

Co-operative Puzzles

Summary

A simple exercise which requires co-operation within a group to assemble pictures and shapes. A very useful activity to lead on to further work on co-operation.

Aims

To analyse:

- What 'co-operation' means when solving a group task.
- How an individual's behaviour contributes to or hinders the group's progress.

To experience non-verbal communication.

National Curriculum- PSHE & Citizenship

KS1: 1a, 1b,1c,1d

KS2: 1a, 1b,1c,

KS3: 1a, 1c

KS4: 1a, 1c

Age Range

Any age. The complexity of the squares can adjusted to age. The examples supplied are:

- Co-op lorries/basic squares (KS1)
- Squares (KS2 Adult) – see variations below
- Hexagons (Adult)

Participants

Depending on the set of squares chosen, groups can vary in size from 3-6 persons. The number of groups should be restricted to how many the facilitator feels confident to competently debrief. Three groups of six equalling eighteen people is a suggested maximum for one facilitator. An ideal would be one facilitator/debriefer per sub-group. If any participants have previously undertaken the exercise, they can help as an observer/debriefer.

Timing

Timing depends on complexity of shapes selected. Usually a group will take between 7-10 minutes to solve the problem, but some groups get stuck and can take much longer. Whilst the debriefing is critical; try to allow adequate time for all groups to

complete the task. They will be very frustrated if they do not. The activity generates lots of data for people to reflect upon, so try to leave at least 45 minutes for stage 3.

Learning Outcomes

If this activity is fully debriefed, participants will learn:

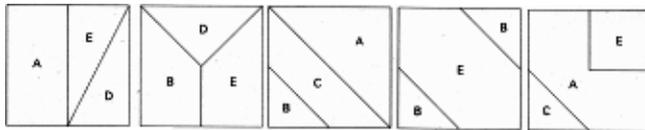
- How they behave in group situations.
- Their tendency to respond co-operatively or competitively.
- How people communicate non-verbally and how powerful this can be.
- How intense feelings are when non-co-operative individualistic behaviour frustrates or blocks progression, however unintentional such behaviour is for the person who became oblivious to the group's or others' needs.
- Understanding how complex a concept of co-operation is.

Preparation

For the purpose of explaining the activity, the following description is based on squares suitable for the 9-14 years of age group.

Variations for other age groups are detailed at the end of this section.

The participants will be divided into groups of five. Any extra participants will be given the job of observers. You need to plan how you will lay out the room so each group can stand or sit around a table. Each group will require one set of squares.



To make one set of squares:

A template for these five squares is included in 'The Collection' and on the next pages of this website, this can be placed on a photocopier and doubled in size.

- a. Cut out five cardboard squares, each 6 inches x 6 inches using plain cardboard,
- b. Cut up each square as shown, every cut coming in the middle of a side ie 3 inches along.
- c. Using the details on the template, put the same alphabetical pieces into five small envelopes eg all A in one envelope, all B in another and so on.
- d. Put the five small envelopes into a bigger envelope. You now have one set of squares for one group of five people.

You will need to make further sets of squares for each group of five players.

Write out the rules, see below, on a flip chart or chalkboard ready for display,

Guidelines

Stage 1 Setting and Starting

- a. Explain purpose of session by referring to aims only.
- b. Start by asking the group:
 “What do people need to do in order to co-operate successfully in any task?”
It may help later on if you note some of the important points on a flipchart or chalk board eg each person needs to know:
 - what the task is;
 - what he/she can do to help;
 - what other players can contribute;
 - how to help other players; and
 - how to accept help from them.
- c. When the important points are listed (probably after five to ten minutes) explain that you are going to play a game to see how co-operation works in practice.
- d. Sit or stand players in groups of five around tables. Place an observer or two at each table.

Stage 2 The Activity

- a. Give a large envelope containing a set of squares to each group of five and ask them to give each member one small envelope. They must not open the envelopes yet.
- b. When every member has a small envelope, read out the following instructions and the rules you have displayed.

Briefing

“In the small envelopes, there are pieces of cardboard.

Your group’s task is to exchange pieces of cardboard with each other so that you can make squares. The group must end up with five squares all of the same size.

During the game, everyone must follow these rules:

You may not ask for, or signal for any piece, held by another group member. If you want any piece, you must wait until it is freely given to you.

You may give any piece you have to any other member of your group at any time, but you may not ask for anything in return.

Please work in silence until your group has finished.”

Make sure that everyone understands these rules. Then say: "Go!"

While groups are working, the tutor and any observers must not intervene other than making sure that the rules are being strictly observed.

At the same time, the tutor and observers can see how groups are progressing; noting what strategy, if any, a group is using; seeing if leadership is developing etc.

Note which group completes five equal squares first. Try to allow time for all groups to finish. If a group gets hopelessly stuck, this can be useful in the second discussion during debriefing.

