

PRE- AND POST- LESSON GAME RULES

TWO TRUTHS AND A LIE

OBJECTIVE: GET TO KNOW YOUR PEERS

1. Students sit in a circle and take turns making three statements, two of which are true about themselves and one that is false.
2. Have the other students raise their hands and guess which of the statements was a lie.

DROP CLOTH GAME

OBJECTIVE: GET TO KNOW YOUR PEERS

Materials:

- 1 large sheet/cloth/paper, thick enough so groups of students cannot see through it.

Procedure:

1. Divide the class into two teams. Have the teams sit on either side of the sheet.
2. Teams should choose one "representative" to sit directly in front of the cloth. Make sure the teams are quiet when choosing their "representative," otherwise the other team will hear!
3. The cloth is held by two instructors who will drop the cloth simultaneously so that the students are face-to-face.
4. The student who guesses the other's name first wins that round. The student who loses must go over to the winner's side.
5. The game ends once all players are on the same side.

PROPS

OBJECTIVE: CREATIVITY

Materials:

- Props of any kind

Procedure:

1. Using any of the props, student pairs will write and present a 30 second skit.
2. Optional: to make things more interesting and silly, let the instructor pick the props at presentation time and let the students improvise on how they will use them in their skit.

PAPER TOWER

OBJECTIVE: PROBLEM SOLVING AND CREATIVITY

Materials:

- 8.5 x 11" paper (enough for two sheets per person)

Procedure:

- Set a time limit (5 to 10 minutes is usually appropriate).
- In this time, students must build the tallest tower using their two pieces of paper. Fold it, stack it, rip it, crunch it. Do whatever to your two sheets of paper to make the tallest tower.

TELEPHONE

OBJECTIVE: JUST FOR FUN!

Materials:

- Optional: pieces of paper containing various sentences to be used as the message, so that students do not have to come up with their own message.

Procedure:

1. Students sit in a circle.
2. One student begins the game by whispering a sentence to the person sitting next to them.
3. That person then passes the message on to the next person, and this repeats until everyone has heard the message. Try to get it right! You only have one chance to hear the message!
4. The final person says what they thought the sentence was. If the sentence is not the same as how it started, try to figure out where it changed!

MEDUSA

OBJECTIVE: JUST FOR FUN!

1. Students put their heads down, eyes closed. No peeking!
2. Tap one of the students on the shoulder to designate them as "Medusa."
3. Students open their eyes and begin walking around the room, shaking hands with one another.
 - a) Non-medusa students should shake hands normally. Medusa will subtly scratch the other student's hand with one finger as they shake hands.
 - b) When a student feels a Medusa handshake, the student shakes one more person's hand before freezing and becoming a "statue."
4. If a student believes they know who Medusa is, they may quietly tell the instructor their guess.
5. If Medusa is guessed correctly, the class wins. If Medusa freezes all but one person, Medusa wins.

ADDRESS GAME

OBJECTIVE: INTRODUCTION TO VARIABLES

Materials:

- Address cards, provided at the end of this document

Preparation:

- Print and cut out address cards
- Distribute 1 card per student

Procedure:

Round 1

1. Set a timer for 1 minute. During that time, the goal of the students is to find out where everyone is living. Students can float around the room and ask each other where their home is. Students can also 'move' by swapping streets with each other. Make sure to tell them that they can't simply shout out where they live!
2. After a minute, copy down where everyone is living.
3. Ask the students if they can name where everyone's home is. If no one tries to name where everyone is living the first time, show them the list of streets and ask them again.

Round 2

1. Now, tell the students that they can name their home.
2. Give them 1 minute to float around. This time, tell them they will be able to see the list of streets and the name of the house on that street. They can still move and change their home's name.
3. This time, after they try to guess who lives in what home and on what street, point out how it was so much easier to find where someone lived if they named their home something straightforward like the <student's name>'s Home

Round 3

1. Repeat round 2, but emphasize how naming your home something that is easily identifiable will make it easier for everyone to know where you live.

After the game, talk about how much easier it was to guess where everyone lives as the rounds progressed. Talk about how adding a unique home name made it easier to figure out the street and how that connects to variable naming conventions. It is better to name an integer "RedLightPin" instead of something ambiguous like "x."

CAUSE AND EFFECT

OBJECTIVE: IF-THEN STATEMENTS

Materials:

- Props (if no physical props are available, projecting images will work.)

Procedure:

1. Have students make up if-then statements using the objects.
Example: **If** there is pineapple in the house, **then** I'll make a fruit salad.
2. Get creative!

WHO HAS IT?

OBJECTIVE: ARDUINO EDUCATION

Preparation:

- Print and cut out the Who Has It? Cards provided at the end of this document

Procedure:

1. Pass out cards evenly to each student (if there are more cards than students, students may have more than one card).
2. The student with the starting card will read their question.
3. The student with the card that answers that question will then read their card, which asks another question.
4. This pattern continues until all cards have been read.

