

K'NEX IN THE CLASSROOM

Getting started with K'NEX

Using the instruction cards

These cards introduce the basics of K'NEX. Learners identify parts, learn their names, try connections, understand how they work, and apply this knowledge in their own model.

Use the cards as a complete series or select one card for a lesson or building task. Each card can also be used independently.

Use a progressive learning cycle: identify → name → try → understand → apply. Revisit key terms whenever this supports learning.

Recommended sequence

1. **Getting to know K'NEX parts**
2. Classic, Micro, and Kid K'NEX
3. Rods
4. Connectors
5. Clips
6. Connecting and building
7. Bricks

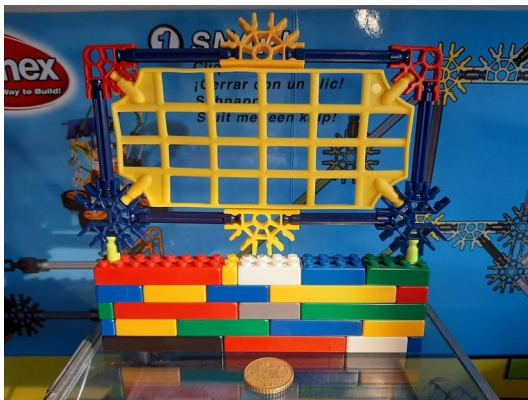
Instruction Card 1 — Getting to know K'NEX parts

K908400

Look & identify • Compare the different groups of parts.

K'NEX parts

A model combines parts from different groups.



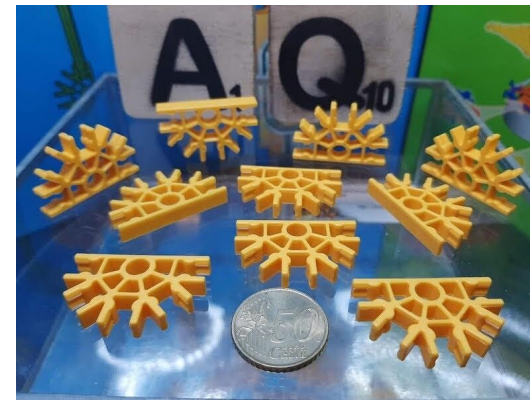
Rods

Rods are straight or flexible bars. They often form the lines of a model.



Connectors

Connectors have openings into which rods snap. This creates angles and connections.



Instruction Card 1 — Getting to know K'NEX parts — continued

K908400

Compare & name • Examine the shape and function of each part.

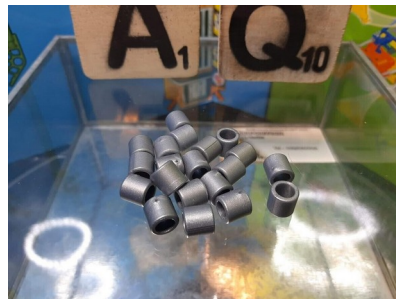
Clips

Clips have different functions: connecting, securing, closing, or allowing movement.



Spacers

Spacers keep parts apart or fill space on a rod or axle.



Bricks

Bricks are building blocks with studs and openings. They can also be combined with other K'NEX parts.



Panels

Panels are larger flat parts. They can close or reinforce a shape.



Instruction Card 1 — Combining parts

K908400

Apply • Find rods, connectors, and clips in the model.

Combining parts

Identify the rods, connectors, and clips used in this model.



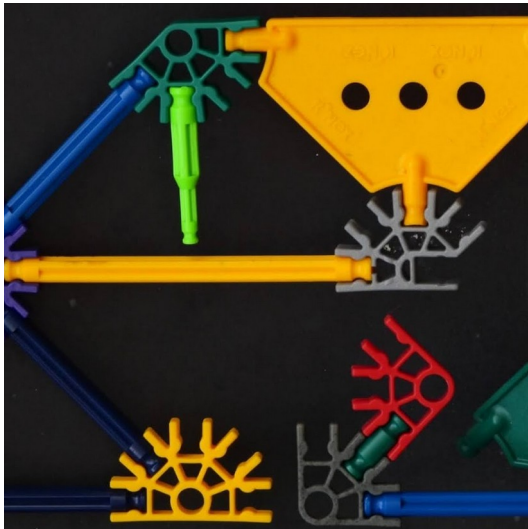
Instruction Card 2 — Classic, Micro, and Kid K'NEX

K909100

Identify • Three systems, each with its own scale

Classic K'NEX

The standard scale. Suitable for many types of models and connections.



