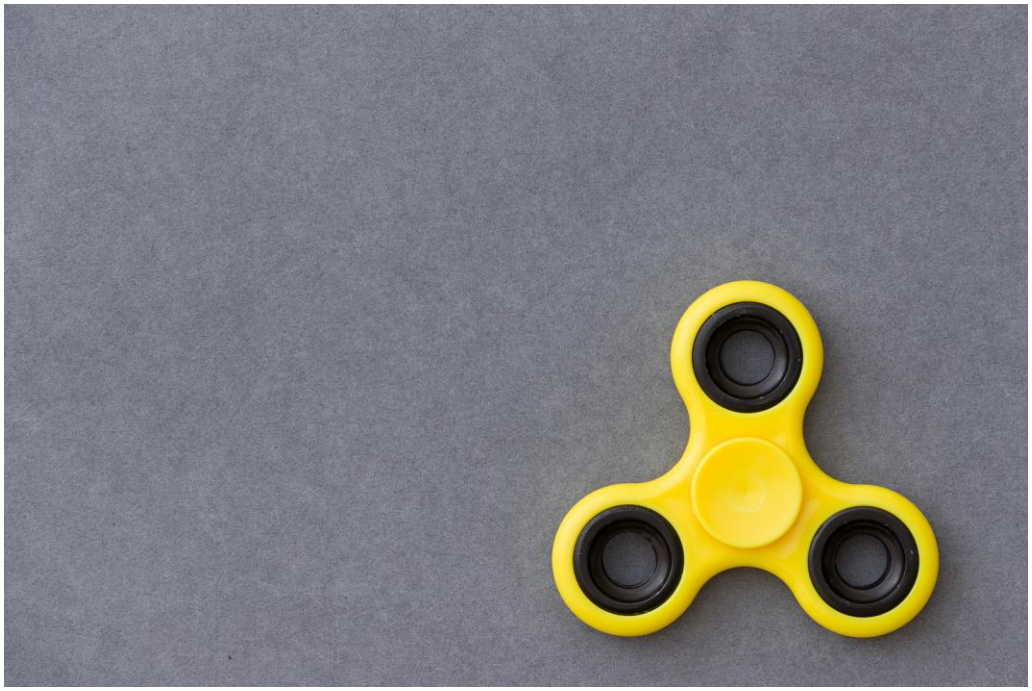

FUTUREFIT PROJECT – SPIN FACTORY

HOW TO USE THIS TEACHING GUIDE

- **Prepare (2-5 minutes):** Short opening activities to start class.
- **Present (5-20 minutes):** Deliver new subject material and project information, and to model instructions or activity
- **Produce (5-30 Minutes):** Use this portion of the lesson to allow students to work independently or in small groups on activities and other project elements.
- **Participate (5-30 Minutes):** Use this portion of the lesson to allow students to share out any project, research or presentation materials.
- **Practice (5-30 minutes):** Use this optional portion of the lesson, if desired, to give students homework activities.

DAY 1

PREPARE

5 minutes
Show the YouTube video of real life kid entrepreneur Alina Morse, create of Zollipops. (The Zollipops website also has information on how to apply for a donation of Zollipops for your school.) Talk about how Alina had an idea, conducted research, saved money to start her business, and marketed her product.

- **Video - PBS Biz Kid$ Interview with Kidpreneur Alina Morse**

PRESENT

5-10 minutes
Introduce the project: The children are entrepreneurs who just started a new company specializing in fidget spinners. They will be designing a fidget spinner prototype of out LEGO blocks (or card stock), collecting data, and marketing their spinner internationally.
Use the Alina Morse video as an example of how she carefully planned and prepared before making Zollipops

Give direction for completing the following sections of Spin Factory Student Guide:
• Introduction
• Market Research
• Prototype
Encourage students to be creative with new ideas for fidget devices.
If fidget spinners are too "last year," encourage them to think about other ideas - fidget balls, fidget blocks, a fidget spinner smartphone app, etc.

PARTICIPATE

10-15 minutes
Have the students work in groups of 3 to interview other students about their fidget spinner preferences. Remind the students that this is an important step in designing a product that the customer will purchase, enjoy and recommend to others. Use the "Market Research" section of the Spin Factory Student Guide.

- **Spin Factory Project Student Guide (LEGO Bricks Version)**
- **Google Doc - Spin Factory Student Guide, LEGOs**
- **Spin Factory Project Student Guide (Cardstock Version)**
- **Google Doc - Spin Factory Student Guide, Cardstock**

PRODUCE

10-15 minutes
Allow students research LEGO fidget spinner ideas online, and print or save a few of their favorites. Remind students to incorporate the findings of their market research. For example, if the interviewees want spinners with three points instead of two, then they should consider including that in the design. The LEGO and Brickset websites has a number of good fidget spinner ideas and designs.

- **Brickset.com - LEGO fidget spinner ideas**
- **LEGO.com - LEGO fidget cube idea**

PRACTICE

10-15 minutes
Based on the ideas collected online, and the findings of their two interviews, have students make a rough sketch (on a separate sheet of paper or using Google Drawings) of their ideas for the fidget spinner prototype. Encourage students to bring in any specialized LEGO pieces they have at home to use or share with the class. Also, ask students to bring their "regular" fidget spinners to the next class period.

