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LESSON PLAN

k to Career solutions

SEL **science**

MAKING PREDICTIONS

Developed by Linda Roberts Grades 3–8

OBJECTIVES
Students will...

- Make predictions while reading
- Discuss the usefulness of making predictions in everyday life
- Understand cause and effect
- Connect this skill to the scientific method and the formulation of hypotheses

LEARNING STANDARDS

RI.3.3. — Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

RI.3.10. — By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.

MATERIALS

This lesson will use the "Cause and Effect Exercise" and "Making Predictions Graphic Organizer" Worksheet. Simply print out one for each student.

INTRODUCTION

First, ask students to think of the last time they watched a movie. Ask, "Did you know what was going to happen to the characters before it happened?" Explain that they were **making predictions** while they watched.

To **predict** something is to know and tell about it before it happens. Ask students to think about a time they made a prediction in real life. Was the prediction accurate? Ask them to make some predictions about real life now, based on their prior knowledge of the world around them. Here are some examples to get the class discussion started:

- There will be a fire drill at school before summer vacation begins.
- Someone will get up to sharpen a pencil before the end of the day.
- If the teacher says there will be a quiz, some students will groan.

Explain that good predictions are based on understanding **cause and effect**. A cause is something that makes something else happen. It happens first. An effect is what happens due to the cause. It happens second. Here are some examples:

Cause: Keenan practiced layups every day.
Effect: Keenan made the basketball team.

Cause: The weather turned colder and the days shorter.
Effect: Birds began their migration south.

Explain that it is useful to make predictions based on cause and effect in real life *and* while reading stories and articles. Making predictions helps us to better understand the world around us, and it helps us get more information out of our reading.

Scientists make predictions about the world around us. A scientific **hypothesis** is an educated guess or prediction about how things work. A hypothesis can be tested by an experiment.

EXAMPLES OF HYPOTHESIS

If I set my basil plant in the sun, it will grow bigger than a basil plant in the shade. If I increase the temperature of a cup of water, a sugar cube will dissolve faster than a sugar cube placed in a cup of very cold water.

By repeating this process over and over, scientists learn more about the world around us. **It all starts with predictions!** Let's practice making predictions.

Activity 1 — Nature Photo
Break the class into pairs or small groups of three. Have each group take out blank paper and a pencil. Give each group a nature photo cut out of a magazine, such as *National Geographic*. Ask each group to make 2–3 predictions about the insects, animals, or people in the photo. Challenge them to notice details in the photos to make predictions that are as accurate as possible. After each group has had the chance to share their predictions with the whole class, have the groups switch photos. Now challenge the small groups to come up with the most funny, outlandish, or creative predictions that they can. Explain that making strange guesses about what might occur in the world is useful, too. Scientists have to be creative thinkers to have breakthroughs.

Activity 2 — Cause and Effect
Divide the class into two halves. One half will get an index card with a "cause" written on it. The other half will get an "effect" card. To complete the activity, the students will have to find their pair.

Here are some sample causes:
A teacher noticed his students were talking too much in class.
Townsville got hardly any rain this spring.
The boy ate candy before bed and didn't brush his teeth.

Here are some sample effects:
A teacher gave his class a pop quiz.
The grass in Townsville was very brown this year.
The boy had five cavities in his teeth when he went to the dentist.

Challenge the students by including some causes that could also be considered effects. Encourage them to form a chain of cause and effect (with three or more students) and to explain how an effect can turn into a cause. Talk about how the stories they read for fun can be described as a long chain of causes and effects.

Activity 3 — Making Predictions
Give students 10–15 minutes of quiet reading time alone. They can read a book or magazine of their choice. They must fill in a flow chart graphic organizer to make predictions. Ask each student to record 2–3 predictions made during reading time using the "Making Predictions Graphic Organizer" worksheet. Model filling out the organizer after reading a page aloud from a short story or magazine article.

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SEL POWER-UP REFLECTION

Suggested questions for an SEL-focused discussion after you finish your creations.

GROUP REFLECTION:
1. How do you see cause and effect play out when you make poor decisions?
2. What happens when you make good decisions?
3. What should you do if there is a bad effect because of a choice you made?
4. Are predictions easier to make when they are about your actions or the actions of someone you are observing, like a friend or sibling?
5. How can you use predictions in your daily life?

SELF-REFLECTION:
1. Was I honest with myself as I worked through these prompts?
2. How did I feel as I worked on this project?
3. What role does science play in my life?
4. Write down 3 goals that you want to achieve by the end of the school year and hand it to your teacher. Read them near the end of the school year. Reflect and write why you think it did or did not happen?

Name: _____   **Class:** _____

Cause and Effect Exercise

DIRECTIONS: Use your creativity and skills at making predictions to fill in an effect for each of the following causes.

1. Cause: Jonas stayed up past his bedtime all week to play his favorite video game.

      Effect: _____

2. Cause: Penelope rode the Tilt-A-Whirl 11 times at the county fair.

      Effect: _____

3. Cause: Winds reached speeds of 50 miles-per-hour last night.

      Effect: _____

4. Cause: Wendy played with her neighbor's dog, even though she was allergic to it.

      Effect: _____

5. Cause: Teegan always helped her elderly neighbor carry her groceries.

      Effect: _____

Making Predictions Graphic Organizer

Information in the story...	**Ramona, the cat, is hiding in the closet. She usually likes to be around people.**
Information I already know...	**Cats who are normally social will hide when they are hurt or ill.**
Prediction about what will happen next...	**Ramona's owner will take her to the vet to get checked out.**