images of each roof type
- **Description Cards** – short explanations of the roof’s features, structure, or typical uses

Students must correctly match all three cards for each roof type. The activity can be run competitively, collaboratively, or as a timed challenge depending on the group.



How this activity helps learning:

This activity supports learning by:

- Reinforcing **visual recognition** of roof shapes.
- Strengthening **construction terminology** and descriptive language.
- Encouraging **peer discussion**, reasoning, and justification.
- Supporting **kinaesthetic learning** through hands-on card manipulation.
- Helping learners make connections between **theory and real-world application**.
- Providing a low-stakes, engaging way to assess understanding.

Student Instructions:

1. Work in groups of 2–4.
2. Spread out all the cards on the table.
3. Sort the cards into three piles: **Names, Photos, Descriptions.**
4. Choose a Name Card and discuss what you think the roof looks like.
5. Find the Photo Card that matches the name.
6. Read through the Description Cards and select the one that best fits the roof's features.
7. Once you think you have a correct set of three, place them together.
8. Continue until all roof types are matched.
9. Be prepared to explain your choices to the class or your lecturer.

Lecturer Instructions.

- Introduce the 11 roof types and briefly recap key features.
- Divide students into groups and distribute one full card set per group.
- Set the challenge format:
 - **Collaborative** (work together)
 - **Competitive** (first team to complete wins)
 - **Timed** (e.g., 10-minute challenge)
- Circulate and prompt learners with questions such as:
 - “What feature makes you think this is a Gambrel roof?”
 - “Where might you see this roof type in real life?”
 - “What clues in the description helped you match it?”
- Once groups finish, review answers as a class.
- Use incorrect matches as discussion points to reinforce learning.

Scaffolding Options:

- Provide a **roof shapes mini-glossary** with simplified definitions.
- Offer **colour-coded hints** (e.g., match colours across Name–Photo–Description).
- Give learners a **reduced set** (e.g., 6 roof types instead of 11).
- Provide **sentence starters** for discussion:
 - “I think this is a ___ roof because...”
 - “The key feature I notice is...”
- Allow learners to use their **notes or textbook diagrams**.
- Provide **comparison prompts**:
 - “How is a Gambrel roof different from a Mansard roof?”
 - “What makes a Saltbox roof asymmetrical?”

Differentiation Strategies.

SEND Learners

- Use **fewer roof types** at a time.
- Provide **visual-only matching** first (Photo ↔ Name), then add descriptions.
- Use **larger, high-contrast cards**.
- Provide **guided choices** (e.g., “choose from these three descriptions”).
- Allow learners to work with a peer mentor.

For Higher-Ability Learners

- Remove scaffolds and require full independent matching.
- Add an extension task:
 - “Explain where this roof type would be used and why.”
 - “Sketch the roof shape from memory.”
 - “Identify advantages and disadvantages of this roof type.”
- Introduce **real-world case studies** or building examples.
- Ask learners to **rank roofs** by cost, complexity, or weather suitability.

Assessment Opportunities

- **Formative observation** during group work (use of terminology, reasoning).
- **Completed card sets** as evidence of understanding.
- **Learner explanations** of why matches were made.
- **Quick-fire questioning:**
 - “Point to the Mansard roof.”
 - “Which roof has two slopes on each side?”
- **Exit tickets:**
 - “Name one roof type and describe one key feature.”
- **Mini-quiz** at the end using photos or diagrams.
- **Peer assessment:** groups check each other’s matches.

Roof Shapes Mini Glossary

Gable Roof – Two sloping sides that meet at a ridge, forming a triangular end.

Flat Roof – A roof with a very slight pitch for drainage.

Gambrel Roof – Two slopes on each side, like a barn roof.

Mansard Roof – Four-sided roof with two slopes on each side; lower slope is steeper.

Saltbox Roof – Asymmetrical roof with one long slope and one short slope.

Hipped Roof – All sides slope downwards to the walls.

Jerkinhead Roof – A gable roof with clipped or shortened ends.