Micro K'NEX

Smaller and finer than Classic. Useful for compact models.



Kid K'NEX

Larger, softer parts for young builders.



Instruction Card 2 — Classic, Micro, and Kid K'NEX — continued

K909100

Compare & try • Place the parts side by side before building.

Identify

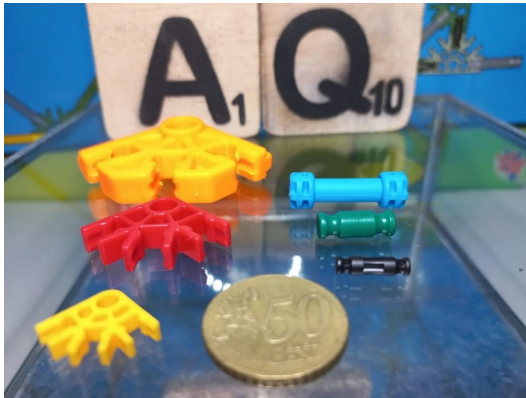
Classic, Micro, and Kid K'NEX shown side by side for comparison.

Classic examples

Examine the larger Classic connectors and compare their shapes.

Micro examples

Examine the smaller Micro parts and compare them with Classic.



Instruction Card 3 — Rods

K909101

Identify & name • Rods determine length, direction, and shape.

What is a rod?

A rod is an elongated K'NEX part. Its ends snap into connectors or certain clips.



Different lengths

Classic rods come in fixed lengths. Compare them by aligning their ends.



Other systems

Micro rods are thinner and smaller. Kid K'NEX rods are larger and softer.



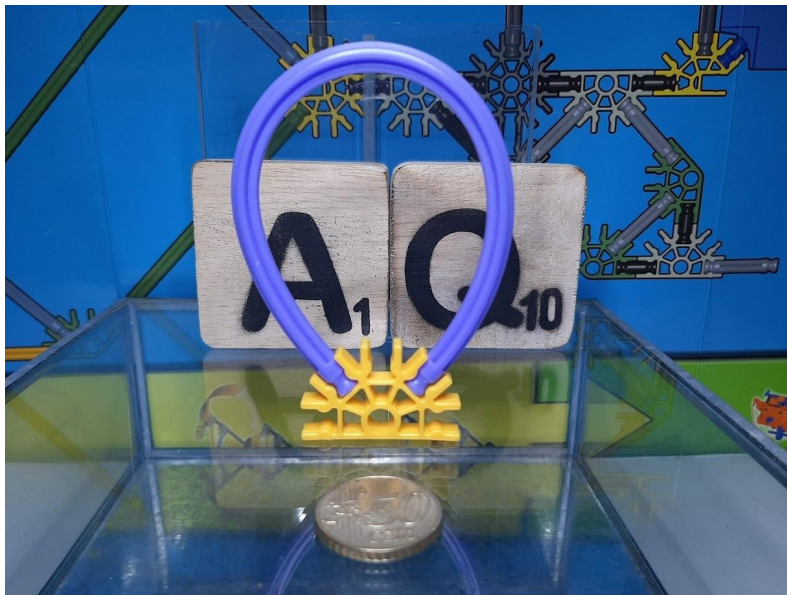
Instruction Card 3 — Rods — continued

K909101

Compare • Investigate how flexible rods can bend.

Flexible rods

A flexible rod can bend and spring back. Use it to create round or curved shapes.



Another flexible rod

Its shape and length differ, but this rod is also designed to bend.



