

FOCUS LESSONS: Joining Materials

Focus lessons about joining materials are designed to encourage children to go beyond using the traditional tape and glue found in every elementary classroom. Children should be encouraged to use their productive thinking to come up with a variety of solutions to each challenge. It is recommended that they work in pairs or small groups.

Set time limitations for exploration before students begin working.

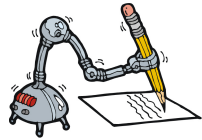
Joining Materials: Exploration – 1

Think of many, varied ways you can to join two pieces of paper together. Make samples of each.

Materials: precut paper or cardstock squares and rectangles

Tools: scissors

Teacher Hints



- *Collect discarded magazine subscription cards from parents.*
- *Keep changing the type of paper available and you change the results of the activity.*
- *Have parent volunteers cut paper from the recycle box into 3x5 inch rectangles or 5x5 inch squares.*
- *Index cards work well and when bought in bulk they can be very inexpensive.*

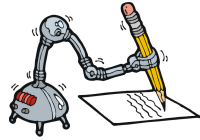
Joining Materials: Exploration – 2

Think of many, varied ways you can join four pieces of paper together to form the walls of a house, the sides of a box, etc. Make models of each.

Materials: precut paper or cardstock squares and rectangles

Tools: scissors

Teacher Hints



- *Change the type of paper available from session to session and you change the experience for the students. A variety of paper types will encourage students to experiment with and understand the properties of different kinds of paper.*
- *Collect discarded magazine subscription cards from parents.*
- *Have parent volunteers cut used wrapping paper, paper bags, and paper from the classroom recycle box into rectangles or squares.*
- *Index cards work well and when bought in bulk they can be very inexpensive.*
- *Have students record their observations of how different paper performs for this task. Encourage them to compare and contrast how using different paper affects the final product.*

Joining Materials: Exploration – 3

Think of many, varied ways you can join **flat** pieces of poster board or cardboard together without using tape or glue. Make samples of each.

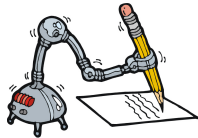
Materials:

- cardboard from food boxes
- paper clips
- bag ties
- string
- rubber bands
- pipe cleaners

Tools:

- scissors
- hole punch

Teacher Hints



- *Provide a collection of clean used cardboard containers including cereal boxes, pasta boxes, frozen dinner boxes, etc.*
- *Make sure that container boxes have been opened up and flattened before giving them to students.*
- *Review safety rules for using rubber bands.*
- *Have parents collect bag ties from the grocery store purchases.*

Joining Materials: Exploration – 4

Think of many, varied ways you can join found objects together without using tape or glue. Use the found objects your teacher provides to demonstrate your ideas.

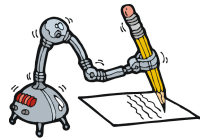
Materials:

- provided found objects
- paper clips
- bag ties
- string
- rubber bands
- pipe cleaners

Tools:

- scissors
- hole punch
- pushpin paper drill

Teacher Hints



- *Found Objects: Provide a collection of clean used cardboard containers including cereal boxes, pasta boxes, frozen dinner boxes, paper towel and toilet paper rolls, paper cups, water bottles, etc.*
- *Pushpin paper drills work well with 3-D items. They can be used to place holes where a regular hole punch can't reach. Review the correct use of the pushpin paper drill using the mini poster on page 43.*
- *Review safety rules for using rubber bands.*
- *Have parents collect wire bag ties from grocery store purchases.*
- *Students are not directed to build any type of device, only to attempt to join items in a variety of ways. However, many may use the opportunity to build something of their own design. This is appropriate for the assignment.*
- *Have students record their observations about using a regular hole punch and a pushpin paper drill. Encourage them to compare and contrast how using different tools affects the final product.*

Joining Materials: Exploration – 5

Think of many ways to bind pages of a book together. You must be able to take the pages apart and add more pages if you need to make the book longer.

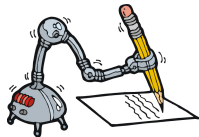
Materials:

- precut paper pages and book covers
- paper clips
- paper fasteners
- pipe cleaners
- bag ties/twists
- wire
- string
- thread
- yarn
- clear tape – 12 inch
- masking tape – 12 inch
- duct tape – 12 inch
- rubber bands

Tools:

- scissors
- yarn needle
- hole punch
- pushpin paper drill
- ruler
- pencil

Teacher Hints



- *Have parent volunteers precut paper pages and book covers.*
- *Provide a variety of paper for pages – old wrapping paper, paper bags, copy paper, etc.*
- *Various tape is provided to challenge thinking. Students will learn through trial and error that they need to plan before using tape because the exploration requires that they need to be able to take the book apart and add more pages.*
- *Books may be used to record observations about what students learn from focus lessons.*
- *Reinforce parts of a book by requiring students to have a cover, title page, and table of contents – whatever you are teaching in class.*