Mono Roof – A single sloping roof plane.

Pyramid Roof – A hipped roof where all sides meet at a single point.

Dutch Roof – A hybrid roof with a small gable at the top of a hip roof.

Valley Roof – Two roof sections meet to form an internal valley.

Sentence Starters.

- “I think this is a ____ roof because...”
- “The description mentions ____ which matches the photo.”
- “This roof is similar to ____ but different because...”
- “A key feature I notice is...”
- “This roof is commonly used when...”

3D Model Activity

Activity
Roof Shapes

Name Cards



City
& Guilds

James Rix

Gambrel

3D Model Activity

Activity
Roof Shapes

Name Cards



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& Guilds

James Rix

Gable End

3D Model Activity

Activity
Roof Shapes

Name Cards



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James Rix

Flat

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Activity
Roof Shapes

Name Cards



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& Guilds

James Rix

Dutch

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Activity
Roof Shapes

Name Cards



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Guilds

James Rix

Mansard

3D Model Activity

Activity
Roof Shapes

Name Cards



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Guilds

James Rix

Mono Pitch

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Activity
Roof Shapes

Name Cards



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James Rix

Jerkinhead

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Activity
Roof Shapes

Name Cards



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James Rix

Hipped

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Activity
Roof Shapes

Name Cards



**City &
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James Rix

Valley

3D Model Activity

Activity
Roof Shapes

Name Cards



**City &
Guilds**

James Rix

Saltbox

3D Model Activity

Activity
Roof Shapes

Name Cards



**City &
Guilds**

James Rix

Pyramid

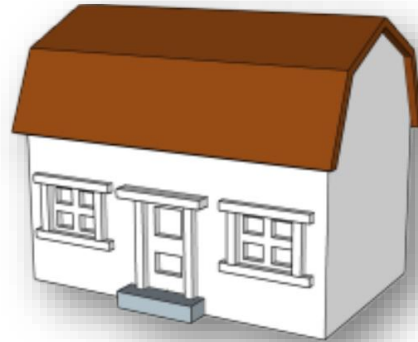
3D Model Activity

Activity
Roof Shapes

Image Cards



James Rix



3D Model Activity

Activity
Roof Shapes

Image Cards



James Rix



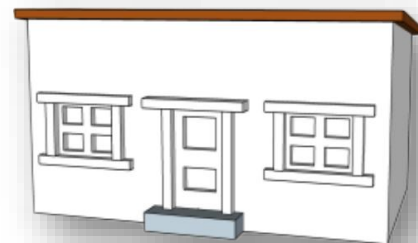
3D Model Activity

Activity
Roof Shapes

Image Cards



James Rix



3D Model Activity

Activity
Roof Shapes

Image Cards



James Rix



3D Model Activity

Activity
Roof Shapes

Image Cards



James Rix



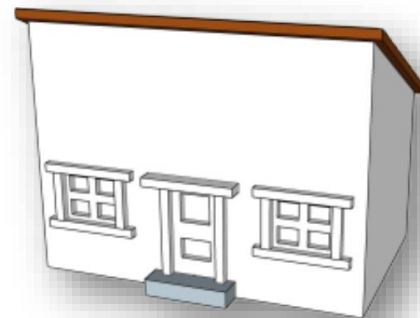
3D Model Activity

Activity
Roof Shapes

Image Cards



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3D Model Activity

Activity
Roof Shapes

Image Cards



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3D Model Activity

Activity
Roof Shapes

Image Cards



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3D Model Activity

Activity
Roof Shapes

Image Cards



City &
Guilds

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Activity
Roof Shapes

Image Cards



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3D Model Activity

Activity
Roof Shapes

Image Cards



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3D Model Activity

Activity
Roof Shapes

Photo Cords



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Activity
Roof Shapes

Photo Cards



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Activity
Roof Shapes

Photo Cards



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Activity
Roof Shapes

Photo Cards



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Activity
Roof Shapes

Photo Cords



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Activity
Roof Shapes

Photo Cards



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Activity
Roof Shapes

Photo Cards



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Activity
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Photo Cards