Stage 3 — Debriefing

a First discussion

Ask the small groups to remain around their tables and then request each group member to tell the others in that group in turn:

'How they felt' at the outset and at the end of the activity.

Then start a second round in the group, again in turn, telling each other *'what they were trying to do'*.

Finally, encourage all the members of each sub group and their observers to discuss *'what actually happened'*.

b Second Discussion

When sufficient discussion has taken place in the sub groups, ask them all to pack away the cards, move back the tables and form a circle of chairs.

The tutor/facilitator then asks for impressions, descriptions and insights about:

- feelings and actual behaviour;
- comparison of their responses to the ideal co-operative behaviour discussed and listed before attempting the sorting activity.

c Third and Final Discussion

Ask the whole group to discuss and list *'what has been learned at an individual level which may change people's action in the future'*.

Note

If players get defensive about their own behaviour, they may angrily point out, "It's only a game." However, if they are willing to face the facts, then they can learn something real from the activity about co-operation and non-co-operation.

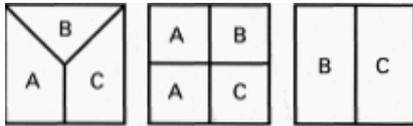
Commentary

Variation One

Use the different patterns for different age groups.

A Co-op Lorries - see instructions under the pictures

B Simplest Squares



Simplest Squares - children 5-7 for use in groups of 3. Sort shapes into three envelopes A, B & C. This arrangement requires each individual to give up at least one piece to reach a group

C Simple Squares



Simple Squares children age 8-10 for use in groups of 4.

D Advanced Broken Squares

See Handout 1 — suitable for ages 10 to adult in groups of 5.

E Hexagons

See Handout 2 — an alternative and more complex problem for adults in groups of 6

Variation Two

Remove the restriction on non-verbal communication.

Variation Three

During the second discussion after **a**, add further questions eg:

- How did you communicate?
- How did people help or obstruct each other?

Then proceed to **b**.

Variation Four

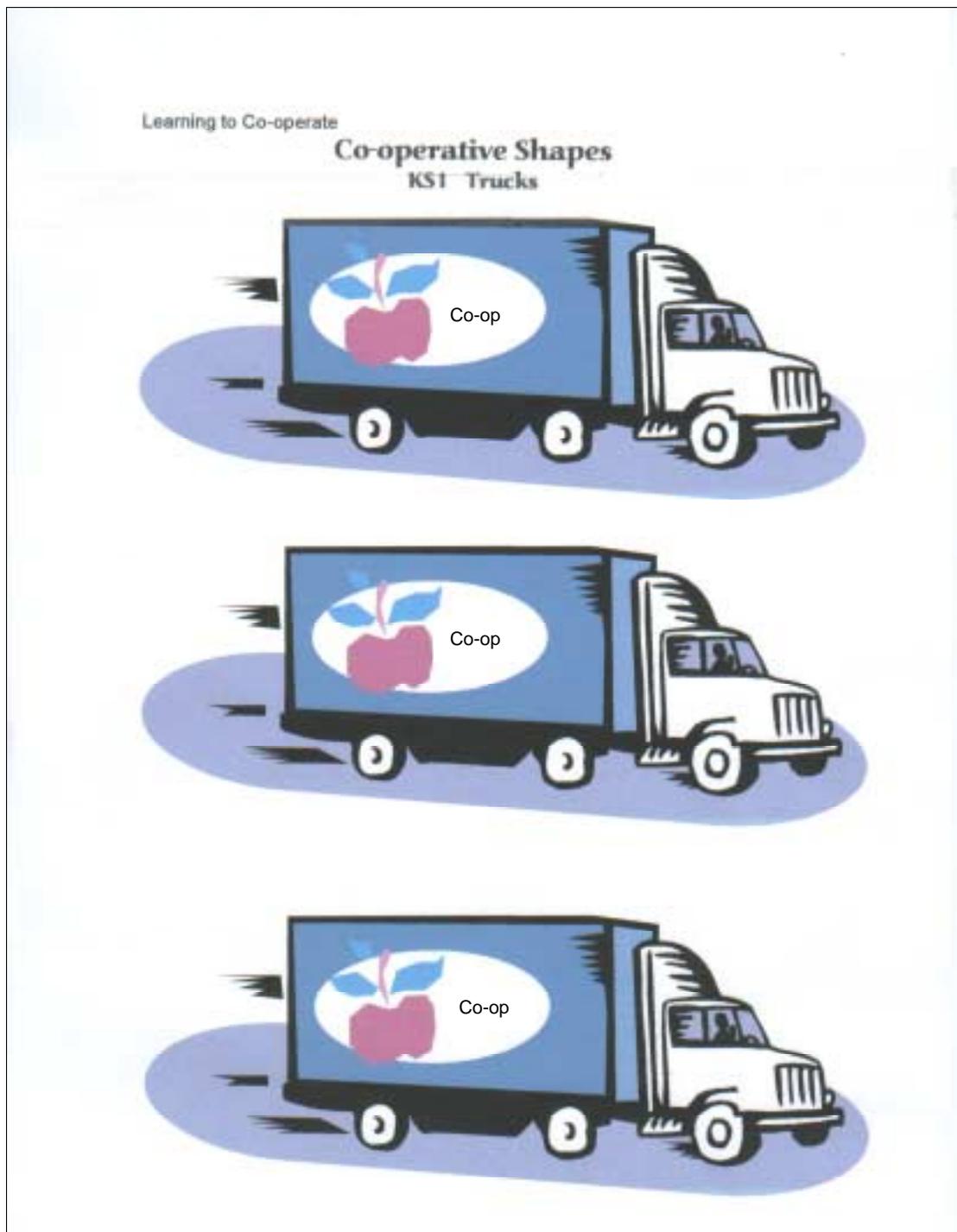
During the third discussion — ask the group to form pairs to discuss what has been learned at an individual level and what action they could change in the future — then

