HYDRO EXTRUSIONS | BUILDING with ALUMINUM

MEAURE • SHAPE • BUILD

Field guide for educators



GRADES K-5

Subject Connections:
Science • Math • ELA
Social Studies • Art • STEM

Exhibit Partner

Hydro

Oakwood, Georgia

ABOUT THE EXHIBIT

Discover how aluminum is shaped into useful parts. Measure, select, and assemble the pieces of a window frame while exploring manufacturing, design, teamwork, safety, and recycling.

ESSENTIAL QUESTION

How do people use materials, measurement, and design to build a strong, useful window?

GEORGIA STANDARDS CONNECTIONS

SCIENCE
SKP1
S2P1
S5P1
Properties of matter, materials, forces, and structures.

MATH
2.MDR.5
3.MDR.5
Measure length, compare shapes, find angles, and solve problems

ELA
K.P/K.T
2.T.T.2.b
Follow directions, use new vocabulary, and explain a process.

SOCIAL STUDIES
SS1E1
SS3E1
Manufacturing, resources, local industry, and careers.

METALS VOCABULARY

ALUMINUM – a lightweight, strong metal.

EXTRUSION – pushing softened metal through a shaped opening.

DIE – a tool with an opening that gives an extrusion its shape

PROFILE – the shape of an extruded aluminum piece.

FRAME – the structure that surrounds and supports a window.

RECYCLE – process used when material so it can become something new.

STUDENTS WILL...

- Identify aluminum and describe useful properties.
- Measure and compare the parts of a window frame.
- Follow a sequence to assemble a window.
- Explore manufacturing, recycling, and careers.

GRADES K-5

HYDRO EXTRUSIONS



SCAVENGER HUNT!

Find these items in the Hydro Extrusion Exhibit!

- ○ Aluminum profiles
- ○ Window frame
- ○ House
- ○ Safety vest
- ○ Hard hat
- ○ Manufacturing video
- ○ Recycled aluminum

MUSEUM CHALLENGE

Choose the correct aluminum pieces, measure each part, and assemble a window frame that fits the window opening.

Build like an engineer!



TAKE IT FURTHER
BACK IN THE CLASSROOM

Design a window for a model house. Draw the frame to scale, label each part, and explain how your design provides light, protection, and a view.

CAREER CONNECTION

- ✓ **Extrusion Operator**
- ✓ **Manufacturing Engineer**
- ✓ **Window Designer**
- ✓ **Quality Technician**
- ✓ **Safety Specialist**
- ✓ **Recycling Coordinator**

What job would you like to try?

DID YOU KNOW

Aluminum can be recycled and made into useful new products.

THANK YOU

you for shaping smart ideas and building a stronger future!

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LEARN TODAY. LEAD TOMORROW.

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