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Photo Cords



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Activity
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Photo Cards



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Activity
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Photo Cords



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Activity
Roof Shapes

Photo Cards



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3D Model Activity

Activity
Roof Shapes

Photo Cards



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Guilds

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3D Model Activity

Activity
Roof Shapes

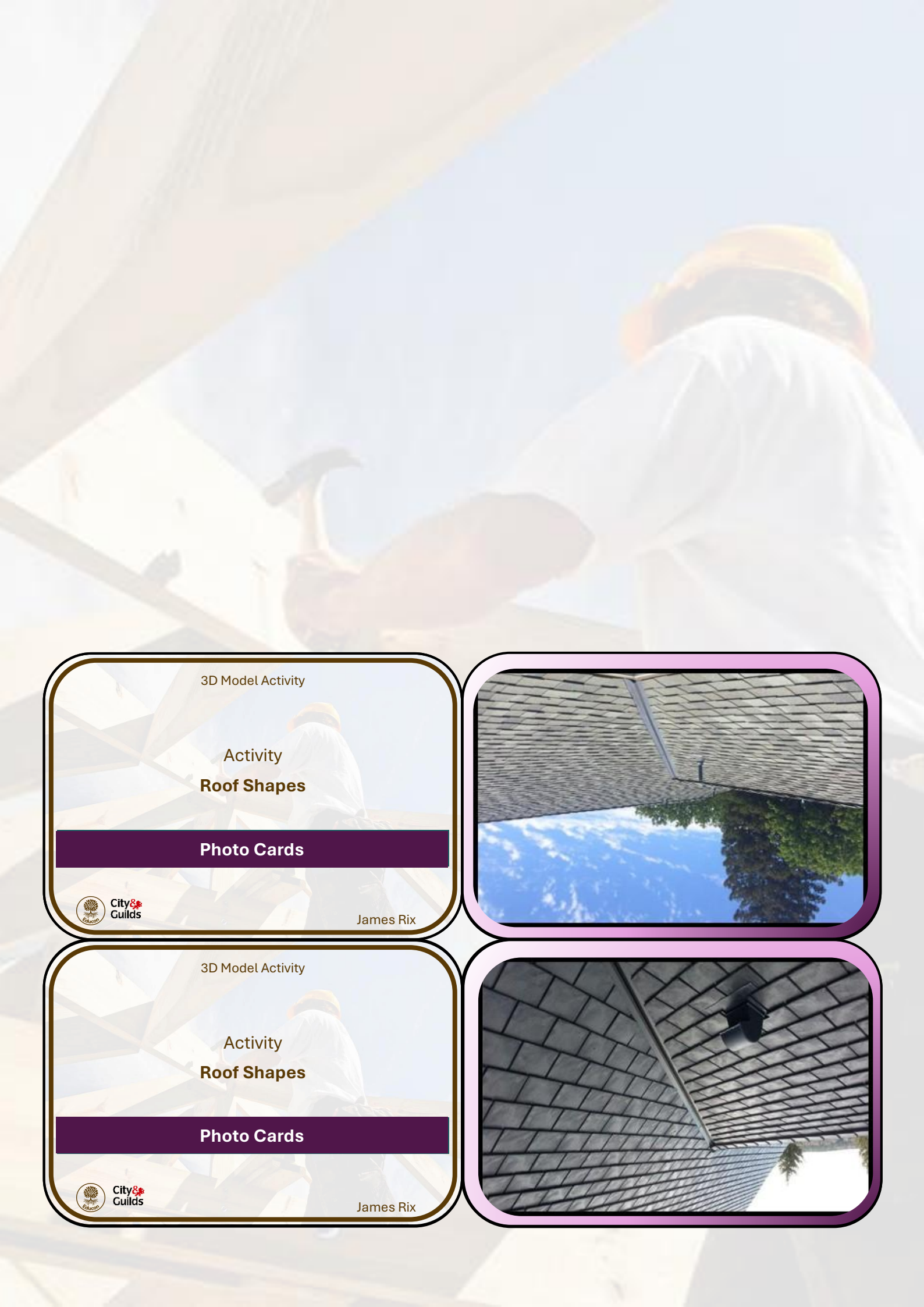
Photo Cards



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3D Model Activity

Activity
Roof Shapes

Photo Cards



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3D Model Activity

Activity
Roof Shapes

Photo Cards



**City &
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James Rix



3D Model Activity

Activity

Roof Shapes

Description Cards



James Rix

This type of roof features a distinctive design with two slopes on each side. The upper slope is relatively shallow, while the lower slope is steeper and extends further down. This structure provides extra headroom and usable space, often making it a popular choice for attics or lofts. It's commonly associated with barns and has a charming, rustic appeal.

3D Model Activity

Activity

Roof Shapes

Description Cards



James Rix

the simplest and most popular roof designs. It has two sloping sides that meet at a ridge, forming a triangular shape known as a gable at each end. This design is efficient for shedding water and snow, provides good ventilation, and allows for additional attic space.

3D Model Activity

Activity

Roof Shapes

Description Cards



James Rix

a roof that is nearly level, with only a slight slope (or pitch) for drainage. It is a common choice for commercial buildings and modern-style homes due to its simplicity and cost-effectiveness. The design allows for easy installation of HVAC systems, solar panels, or even rooftop gardens.

3D Model Activity

Activity

Roof Shapes

Description Cards



James Rix

combines elements of both a gable roof and a hip roof. It typically features a gable at the top, which allows for better ventilation and natural light, while the lower part of the roof slopes downwards like a hip roof. This design offers extra attic space and adds architectural character to a building.

3D Model Activity

Activity

Roof Shapes

Description Cards



James Rix

Called a French roof or curb roof. is a four-sided gambrel-style hip roof characterised by two slopes on each of its sides with the lower slope. The upper slope of the roof may not be visible from street level. This roof style has four sides, each with two slopes. T

