Practical Guide for Replacing Broken Window Panes

A Basic Guide for Namibian Learners

Personal Details

Name : _____

Grade : _____

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Introduction

A broken window pane is not only unsafe but also lets in dust, rain, and wind. Replacing it properly ensures safety and makes the window look neat again. This manual will take you through every step, from choosing the right glass to installing it and finishing it smoothly.

1. Safety First!

Before you begin, follow these safety precautions:

- **Wear gloves** – To protect your hands from sharp glass pieces.
- **Wear safety goggles** – To protect your eyes from flying glass shards.
- **Work in a well-lit area** – So you can see clearly and avoid mistakes.
- **Use a sturdy ladder if needed** – If the window is high up, have someone hold the ladder for stability.

2. Materials and Tools Needed

Materials:

- New window glass (correct thickness) or thick plastic sheet (alternative)
- Window putty (also called Patti)
- Small nails or glazing points
- Linseed oil (for softening putty if needed)

Tools:

- Gloves and safety goggles
- Measuring tape
- Glass cutter (if cutting is needed)
- Putty knife
- Small hammer
- Chisel or scraper
- Paint (if needed for finishing)
- Ruler and marker (for measuring and marking cuts)

3. Choosing the Right Type of Glass or Plastic

Glass and plastic sheets come in different thicknesses and strengths. Choose the right one based on where the window is:

Material Type	Thickness	Best Used For
Regular glass	2mm – 3mm	Indoor windows, small windows
Toughened glass	4mm – 6mm	Larger windows, doors
Laminated glass	6mm+	Safety windows, areas with strong winds
Thick plastic sheet	3mm – 5mm	Temporary fixes, children's rooms, areas where glass breaks easily

Measure the size of the window opening before buying the glass or plastic sheet. If unsure, ask for help at the hardware store.

4. Cutting Glass and Safety Precautions

If your glass does not fit, you may need to cut it to size. Follow these steps carefully.

Safety Precautions:

- Always wear **gloves and goggles** to prevent injuries.
- Work on a **flat, stable surface** like a table or workbench.
- Handle the **glass edges carefully** to avoid cuts.
- Use a **straightedge or ruler** to guide your cut.

Tools Needed:

- Glass cutter
- Ruler or straightedge
- Marker or grease pencil
- Cloth or sandpaper (to smooth edges)

Steps to Cut Glass:

1. **Measure and mark** – Use a ruler and marker to draw a straight cutting line.
2. **Use a straightedge** – Place a ruler along the line to guide the cutter.
3. **Score the glass** – Firmly press the glass cutter along the marked line **once**.
4. **Break the glass** – Gently press on both sides of the score line until it snaps cleanly.
5. **Smooth the edges** – Use sandpaper or a cloth to remove sharp edges.

For plastic sheets, you can use a **utility knife** or **fine-toothed saw** to cut it to size.

5. Removing the Broken Glass

1. **Put on gloves and goggles.**
2. **Cover the floor with newspaper or cloth** to collect glass pieces.
3. **Carefully remove large pieces** with your hands (wearing gloves).
4. **Use pliers to pull out any stuck shards** from the frame.
5. **Scrape out old putty** with a chisel or scraper.
6. **Remove old nails or glazing points** using a small hammer.
7. **Clean the frame** with a dry cloth before installing the new glass or plastic sheet.

6. Installing the New Glass or Plastic Sheet

1. **Apply a thin layer of putty** along the window frame using a putty knife.
2. **Place the glass or plastic sheet carefully** into the frame.
3. **Press glazing points or small nails** into the frame to hold the material in place.
4. **Apply another layer of putty** around the edges, smoothing it with the putty knife.
5. **Let the putty dry** for 24 hours before painting if needed.

7. Achieving a Smooth Putty Finish

- **Use firm, even strokes** with the putty knife.
- **Warm up stiff putty** by kneading it or adding a few drops of linseed oil.
- **Avoid applying too much**; a thin layer is enough to hold the glass or plastic sheet.

8. Storing Unused Putty

Putty can dry out if not stored properly. Follow these steps to keep it fresh:

1. **Wrap the putty** in plastic wrap or place it in an airtight container.
2. **Add a few drops of linseed oil** to prevent drying.
3. **Store it in a cool, dry place** away from direct sunlight.

9. Memory Quiz – test your knowledge

1. What is the first thing you should do before replacing a broken window?

a) Buy new glass b) Remove the old putty c) Wear safety gloves and goggles d) Apply new putty

2. What is the purpose of glazing points or nails?

a) To clean the glass b) To hold the glass in place c) To remove putty d) To smooth the edges

3. Why do we subtract 2mm from the glass measurement?

a) To make installation easier b) To make the glass stronger c) To add more putty d) To prevent breakage

4. What should you do if the putty is too hard to work with?

a) Throw it away b) Mix it with sand c) Add a few drops of linseed oil d) Heat it in the oven

5. What is an alternative to glass for window replacement?

a) Plastic sheet b) Wood panel c) Cardboard d) Aluminum foil

6. Where should putty be stored to keep it fresh?

a) In the freezer b) In an airtight container with linseed oil c) In direct sunlight d) Under water

Conclusion

Now you know how to replace a broken window pane or use a plastic sheet as an alternative. Always handle glass with care, follow safety rules, and take your time to achieve a smooth, professional finish.