

Name : _____

Scratch ID : _____

Scratch Thaumatrope: TIPP&SEE + Modify

Objective: Today, I will use the TIPP&SEE strategy to explore a Scratch project

Scratch Link: <https://scratch.mit.edu/projects/798447341/>

Stage :



SMILEY :
sprite



SOCCER:
sprite



Start with TIPP&SEE!

Get a TIPP from the Project Page:

Title: What is the title of the project? Does it tell you something about the project?

Instructions: What do the instructions tell you to do?

Purpose: What is the purpose of this activity? What will this code teach you?

Play: Run the project and see what it does! Look at which sprites are doing the actions.

What happened when you ran the project?

Select the action(s) that happened for each event.

1. When I clicked the **GREEN FLAG** () ,
the **SMILEY** sprite : *

- ☐ started blinking (mouth AND eyes)
- ☐ talked
- ☐ moved
- ☐ did nothing

3. When I pressed the **SPACEBAR**, the
SMILEY sprite : *

- ☐ stopped blinking (mouth OR eyes)
- ☐ talked
- ☐ moved
- ☐ did nothing

2. When I clicked the **GREEN FLAG** () ,
the **SOCCER** sprite : *

- ☐ started blinking (player AND ball)
- ☐ talked
- ☐ moved
- ☐ did nothing

4. When I pressed the **SPACEBAR**, the
SOCCER sprite : *

- ☐ stopped blinking (player OR ball)
- ☐ talked
- ☐ moved
- ☐ did nothing

5. Run the thaumatropes **10 times**.

Tally the number of times the thaumatropes stop on each costume.

MOUTH : ____ / 10 EYES : ____ / 10



PLAYER : ____ / 10



BALL : ____ / 10



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SEE Inside:

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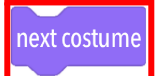
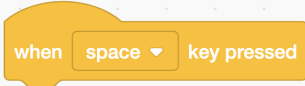
For each sprite:

- Select the sprite (in the sprite pane) and click the *Costumes* tab
- Fill in the blanks in the table about that sprite

<p>1. The SMILEY sprite has...</p> <p>___3___ : # Mouth  costumes</p> <p>___1___ : # Eyes  costumes</p> <p>___4___ : Total # of costumes</p>	<p>2. The SOCCER sprite has...</p> <p>___1___ : # Player  costumes</p> <p>___1___ : # Ball  costumes</p> <p>___2___ : Total # costumes</p>
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Select the SMILEY sprite (in the sprite pane), and explore the code!

3. Predict which block causes the SMILEY sprite to switch from the **Eyes** to the **Mouth** :

A.  B.  C.  D. 

Make a prediction about what would happen if you ran the thaumatropes 1,000 times:

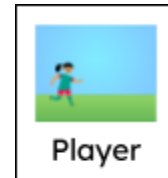
4. Predict what fraction of the time the SMILEY thaumatrope would stop on the **Mouth** if you ran the thaumatrope 1,000 times?

- ☐ 1/4
- ☐ 1/3
- ☐ 1/2
- ☒ **3/4**
- ☐ Always
- ☐ Never



5. Predict what fraction of the time the SOCCER thaumatrope would stop on the **Player** if you ran the thaumatrope 1,000 times?

- ☐ 1/4
- ☐ 1/3
- ☒ **1/2**
- ☐ 3/4
- ☐ Always
- ☐ Never



6. How did you make your prediction? Explain.

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Explore

Scratch Link: <https://scratch.mit.edu/projects/798447341/>

1. Reload the project. Select the **SOCCER** sprite. Click **Costumes** tab.

Select **PLAYER** costume. Click  to delete **PLAYER** costume.

(There should be one costume: **BALL**)

Run the thaumatropes 10 times. Tally the number of times it stops on each costume.

Answers will vary because of the probabilistic nature of the thaumatropes.



Player : ____ / 10



Ball: ____ / 10

2. Select the **SOCCER** sprite. Click **Costumes** tab.

Right click **Ball** costume. Select **Duplicate**.

Duplicate **Ball** costume a second time (Right click **Ball** costume. Select **Duplicate**.)

(There should be one **Player** & three **Ball** costumes)

Run the thaumatropes 10 times. Tally the number of times it stops on each costume.

Answers will vary because of the probabilistic nature of the thaumatropes.



Player : ____ / 10



Ball: ____ / 10

3. How did the thaumatrope's functionality change after costumes were deleted or duplicated?

Changing the number of each type of costume (by deleting or duplicating them) changes the probability that the thaumatrope will stop on one costume or the other.

Modify the Scratch Project!

Tasks	Done	Tested
Reload the project, Remix, and Share the Thaumatrope: Student Modify project (https://scratch.mit.edu/projects/798447341/).	<input type="checkbox"/>	
Modify SMILEY sprite so that it stops on the Mouth 1/3 of the time. There should be <u>1 Mouth</u> & <u>2 Eyes</u> costumes. (No code changes are needed.)	<input type="checkbox"/>	<input type="checkbox"/>
Modify SOCCER sprite so that it stops on the Player 1/4 of the time. There should be <u>1 Player</u> & <u>3 Ball</u> costumes. (No code changes are needed.)	<input type="checkbox"/>	<input type="checkbox"/>
(Optional) Create a thaumatrope of your own design by replacing the SOCCER sprite's costumes!	<input type="checkbox"/>	<input type="checkbox"/>