Instruction Card 3 — Rods — continued

K909101

Investigate • Compare the shape, length, and rigidity of the rods.

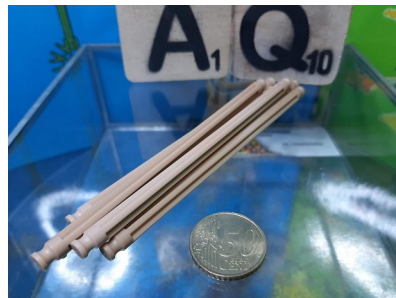
Black rigid rod

A rigid rod is extra stiff and bends less.



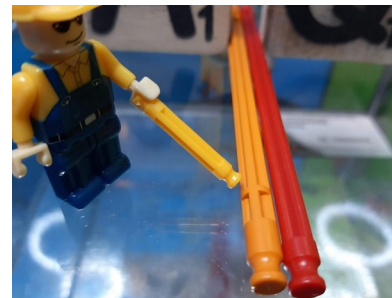
White rigid rod

Color may vary; also examine the shape and ends.



Another rod shape

Compare its thickness, ends, and rigidity with standard rods.



Apply

- Sort rods from shortest to longest.
- Find two rods of equal length.
- Build one straight line and one curved line.



Instruction Card 4 — Connectors

K909102

Identify & name • The openings determine how many directions you can build in.

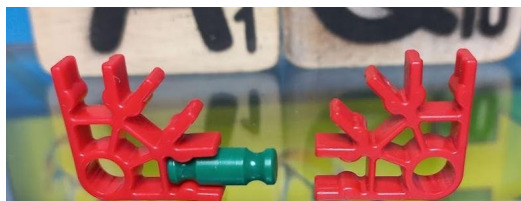
Connector shapes

This image shows several Classic connectors together.



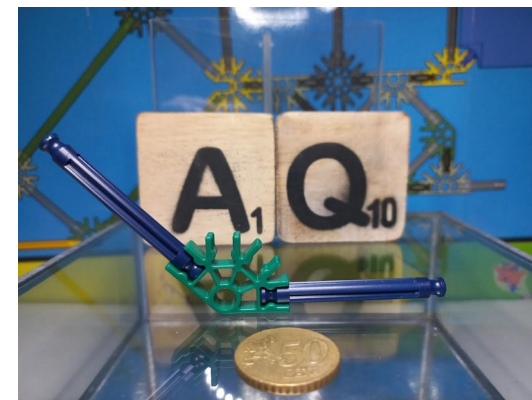
Connecting

A connector joins parts. A rod snaps into an open connection point, called a way.



Angle and direction

The connector's shape determines the angle between rods.



Instruction Card 4 — Connectors — continued

K909102

Compare • Observe how the number of ways and the angle change.

2-way — 45°

Two connection points form an acute angle.



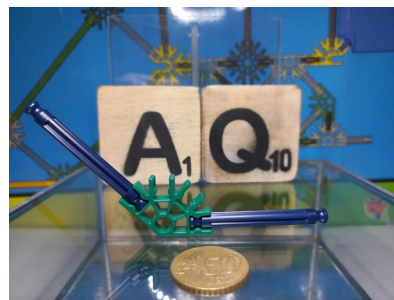
3-way — 90°

Three connection points include a right angle.



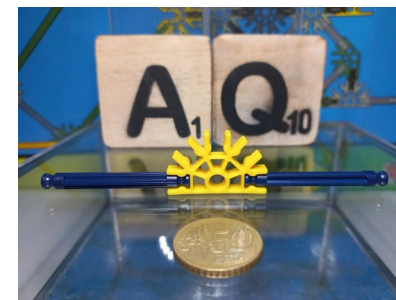
4-way — 135°

Four connection points provide additional directions.



5-way — 180°

Five connection points include a straight, continuous direction.



Instruction Card 4 — Connectors — continued

K909102

3D connectors • Observe how the connection points face different directions.

