

Timber Tech

Materials

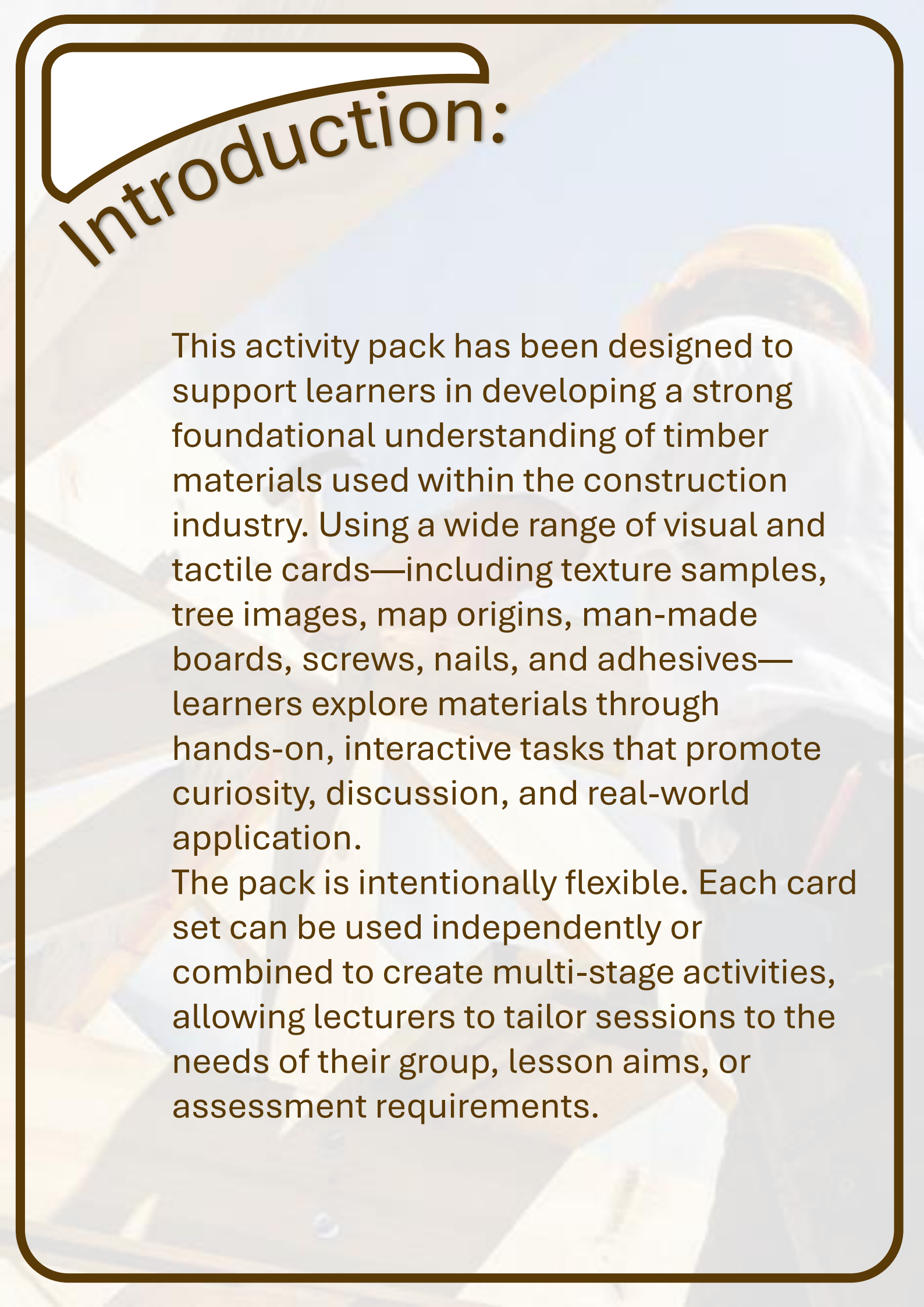


Educon

James Rix

Contents:

Front Cover.....	1
Contents Page.....	2
Introduction.....	3
Activity Aim.....	4
Learning Objectives.....	4
Activity Overview.....	5
How this activity helps learning.....	6
Student Instructions.....	7
Lecturer Instructions.....	8
Scaffolding Options.....	9
Differentiation Strategies.....	10
Assessment Opportunities.....	11
Scaffolding Options:	
Word Bank.....	12
Sentence Starters.....	13
Simplified Definitions.....	14
Visual Clues.....	15
Fill in the blanks.....	16
Printables:	
Flash Cards.....	17
Thank You.....	21



Introduction:

This activity pack has been designed to support learners in developing a strong foundational understanding of timber materials used within the construction industry. Using a wide range of visual and tactile cards—including texture samples, tree images, map origins, man-made boards, screws, nails, and adhesives—learners explore materials through hands-on, interactive tasks that promote curiosity, discussion, and real-world application.

