

Learning Goals (a.k.a. objectives): a statement describing what students will learn

Why use learning goals?

- Makes activities intentional, gives them purpose
- Focuses your activity on something specific
- Provides structure to an activity
- Tells youth what they will learn from the activity
- Creates a lasting impact on youth learning
- Shows teachers if they were successfully taught and if the youth learned what they wanted them to learn.

How to write and use a learning goal:

1. Brainstorm content (vocabulary terms, concepts and/or skills) you'd like youth to learn from the activity. Refer to the activity write up and science standards for ideas.
2. Pick one or two of the most important.
3. Write a sentence describing what you want the youth to learn from the activity. Start your sentence with the "SWBAT" tool; "Students will be able to..."

4. Make the next word in your sentence a verb. See the chart below for STEM and makerspace verbs.
5. End your sentence with the learning content you picked in step 2.
6. Your learning goal should be formatted: "Students will be able to [observable verb] [learning content]."

E.g. Students will be able to build a vibrobot with a closed circuit. Students will be able to describe the electrical circuit that makes the vibrobot vibrate.

7. Use the learning goal to plan your activity. Every step of the activity should support the learning goal. Plan discussion questions or prompts that help guide students toward the learning goal.

STEM and Makerspace Verbs*					
Know	Understand	Apply	Analyze	Evaluate	Create
Define	Describe	Use	Test	Question	Make
Name	Show	Solve	Reflect	Argue	Design
List	Explain	Change	Experiment	Predict	Build
Recognize	Identify	Complete	Explore	Assess	Fix
Tell	Summarize	Sketch	Investigate	Critique	Modify
Repeat	Match	Discuss	Illustrate	Estimate	Develop
Recite	Sort	Classify	Interpret	Rate	Tinker
Memorize	Order	Translate	Categorize	Criticize	Improve
Duplicate	Compare	Calculate	Contrast	Judge	Construct
Quote	Report	Demonstrate	Take Apart	Defend	Collaborate
Recall	Paraphrase	Implement	Distill	Value	Invent
Reproduce	Ask	Perform	Diagram	Prioritize	Write
State	Brainstorm	Operate	Differentiate	Conclude	Revise
Note	Distinguish	Practice	Examine	Hypothesize	Compose
	Measure	Observe	Inspect	Prescribe	Formulate
		Outline	Comment	Determine	Construct
		Research	Deduce	Suggest	Merge

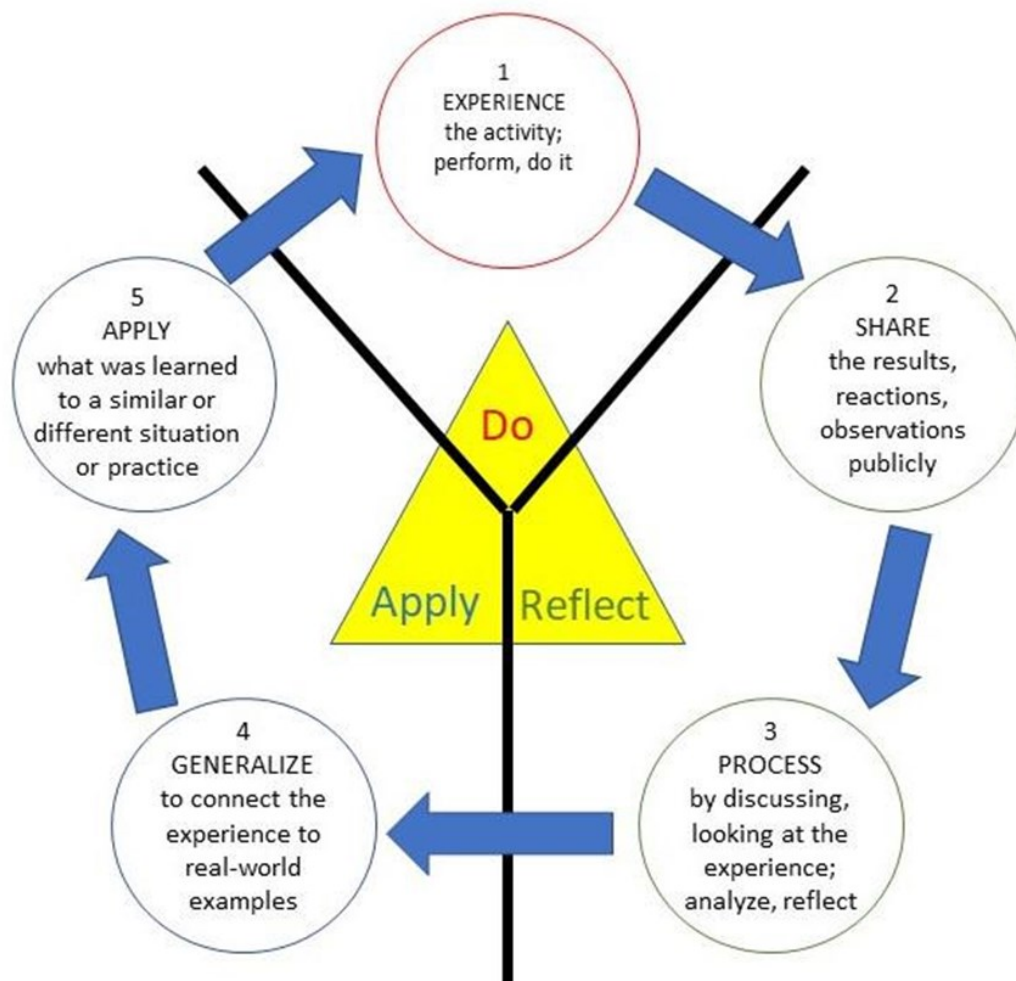
*Verbs are sorted into categories based on Bloom's Taxonomy, an education theory developed by Benjamin Bloom in 1956, revised in 2001. The theory says that learners' understanding starts at a lower-levels (left side of the chart) and then moves towards higher-order thinking (right side of the chart) as they master a skill.

Do, Reflect Apply

“Do, reflect, apply” is 4-H’s simplified learning cycle based on the experiential learning model.

Follow these steps to create a memorable and impactful learning experience with youth. In step 1, you do the activity and introduce learning content (vocabulary, concepts and/or skills). Steps 2-5, reflecting on and applying the experience help cement the learning and make it relevant to youth’s lives.

For the “reflect” and “apply” sections, discuss as a group, in small groups, or have youth pair up to share their ideas with each other. Prepare discussion questions or prompts ahead of time.



Keith G. Diem’s three step “Do, Reflect, Apply” model for working with youth. Source: Diem, K.G. (2001). Learn by doing the 4-H way. New Jersey 4-H Leader Training Series. Rutgers Cooperative Extension.

Based on: Kolb, David A.. *Experiential Learning: Experience as the Source of Learning and Development*. United Kingdom, Prentice-Hall, 1984.