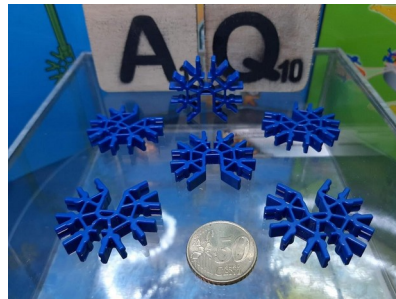
4-way 3D

Connection points lie in more than one plane.



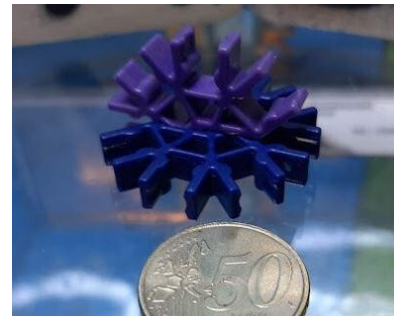
7-way 3D

A 7-way 3D connector provides more spatial directions.



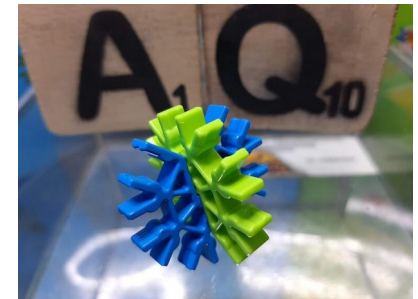
Assembled 4-way 3D

Two parts have been slid together.



Assembled 7-way 3D

Here too, connected parts form one 3D connector.



Instruction Card 5 — Clips

K909103

Identify & name • Clips have specific shapes and functions.

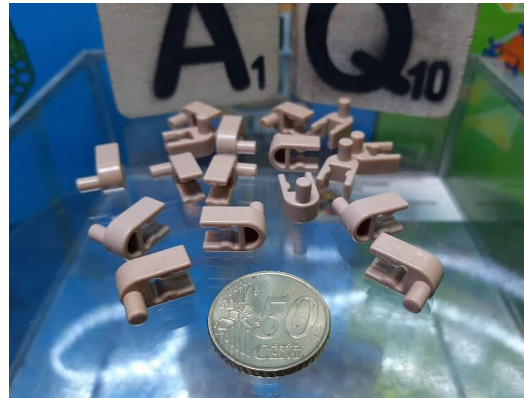
Clip with hole

The rod fits into the round opening. Check the opening and direction before inserting the rod.



Interlocking clip

This clip has a pin that fits into the opening of another interlocking clip.



Hinge parts

Two matching hinge parts form a movable hinge.



Instruction Card 5 — Clips — continued

K909103

Investigate & apply • Use the photo to match shape and function.

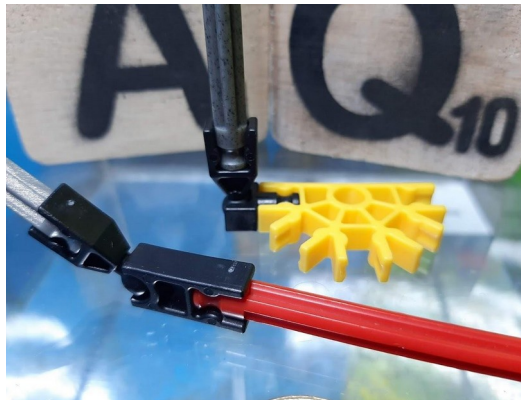
Ball end and socket end

A ball end and socket end fit together and can move relative to each other.



Hinged connection

In this connection, one part can rotate around the hinge point.



Rod end clip

Some clips snap onto the side of a rod. They create a different connection from a clip with a hole.



Instruction Card 6 — Connecting and building

K909104

Try • Listen and feel for a secure snap.

Rod in a way

Place the end of the rod straight into an open connector way. Push until the rod snaps into place.