The pack is intentionally flexible. Each card set can be used independently or combined to create multi-stage activities, allowing lecturers to tailor sessions to the needs of their group, lesson aims, or assessment requirements.

Aim:

To develop learners' knowledge, confidence, and practical understanding of timber materials, their properties, origins, applications, and associated fixings and adhesives through interactive, gamified learning activities.

Learning Objectives

By the end of the activities, learners will be able to:

- Identify common **hardwoods** and **softwoods** using texture, appearance, and tree characteristics.
- Distinguish between **coniferous** and **deciduous** tree types.
- Locate and describe the **geographical origins** of key timber species.
- Recognise and classify **man-made boards** and describe their typical uses.
- Identify common **screws**, **nails**, and **adhesives**, explaining where and why they are used.
- Match materials to appropriate fixings and adhesives based on properties and context.
- Use correct construction terminology confidently in discussion and written tasks.

Activity Overview:

The pack includes the following card types:

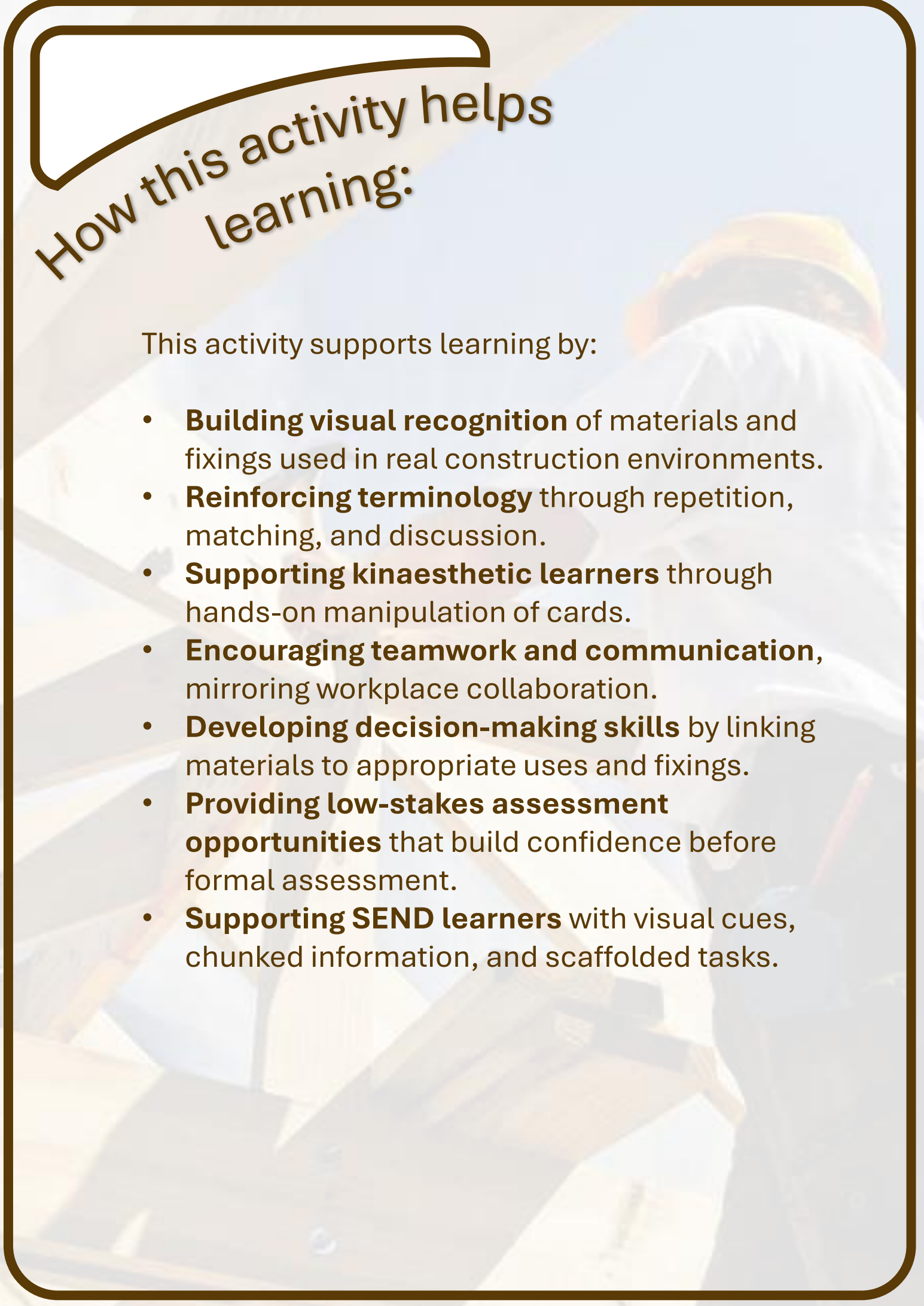
- **Texture Cards** – hardwoods and softwoods
- **Map Cards** – place of origin
- **Tree Image & Name Cards**
- **Man-Made Board Image Cards**
- **Screw Image & Name Cards**
- **Nail Image & Name Cards**
- **Adhesive Image & Name Cards**

