

## THE STANDARD

# Transferring Information

*"Generate and compare multiple solutions that use patterns to transfer information."*

 ANCHORING PHENOMENON

## Sending a Secret Message Across the Room

You can't talk, you can't walk over, and you can't pass a note. Your partner is on the other side of the room. You have to get them a message using only a flashlight, a drum, or your hands. Teams try it and notice something: some codes get through perfectly, some turn into a mess. 4th graders will want to know why.

## DRIVING QUESTION

*"How can you send a message all the way across the room without talking, and which way works best?"*

 INVESTIGATIVE 1

### Drumbeat Code

Two teams agree on a drum code: one beat means "yes," two beats means "no," three beats means "come here." Then they sit back to back and send messages. When the beats are clear and spaced out, it works. When they rush, the partner can't tell two beats from three. This sharpens the anchor: the pattern has to be easy to tell apart.

## DRIVING QUESTION

*"What makes a drum code easy to read, and what makes it get mixed up?"*

 INVESTIGATIVE 2

### Picture on a Grid

Give partners a small grid, like 5 squares by 5 squares. One partner colors a simple shape, then reads it out square by square: "filled, empty, filled." The other partner colors what they hear and tries to copy the picture without ever seeing it. This shows how a picture can travel as a pattern of "on" and "off" squares.

## DRIVING QUESTION

*"How can you send a picture to a partner using only the words "filled" and "empty"?"*