3D Model Activity

Activity

Roof Shapes

Description Cards



James Rix

Referred to as a pent roof, shed roof, lean-to roof, and/or skillion roof. a single-sloped roof surface, often not attached to another roof surface. This roof design has a single sloping surface. Its simplicity makes it cost-effective and easy to construct, while its angle allows efficient water drainage and can accommodate features like skylights or solar panels.

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Activity

Roof Shapes

Description Cards



James Rix

Known by many names including half-hipped and clipped gable. a combination of the two more common roof styles of gable roof and hip roof. This roof style combines features from two different designs. It has slopes on all sides like one type, but the ends are clipped or shortened, forming a slightly flattened peak. This unique shape enhances its resistance to strong winds and adds visual interest to the structure.

3D Model Activity

Activity

Roof Shapes

Description Cards



James Rix

Roof sides slope downwards to the walls, usually with a fairly gentle slope. It has no gables or other vertical sides to the roof. This roof style has slopes on all sides that meet at the top, creating a unified, seamless appearance. It offers excellent stability and weather resistance due to its design, which lacks vertical ends, making it ideal for areas with high winds or heavy rainfall.

3D Model Activity

Activity
Roof Shapes

Description Cards



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James Rix

A gutter-like section that runs between two sloped sections of roof. Where two sloping sections of roof meet, they need a way for water to escape.

3D Model Activity

Activity
Roof Shapes

Description Cards



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& Guilds

James Rix

This type of roof features an asymmetrical design, with one side extending longer and sloping more gradually, while the other side is shorter and steeper. This layout creates a unique silhouette and is often chosen for its functional interior space and effective water runoff.

3D Model Activity

Activity
Roof Shapes

Description Cards



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James Rix

roof structure where all four sides slope downwards to meet at a single central point, forming a point. This design is common in smaller buildings or structures like bungalows, gazebos, and pavilions.

Thank You.

We would like to say thank you for using this learning material, we hope you found it useful.



If you have any questions regarding this or any other learning material produced by James, or have any suggestions about improvements or ideas please email James Rix at:

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