These cards can be used for:

Sorting and classification tasks

- Matching activities (image → name → description → origin → use)
- Group challenges and timed competitions
- Scenario-based decision-making tasks
- Practical application discussions (e.g., “Which fixing would you choose and why?”)

The lecturer selects the activity type depending on lesson focus, learner ability, and available time.



How this activity helps learning:

This activity supports learning by:

- **Building visual recognition** of materials and fixings used in real construction environments.
- **Reinforcing terminology** through repetition, matching, and discussion.
- **Supporting kinaesthetic learners** through hands-on manipulation of cards.
- **Encouraging teamwork and communication**, mirroring workplace collaboration.
- **Developing decision-making skills** by linking materials to appropriate uses and fixings.
- **Providing low-stakes assessment opportunities** that build confidence before formal assessment.
- **Supporting SEND learners** with visual cues, chunked information, and scaffolded tasks.

Scaffolding Options:

These options help learners who need additional support:

- **Colour-coded card backs**
 - Hardwoods = brown
 - Softwoods = green
 - Man-made boards = blue
 - Fixings = grey
 - Adhesives = yellow
- **Word banks** Provide key terms such as *grain, density, durability, moisture resistance, tensile strength, countersunk, galvanised, resin-based, PVA, structural use*.
- **Visual clues sheet**
 - Examples of grain patterns
 - Icons for “indoor use”, “outdoor use”, “structural”, “decorative”, “water-resistant”
 - Simple diagrams showing screw head types and nail shapes
- **Partially completed matching sets**
 - Give learners the image card and two possible names
 - Provide the material but only half the description
- **Sentence starters**
 - “This material is suitable for...”
 - “This fixing is used when...”
 - “This adhesive works best because...”
- **Tiered challenge levels**
 - Level 1: Match image → name
 - Level 2: Match image → name → description
 - Level 3: Match image → name → description → origin → typical use

Differentiation Strategies.

To support mixed-ability groups:

- **For learners needing support:**
 - Use colour-coded sets
 - Provide fewer cards at once
 - Allow collaborative pairing
 - Use simplified descriptions
 - Provide a glossary sheet
- **For confident learners:**
 - Remove colour coding
 - Add distractor cards
 - Introduce scenario-based tasks (e.g., “You’re building a garden bench—choose the timber, fixing, and adhesive”)
 - Ask learners to justify choices using technical vocabulary
 - Challenge them to create their own description cards
- **For SEND learners:**
 - Use larger print cards
 - Provide tactile texture samples
 - Use visual icons for properties
 - Break tasks into small steps
 - Allow verbal responses instead of written

Assessment Opportunities

You can assess learning through:

- **Observation** during sorting, matching, and group tasks
- **Verbal questioning** (“Why is this timber suitable for outdoor use?”)
- **Exit tickets** (“Name one hardwood and one softwood and their uses”)
- **Mini-quizzes** using the cards
- **Scenario tasks** where learners choose materials and justify decisions
- **Peer assessment** during group challenges
- **Short written tasks** (e.g., “Explain the difference between PVA and polyurethane adhesive”)
- **Practical demonstrations** (e.g., selecting the correct screw for a given material)

Timber Tech
Materials

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Timber Tech
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Texture Card

Texture Card

Texture Card

Texture Card



Timber Tech
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Timber Tech
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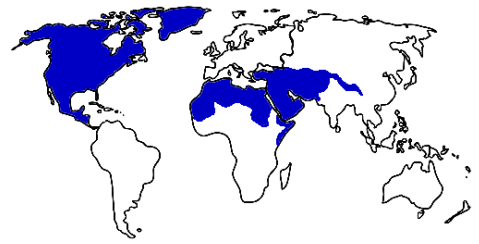
Map Card



