

Run sheet, Shadow and Shape

Goal. Every girl notices how a shadow changes and draws what she saw twice.

Before you start

- Find the light before the girls arrive: a sunny window, an open door or one lamp. Check a thing stood up casts a clear edge. **No usable light? Run a different pack.**
- One light serves about twelve girls; queue two pairs at a time. Lamp behind you, cable down.
- At each place: Sheets A and B, a pencil, and a thing to stand up, even her own hand.
- Write up where all can see: FIRST. THEN. BIGGER. SMALLER. SAME.

The clock, 45 minutes

- 0 to 5 min: find the light
- 5 to 16 min: make a shadow and draw round it
- 16 to 28 min: change one thing
- 28 to 38 min: draw it the second time
- 38 to 45 min: say what changed and close

Run 45 if you can. In 30: 0 to 3, 3 to 11, 11 to 19, 19 to 26, 26 to 30. In 60: 0 to 6, 6 to 20, 20 to 34, 34 to 48, 48 to 60, where the last stretch adds one more change on Sheet B. With mostly four-year-olds, shorten the middle, never the close.

What you do

1. Stand between the light and a wall or the floor. Ask: "What is that dark shape?"
2. Say it once, plainly: a shadow is where something blocks the light.
3. Put the girls in pairs. Send each pair to a place where they can see the light.
4. One girl holds her object still so its shadow falls on Sheet A. The other draws round the shadow edge.
5. Walk the room and reach every pair once. Steady the paper with a hand or a stone.
6. Swap, so both girls have drawn and both have held.
7. Stop the room. Say: "Change one thing. Move it nearer the light, or turn it round. One thing only."
8. Each pair changes one thing and draws the new shadow on Sheet B.
9. Each girl lays Sheet A beside Sheet B and says out loud what is different.
10. Read the three words aloud and let each girl circle one on Sheet B: bigger, smaller, same.
11. Go round. Each girl says one true sentence: "I moved it nearer and the shadow got bigger."
12. Close by holding one object up and asking the room to guess its shadow before you show it.

Watch for

1. A girl changes one thing on purpose and can say which thing she changed.
2. Her two sheets lie side by side and the two outlines are not the same size or shape.
3. A girl predicts before she looks: "It will get bigger", and then checks it herself.

What goes wrong most. The shadow keeps moving because the hand holding the object keeps moving. Give the holder something to rest her wrist on, or lay the object flat against the paper and tilt it instead.

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