

Name:

Date:

Class:

Pre-Assessment Key

1. What makes an Arduino circuit work?
 - a. Example answer: Arduino boards can read inputs (e.g., finger pressing a button) and turn it into an output (e.g., flash a message on a screen). You can program a set of instructions to the microcontroller on the board to tell the board what to do.
2. How can multiple LED lights work together?
 - a. Example answer: Multiple LEDs can work together in series or in parallel and be programmed to turn on together or separately.
3. What would you need to do to have the LED lights work in a pattern?
 - a. Answers may vary. Students should mention the use of a microcontroller and programming.
4. What are some LCD screens that you see every day?
 - a. Example answers: smartphone, television, advertisements, etc.
5. How do you think engineers use LCD screens to solve everyday problems?
 - a. Answers may vary. Example answer: Engineers can use an LED screen to display the time and schedule for transportation (e.g., train timetable) so that people can be on time and more easily utilize public transportation.
6. When would you want a screen to remind you of something in your daily life (that is not your phone or watch)?
 - a. Answers may vary.
7. What are the benefits of using a system that reaches multiple parts of our nervous system (our 5 senses)?
 - a. Answer may vary. Example answer: People are more likely to react to the system if they can both see and hear it (e.g., pedestrian traffic light that both lights up and makes a sound when the light is green).