Western North America

Timber Tech
Materials

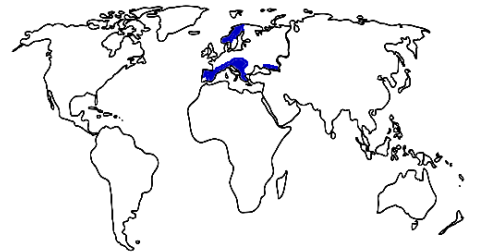
Map Card



Himalayas, middle east and
North America

Timber Tech
Materials

Map Card



Mountains Of Europe

Timber Tech
Materials

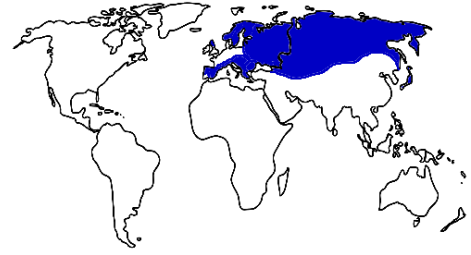
Map Card



Western North America

Timber Tech
Materials

Map Card



Scandinavia, Scotland, USSR
and mountains of Europe

Timber Tech
Materials

Map Card



Argentina and Brazil

Timber Tech
Materials

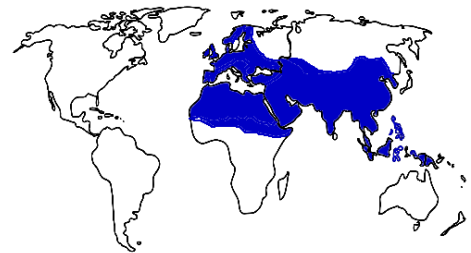
Map Card



Western North America

Timber Tech
Materials

Map Card



Asia, Europe and North Africa

Timber Tech
Materials

Map Card



Malaysia

Timber Tech
Materials

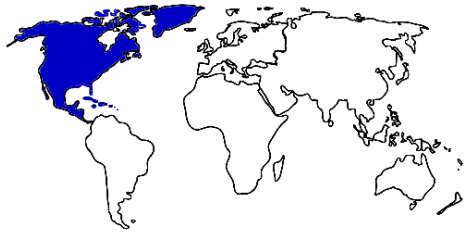
Map Card



Northeastern Australia

Timber Tech
Materials

Map Card



North America

Timber Tech
Materials

Map Card



Ghana, Ivory Coast and
Nigeria

Timber Tech
Materials

Map Card



Europe

Timber Tech
Materials

Map Card



Europe

Timber Tech
Materials

Map Card



Europe

Timber Tech
Materials

Map Card



Europe and North Africa

Timber Tech
Materials

Timber Tech
Materials

Timber Tech
Materials

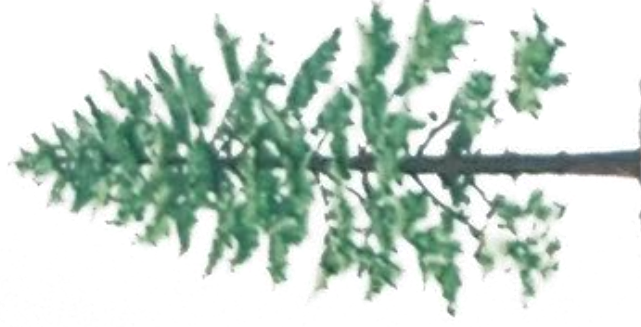
Timber Tech
Materials

Tree Card

Tree Card

Tree Card

Tree Card



Timber Tech
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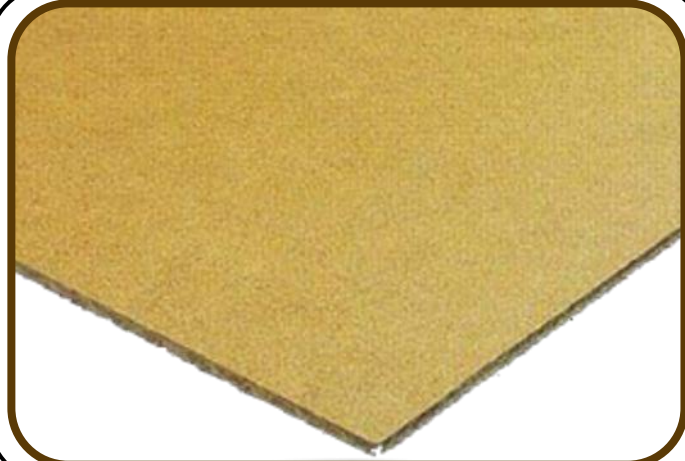
Timber Tech
Materials