ask for report backs from pairs in a general way to summarise intentions to change in what way.

Variation Five

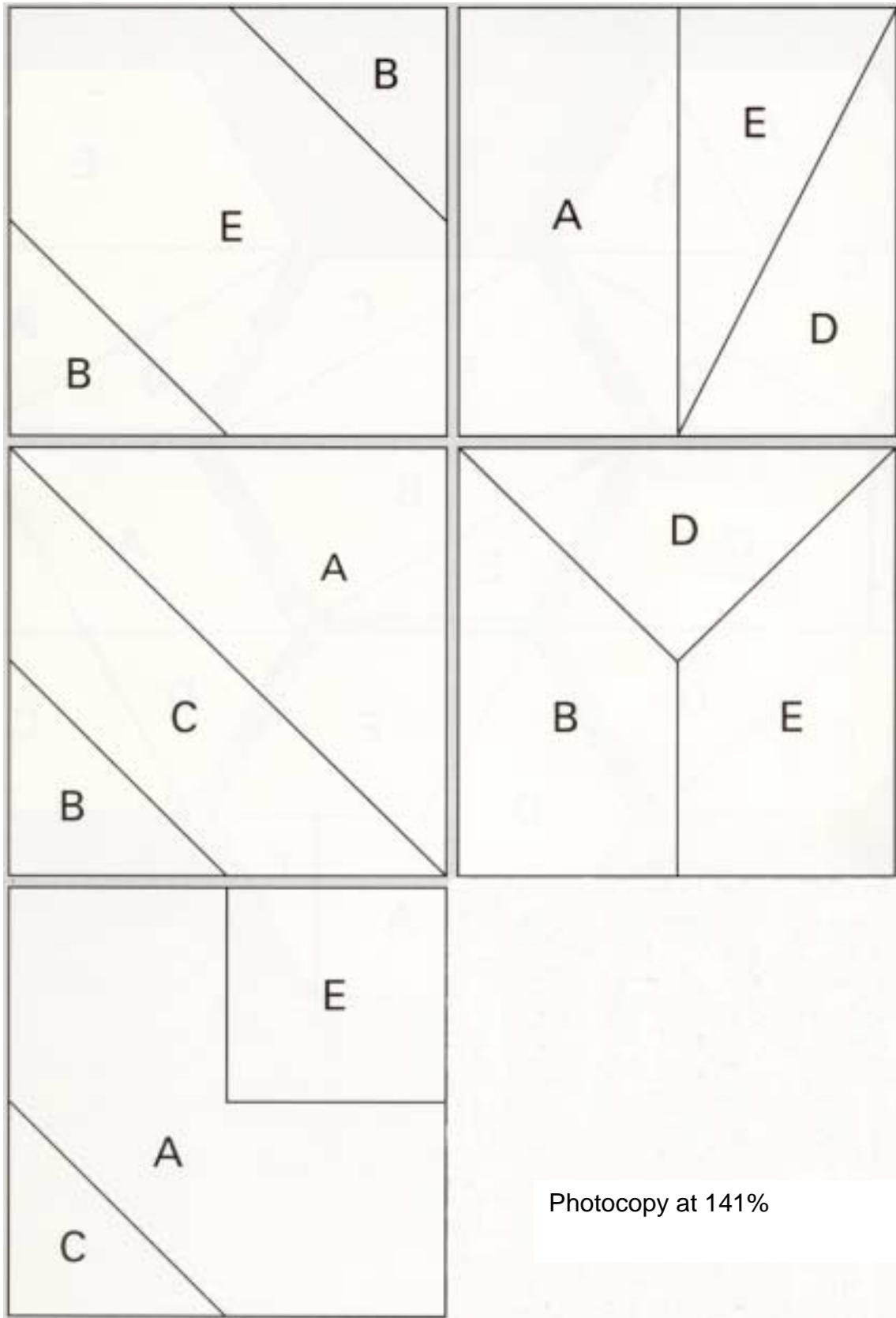
If you wish to make any of the square or hexagon formats simpler to piece together, then use a symbol, map, logo or picture as a background to each unit.

