Cupcake Constellation

HOST ONLY - preparation and story

Includes answers. Keep these pages with an adult.

The birthday team has arrived, but one important part of the celebration is missing. Arrange paper cupcake stars to finish the birthday constellation. Collect five named badge digits, then use the final sheet to finish your mission. All the clues you need are printed here. Work together and ask for a hint whenever you want.

1. Print one player pack and two record sheets per team. Keep the host answers and all three hint levels with the adult.

2. Keep every clue as a full sheet at one table. Put the final sheet face down until all five results are recorded. Nothing needs cutting, folding or hiding.

3. Give each child a pencil. Choose a reader, recorder and checker, and swap jobs after each clue. Use one team for 2-4 children or two teams for 5-6.

Players: 4; teams: 1. Print one player and prop set per team. Invitations and certificates: 4 each.

No locks, purchases or cutting required. Keep all clues at a low table. Scissors are optional and for adults only.

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HOST ONLY - solution guide

1. Stars: 8

Decode EIGHT; the conversion table maps it to 8.

2. Orbit: 4

Only STAR4 has every letter in the correct order; the next square is 4.

3. Ribbon: 6

A fails striped; C fails not-round; only B meets all three requirements and gives 6.

4. Steps: 7

From S at row 1 column 1, the eight moves end at row 3 column 3. Copy that cell, not the earlier visits.

5. Tray: 5

Subtract 2 from 17, divide by 3 to get 5. Check 2 × 5 + 5 = 15.

6. Final: 45687

grid-placement: Orbit > Tray > Ribbon > Stars > Steps. Keep leading zeroes.

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HOST ONLY - timeline and paper check

3 minutes: Read the opening story and explain the badges.

5 minutes: Solve Stars; offer one hint at a time.

5 minutes: Solve Orbit; offer one hint at a time.

5 minutes: Solve Ribbon; offer one hint at a time.

5 minutes: Solve Steps; offer one hint at a time.

5 minutes: Solve Tray; offer one hint at a time.

5 minutes: Combine the badges on the final sheet.

2 minutes: Read the ending and award certificates.

Paper completion: check each badge against the solution guide, then check the final code. No device is required.

Mission complete! Cupcake Constellation is ready for its birthday celebration. Thank your team for sharing ideas and helping one another.

Duration and ages are estimates. Adjust pace and offer help for your group.