The instructor should make sure the cards are being read in the right order, otherwise some people will be left out.

RED LIGHT (YELLOW LIGHT) GREEN LIGHT

OBJECTIVE: CONCEPTS OF FADING

Main Concept: Lights can have different intensities. A digital signal is completely on or off (green or red). Analog allows lights to be on, off, or in between (yellow).

Extra Concept: The students will be moving quickly (green), slowly (yellow), and not at all (red) within the game. This can be related to Pulse Motor Width, the function that allows a light to appear bright or dim. The lights blink on and off too quickly for the human eye to see, so instead we just see a solid bright light. When the light blinks more slowly, with longer "off" periods, it looks dim. The quick motion of students during Green Light shows how there's not much time in between On and Off periods of the light. The Yellow Light shows how a change in speed can correlate to brightness.

Procedure:

1. All students start on one side of the room. The instructor is on the opposite side.
2. The instructor will call out "Red," "Yellow," or "Green." The students must listen to these instructions and move accordingly or they can be called out.
Red: Completely frozen
Yellow: Moving in slow motion
Green: Moving normally
3. If a student does not follow the command, they are sent back to the start line.
4. The goal of the game is to be the first to gently tag the instructor.

CRABBY CRABBY CROSS MY OCEAN

OBJECTIVE: CONCEPTS OF FADING

Lights can have different intensities. This game is similar to Red Light Yellow Light Green Light, except different parts of the room represent the different intensities. The number of students in each part of the room represent how this intensity keeps changing.

Materials:

- Two labels, one for each side of the room. One will say "On" and the other says "Off" so that the students correlate the brightness to their movement throughout the game.

Procedure:

1. 1-2 students are chosen to be the "taggers" and are placed in the middle of the room. All other students line up on one side of the classroom.
2. When the tagger tells the other students to "cross my ocean," students move from one side of the room to the other by "crab-walking" (opposed to walking/running, due to space constraints).
3. The goal of the tagger is to tag students out as they pass through the middle.
4. The goal of the crabs is to go back and forth between the two sides of the room without getting tagged.
5. Those who get tagged become "seaweed" and sit down criss-cross. They can tag the remaining crabs.
6. The last crab wins!

WHO HAS IT? CARDS

Print out the following sheet, cut out each answer/question pair, and mix them up before handing out to students. You can refer to this file for the answer, because these cards should be read in this order:

You have the starting question!

Q: Who has the brain of the Arduino?

A: I have the CPU.

Q: Who has the block of code that will turn on the light?

A: I have the “set digital pin” block.



Q: Who has the difference between Analog and Digital?

A: Analog lights can accept values from 0-255 and Digital can only accept HIGH and LOW.

Q: Who has the coding statement that allows you to push a button and then play a song?

A: I have the If-Statement.

Q: Who has the tool that allows the LilyPad Arduino to communicate to you, the programmer?

A: I have the Serial Monitor.

Q: Who has three colors that can be combine to make any color?

A: I have the Red, Green, and Blue light.

Q: Who has the type of number that 1, 45, and 700 all are?

A: I have integers.

Q: Who has what the vibe board, lights, and buzzer have in common?

A: I have they are all forms of OUTPUT.

Q: Who has the coding block that will make your code pause for 1 second?

A: I have the delay block.



Q: Who has what the temperature sensor, light sensor, button, and switch have in common?

A: I have they are all forms of INPUT.

Q: Who has the name of the device that allows you to connect the Lilypad Arduino to the computer?

A: I have the FTDI connector. FTDI stands for Future Technology Devices International.

Q: Who has the pin number of the small green light on the Lilypad Arduino that can be used for testing?

A: I have pin 13.

Q: Who has the one pin that ALL of the thread will be connected to in a sewn circuit?

A: I have the ground pin.

Q: Who has the program set up that all the coding blocks will go into?

A: I have the loop.

Q: Who has what buttons and lights have in common?

A: I have they are both digital.

Q: Who has how many milliseconds are in 5 seconds?

A: I have 5000 seconds.

Q: Who has the two boolean values?

A: I have true and false.

Q: Who has where can you find Ardublock in your Arduino compiler?

A: I have the Tools tab.

Q: Who has the symbol that represents Arduino?

A: I have the infinity sign!



ADDRESS GAME

Print out the following cards, cut them up, and then place them around the room for students to collect and trade. You should have the same amount of street names as students. A page of blank cards has been provided if you would like to come up with your own, or have more than sixteen students.

Pyramid Lane

Bat Cave

De La Dream Blvd

Autumn Ave.

Muffin St.

Stem St.

Neverland Lane

Hip Hop Ave.

Mermaid Cove

Lemur Lane

Antelope Ave.

Sponge Square

Fenway Center

Doggo St.