Co-operative Lorries



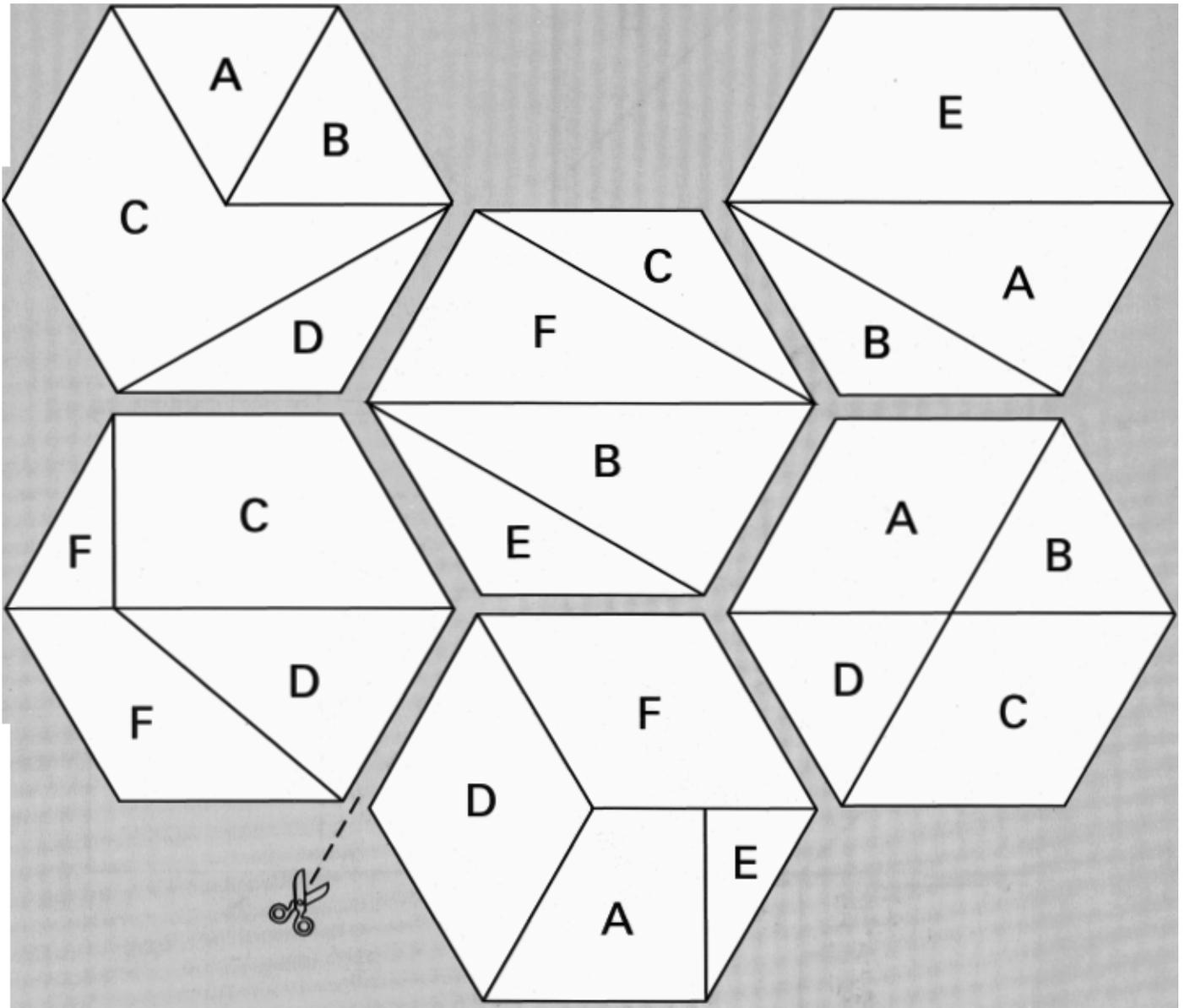
Mount these lorries onto card then cut them into 3 different jigsaw puzzles, with three or four pieces. To make them look different cut one jigsaw lorry with curved edges, the second with straight lines and the third with jagged edges.

Handout 1 Co-operative Squares and Hexagons



Photocopy at 141%

Handout 2 Co-operative Squares and Hexagons



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