

TANGRAM ALGORITHMS

Coding requires a precise set of instructions (an algorithm) to execute a program. Can you follow an algorithm to create a tangram that matches the rest of your group?

MATERIALS:

- Tangram tiles or paper cutouts

METHOD:

1. Form small groups of 3-5 students.
2. Pass out the same set of tangrams to each student.
3. Choose one student in each group (leader) to create a tangram layout without showing it to anyone else in the group.
4. The leader will explain their layout to the group without letting the group see the layout.
5. The group will build a layout based on the leader's instructions (algorithm). The leader should not point out errors as their group is building.
6. When the leader is done communicating their algorithm, the group will compare their builds to see if they all ended with the same layout.
7. If the group has the same layout, the leader can reveal their layout. If any of the group's builds are different from each other, have the leader try describing the layout again using more detail.
8. Choose a new leader and repeat steps 3-8 until everyone has had a chance to share their tangram algorithm.

TAKE IT BACK TO CLASS:

- Sometimes your code will not execute as you expect. Time to debug – look at your algorithm for missing or incomplete steps. Did you find it challenging to debug your algorithm and give your group better directions?
- Limit the tiles to one color. Does this make your algorithm easier or more difficult to execute?

SOURCE:

["Algorithms: Tangrams" from code.org](#)

NOTES

[illegible]