

# STEM Activity Centers

## Activity One: Puff Cars

**Objective:** Participants will understand the concept of blending STEM standards and youth development principles by doing a hands-on, full-group activity.

**Activity:** Build an air powered car.

**Challenge:** As table (groups of eight or fewer), build an air powered car using only the materials provided and within the limited timeframe.

**Materials & Equipment**

- 3 straws
- 50 cm. of masking tape (participants measure)
- 1 piece of card stock paper
- 2 paper clips
- 4 Lifesavers
- Tape ruler

### Steps:

1. Identify an observer in your group. The observer will keep notes on how the group planned and conducted the activity. The observer will report out at the end of the activity.
2. Build your puff car using only the materials provided.
3. As a group, predict how far the car will go in 10 seconds, and write you estimate on a sheet of paper.
4. Test your vehicle. Blow on it to get it moving and see how far you can go in 10 seconds.
5. Measure the distance your car went. How accurate was your prediction? How can your improve its performance?
6. Brainstorm ways to improve the performance of your car and make the necessary changes before the teams reach the time limit. Keep testing and refining your car to get ready for the race.
7. Race! The presenter will now coordinate races between the cars.

### Debrief:

- Observers : What did you see happening in the groups?
- How well did the group work together?
- What happened when there were disagreements?
- Was there a planning process?
- What steps were taken in the planning process?
- How did the group work with the directions?
- How did the group do with participation? Did everyone participate? Did different people take different roles and participate in different way?