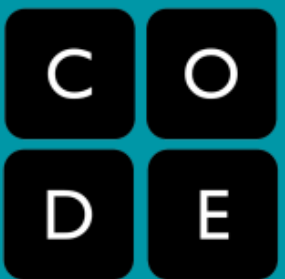
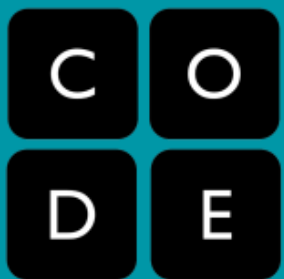


Sending Binary Messages

Unit 1 Lesson 2 (U1.2)



BTB (Before the Bell):

Computer science is commonly thought to be the study of computers themselves - the physical machines we have on our desks and carry around in our pockets.

Another way that computer scientists think about would be to say that computer science is the study of information and information processes.

Today we're going to think about what "information" and "information processes" means.

Getting Started (5 mins)

Please respond to the following prompt in your INB:

What is your personal definition of "information"?

Share your answer with your elbow partner.

Share your answer with your group.

There are many ways we can think about the word “information,” but one possible definition we’ll explore today is that information is the answer to a question.

Perhaps the simplest question one can ask is what we’ll call a **binary question**, or a question to which there are only two possible answers.

For example, the question "Do we have a quiz today?" is a **binary question**, as there are only two possible responses, "yes" and "no." Typically we think of **binary questions** as ones that can be answered "yes/no," "true/false," etc.

Activity

With your elbow partner, you are going to build a device out of classroom supplies to send information to your partner on the other side of the room. There are some basic rules and constraints:

- **Stay on your side.** You may not walk to the other side of the room.
- **No language.** That means no writing or talking to communicate.
- **No projectiles!**

You will answer the following questions with a Yes/No or True/False.

Copy this table into your INB.

You will answer the following binary questions with a Yes/No or True/False.

Message	How to send with your device
A: Yes/True	To send “yes” we will ...
B: No/False	To send “no” we will ...

Is it raining?

Is it Thursday?

True or False: Today is Monday.

True or False: Math is my favorite subject.

Your new challenge is to invent a way to use your device to send an answer to a question that has **4 possible answers**.

Sample question:

Canada is (north, south, east, west) of California?

- Should you modify your device?
- Should you use it in a different way?
- Should you make a new device entirely?

Discuss/Plan (3 mins)

Copy this table into your INB.

Message	How to send with your device

Answer the following questions:

**Which of these foods do you like the most?
(pizza, hamburger, hotdog, burritos)**

**5 * 4 =
(9, 14, 20, 40)**

**What day comes after Friday?
(Monday, Wednesday, Thursday, Saturday)**

**My favorite subject is...
(English, Math, Science, Social Science)**