Man Made
Board Card



Timber Tech
Materials

Man Made
Board Card



Timber Tech
Materials

Man Made
Board Card



Timber Tech
Materials

Man Made
Board Card



Timber Tech Materials

Man Made Board Card



Timber Tech
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Species Card

Species Card

Species Card

Species Card



European
Larch

Douglas
Fir

Cedar

Californian
Redwood

Timber Tech
Materials

Timber Tech
Materials

Timber Tech
Materials

Timber Tech
Materials

Species Card

Species Card

Species Card

Species Card



Yew

Western
Cedar Red

Parana
Pine

European
Redwood

Timber Tech
Materials

Timber Tech
Materials

Timber Tech
Materials

Timber Tech
Materials

Species Card

Species Card

Species Card

Species Card



Dark Red
Meranti

Black
Bean

American
Red Oak

African
Mahogany

Timber Tech
Materials

Timber Tech
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Timber Tech
Materials

Species Card

Species Card

Species Card

Species Card



Sycamore

Lime

European
Plane

European
Oak

Timber Tech
Materials

Category
Card



Coniferous

Timber Tech
Materials

Category
Card



Deciduous

Timber Tech
Materials

Category
Card



Softwood

Timber Tech
Materials

Category
Card



Hardwood

Timber Tech
Materials

Screw Image
Card



Timber Tech
Materials

Screw Image
Card



Timber Tech
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Screw Image
Card



Timber Tech
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Screw Image
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Screw Image
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Screw Image
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Timber Tech
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Screw Image
Card



Timber Tech
Materials

Screw Image
Card



Timber Tech
Materials

Screw Name
Card



Concrete
Screw

Timber Tech
Materials

Screw Name
Card



Chipboard
Screw

Timber Tech
Materials

Screw Name
Card



Decking
Screw

Timber Tech
Materials

Screw Name
Card



Wood
Screw

Timber Tech
Materials

Screw Name
Card



Security
Screw

Timber Tech
Materials

Screw Name
Card



Mirror
Screw

Timber Tech
Materials

Screw Name
Card



Plasterboard
Screw

Timber Tech
Materials

Screw Name
Card



Masonry
Screw

Timber Tech
Materials

Nail Image
Card



Timber Tech
Materials

Nail Image
Card



Timber Tech
Materials

Nail Image
Card



Timber Tech
Materials

Nail Image
Card

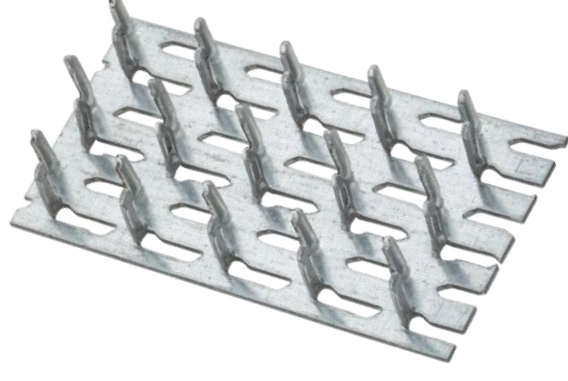


Timber Tech Materials

Timber Tech Materials

Nail Image Card

Nail Image Card



Timber Tech
Materials

Nail Name
Card



Panel Pin

Timber Tech
Materials

Nail Name
Card



Lost Head
Nail

Timber Tech
Materials

Nail Name
Card



Oval Wire
Nail

Timber Tech
Materials

Nail Name
Card



Round Wire
Nail

Timber Tech
Materials

Nail Name
Card



Corrugated
Fastener

Timber Tech
Materials

Nail Name
Card



Timber
Connector

Timber Tech
Materials

Adhesive
Image Card



Timber Tech
Materials

Adhesive
Image Card



Timber Tech
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Adhesive
Image Card



Timber Tech
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Adhesive
Image Card



Timber Tech
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Adhesive
Image Card



Timber Tech
Materials

Adhesive
Image Card



Timber Tech
Materials

Adhesive
Image Card



Timber Tech
Materials

Adhesive
Name Card



Cartridge
Adhesive

Timber Tech
Materials

Adhesive
Name Card



UF
Urea-
Formaldehyde

Timber Tech
Materials

Adhesive
Name Card



PU
Polyurethane

Timber Tech
Materials

Adhesive
Name Card



PVA
Polyvinyl Acetate

Timber Tech
Materials

Adhesive
Name Card



Animal Hide
Glue

Timber Tech
Materials

Adhesive
Name Card



Cyanoacrylate
Glue

Timber Tech
Materials

Adhesive
Name Card



Contact
Adhesive

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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