LEVEL 1 FACILITATION

PLAYING THE GAME WITH LARGE AMOUNT OF FACILITATION INVOLVED

INTRO

This facilitation guide will provide you with directions on how to facilitate the Unsolved Science game with classes that sometimes struggle to be motivated by science and that do best with heavy teacher guidance.

For Level 1, all groups will be performing the **Experiments** in parallel. You and your class will read the instructions for each **Experiment** together and you will reconvene after each **Experiment** is complete to go over the results and fill out the related questions on the **Evidence Board**. While students are performing an **Experiment**, you can walk around the room and provide guidance and answer questions students might have.

SETUP IN ADVANCE

STEP 1 Place one game box per group table. No need to open the game box. Students will open the game box themselves.

STEP 2 (Optional) Cut open the game box sticker seal.

STEP 3 Place 4 cups or glasses or any vessel at each table that can hold up to approximately 200 mL of liquid (likely not required on day 1 of playing the game).

STEP 4 Place 1 spoon per table, for mixing (likely not required on day 1 of playing the game).

STEP 5 (Optional) Pre-assign students to groups of 4-6 based on how you well you think students will work together. If not, on the first day of play, have students sit in groups of 4-6 of their choice.

REQUIRED TECH

- Students will need to access the Unsolved Science online Astrosearch search engine when playing the game.
- Students can access Astrosearch using either:
  - Smartphone(s): their own device or school smartphones if available; Android and iOS supported; Wi-Fi required.
  - Computer(s): their own device or school computers; any operating system; Wi-Fi or ethernet connection required.
- One device per table is sufficient but if more than one device is available that is even better.

STARTING THE GAME (DAY 1)

STEP 1 Have students sit in groups of 4-6 (assigned or not) at tables with the game box.

STEP 2 Instruct students not to open the game box just yet.

STEP 3 Introduce the general concept of the game that they will be playing and what is expected of them.

STEP 4 Have the students open the game box and only take out the **Instructions** sheet.

STEP 5 Read over the **Instructions** together as a class.

STEP 6 After you've gone through the **Instructions**, have students take out the **Letter from NOSO**, the **Evidence Board**, and the rock (keep it in the plastic bag).

STEP 7 Read over the **Letter from NOSO** together as a class.

STEP 8 Have students take a minute to look over the **Evidence Board** and the **Progress Tracker** on the back of the **Letter from NOSO**.

INVESTIGATION 1 (DAY 1)

STEP 1 Instruct your students to open the yellow **Investigation 1** envelope and take out the contents.

STEP 2 As a class, read over the instructions for **Experiment A**.

STEP 3 Once ready, have each group perform **Experiment A**.

LEVEL 1 FACILITATION (CONTINUED)

STEP 4 After students have completed **Experiment A**, instruct them to answer the questions for **Experiment A** on the **Evidence Board**. You can answer the questions together as a class.

Note: The students do not yet have enough information to answer the **DIG DEEP** question here. This will be the case for many of the upcoming **DIG DEEP** questions. Revisit these as you obtain more information from other **Experiments**.

STEP 5 Once you are done with **Experiment A**, repeat steps 2 to 4 for **Experiments B-D**.

STEP 6 (Optional but recommended) Walk around the room and provide guidance where needed and answer questions the students might have. Encourage students to use the **Astrosearch** to find important information (**unsolvedscience.ca/astrosearch**).

You can use the **Hints** page (**unsolvedscience.ca/case01_hints**) as inspiration for the type of guidance to provide students.

STEP 7 After your class has completed all **Experiments** as part of **Investigation 1**, have students open the **Answers** envelop and take out the **Answers for Investigation 1**. In groups or as a class, go over the answers for the **Evidence Board** questions for the **Investigation 1 Experiments**.

STEP 8 This is likely a good time to end for the day. You can summarize the day's experience and explain what to expect during the next session (**Investigation 2**).

INVESTIGATION 2 (DAY 2)

STEP 1 Setup the games as you had done previously. You will need the glasses and spoon during this session

STEP 2 To start the day, provide a recap of what students did during the first part of the Unsolved Science game.

STEP 3 Instruct the students to open the **Investigation 2** envelope.

STEP 4 As before, have the groups perform each **Experiment** in parallel. Read the instructions for each **Experiment** together and go over the questions for each **Experiment** together.

STEP 5 Once **Experiments E-I** are complete, it's likely a a good time to end for the day.

STEP 6 You can summarize the day's experience and explain what to expect during the next session (**Investigation 3** and final challenge).

INVESTIGATION 3 (DAY 3)

STEP 1 Setup the games as you had done previously. You no longer need the glasses and spoon.

STEP 2 To start the day, provide a recap of what students did during the second part of the Unsolved Science game.

STEP 3 Instruct the students to open the **Investigation 3** envelope.

STEP 4 As before, have the groups perform each **Experiment** in parallel. Read the instructions for each **Experiment** together and go over the questions for each **Experiment** together.

STEP 5 Once **Experiments J-M** are complete, if you haven't done so already take time with the class to go over all of the **DIG DEEP** questions. Students now should have all the information they need to answer these. Note that these questions are challenging and will require your guidance.

STEP 6 For the final challenge, instruct each group to go online to the final challenge (**unsolvedscience.ca/endgame**).

It is your choice whether each student answers the questions on their own device or if students work together to answer questions on one device.

It is also your choice whether you want each group to answer the questions unguided or if you want to answer the questions together with your class.

STEP 7 Once students have obtained their results, you can have an open discussion with your group about the game and provide a recap of the entire investigation.