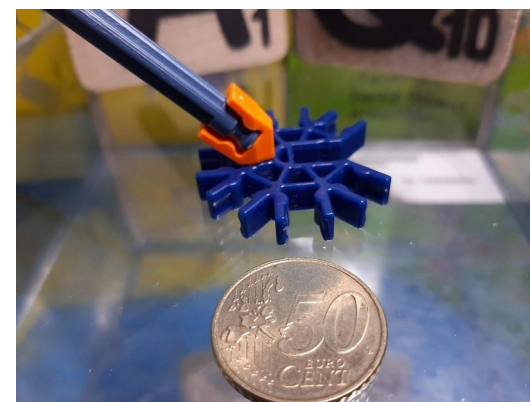
Rod over a connector end

With some connectors, a rod can slide over a projecting end. This differs from snapping a rod into a way.



Rod connected by a clip

A suitable clip can connect a rod to a connector or another part.



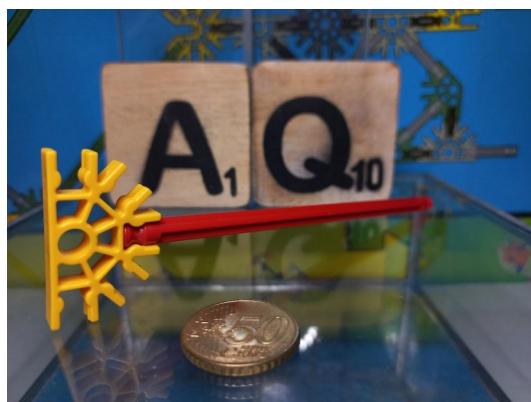
Instruction Card 6 — Connecting and building — continued

K909104

Understand & apply • Build a flat shape first, then create a three-dimensional shape.

Building flat

In a flat model, rods and connectors lie mainly in the same plane. Start with a triangle, for example.



Building in 3D

Connections in multiple directions create a 3D structure. Check every snap connection.



Investigating strength

- Gently push against the model.
- Find where it flexes.
- Add a triangle or an extra connection.



Instruction Card 7 — Bricks

K841000

Identify & name • Bricks form a distinct building group within K'NEX.

Bricks

Bricks are building blocks with studs. Their size is often described by the number of studs, for example 2×4 .



Plates

Plates are low and flat. They connect or reinforce a model without adding much height.



Beams and axles

Beams are long and narrow. Axles have studs and can support or connect parts.



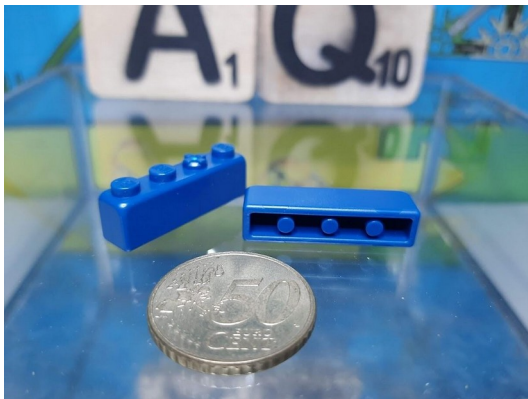
Instruction Card 7 — Bricks — continued

K841000

Compare & apply • Combine shapes and investigate how they connect.

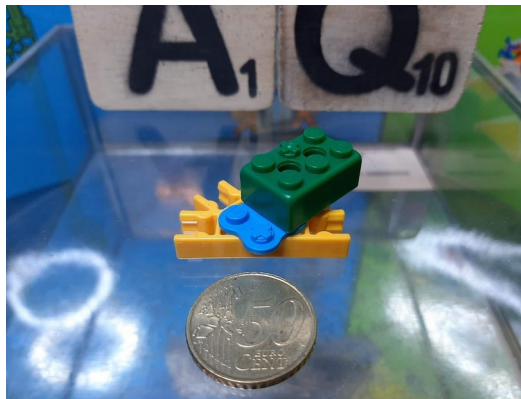
Different shapes

Bricks come in different lengths, heights, and special shapes. Sort them first by shape and number of studs.



Combining with K'NEX

Openings and special connection points allow bricks to be combined with rods, connectors, or clips.



Separator

A separator helps gently separate plates or bricks.