DAY 2

PREPARE

5 minutes
If students brought in fidget spinners, have them do a little show and tell. This may inspire ideas for others in class.

PRESENT

5-10 minutes
If you have experimented with designing and building your own fidget spinner as part of this lesson, model your process for the class. Share your experience, and give them pointers on what they may want to include so their spinner is functional. Otherwise, combine this time with the next activity to give students more time to design their prototypes.

PRODUCE

20-25 minutes
Give students most of the class time to work on building their fidget spinner prototype. Encourage them to help each other if they are "stuck." Have students complete the "Prototype" section of the Student Guide.

- **Spin Factory Project Student Guide (LEGO Bricks Version)**
- **Google Doc - Spin Factory Student Guide, LEGOs**
- **Spin Factory Project Student Guide (Cardstock Version)**
- **Google Doc - Spin Factory Student Guide, Cardstock**

PARTICIPATE

3-5 minutes
If time allows, have students share out their initial spinner prototypes.

PRACTICE

20-25 minutes
For homework, have students complete the “Time and Materials” section of the Student Guide.

- **Spin Factory Project Student Guide (LEGO Bricks Version)**
- **Google Doc - Spin Factory Student Guide, LEGOs**
- **Spin Factory Project Student Guide (Cardstock Version)**
- **Google Doc - Spin Factory Student Guide, Cardstock**

DAY 3

PREPARE

Show students the video "Top 10 Most Valuable Currencies in the World" on YouTube as a precursor for this lesson about converting the value of different currencies.
Show students the video "Top 10 Most Valuable Currencies in the World" on YouTube as a precursor for this lesson about converting the value of different currencies.

- **Top 10 Most Valuable Currencies in the World 2017**

PRESENT

15-20 minutes
In the “International Marketing” section of the Student Guide, allow students to choose a country to target for selling their new fidget spinner. Using the chart, they can research the country’s currency, and the current exchange rate with the US dollar. Finish the chart using calculations to convert the currency.
Suggested web references for exchange rate: X-Rates Currency Exchange Calculator (ad free, easy to use)

- **X-Rates Currency Calculator**

PARTICIPATE

5-10 minutes
Have the students partner with another student who chose a different country for marketing their fidget spinner. Have the students practice converting their country's currency to their partner's country's currency. For example, if Student A converted to pesos, and Student B chose Euros, then Student A converts from Pesos to Euros, and vice-versa. If time permits, students can use the X-Rates Currency Calculator to check their answers.

- **X-Rates Currency Calculator**

PRACTICE

15 minutes
For homework, have students finish the "International Marketing" section including the name of their spinner and general description. As an additional activity, have students inquire at home or with friends, relatives, etc. whether anyone has examples of foreign currency they can look at in person.

DAY 4

PREPARE

2-5 minutes
Show students the video "Bill Nye's Introduction to the Metric System" on YouTube. Discuss the reasons other countries use the Metric System.

- **Video - Bill Nye's Introduction to the Metric System**

PRESENT

5-10 minutes
Using the Table of Measures chart, briefly review conversion of lengths and mass from the Customary Measurements System to Metric. Give students a copy of the worksheet to use as a reference for the next activity.

- **Table of Measures**

PRODUCE

20-25 minutes
Provide Customary rulers for students to measure length, height and width of their fidget spinner. Provide a balance to measure the mass, in pounds. Have students convert all measurements to Metric. Measurements and conversions should be recorded in the “Measurements and Conversions” section of the Spin Factory Student Guide.

- **Table of Measures**

PARTICIPATE

5-10 minutes
Working in pairs, give students stopwatches to record how long their spinner spins. They should test their spinner 5 times, record data in the “Testing” section of the Student Guide and then take the average.

- **Spin Factory Project Student Guide (LEGO Bricks Version)**
- **Google Doc - Spin Factory Student Guide, LEGOs**
- **Spin Factory Project Student Guide (Cardstock Version)**
- **Google Doc - Spin Factory Student Guide, Cardstock**

PRACTICE

5 minutes
As a group, discuss whether the United States should switch to the Metric System. Model and/or solicit pros and cons (i.e. impact on business, education, etc.).

DAY 5

PREPARE

5 minutes
Ask or write the following question on the board/whiteboard: "Have you ever reviewed anything on a website? For example, a movie, TV show, book, game, sporting event?" Have students share any experiences or examples. If there are no examples, model a few easy-to-understand examples (i.e. a purchase from Amazon, a movie review at Rotten Tomatoes, etc.).

PRESENT

5-8 minutes
Using Amazon.com, show students a typical description to a fidget spinner on Amazon.com. Point out the following:
• Product Name and Company Name
• Photo of the spinner
• Price in US dollars
• Description
• Reviews

- **Web page - Amazon Fidget Spinner Product Review**

PRODUCE

20-25 minutes
Using either technology (Google Docs, Google Slides, Word, PowerPoint, or other available programs) or with paper and pencil, have students create a simplified "Amazon.com-style" advertisement for their fidget spinner. They should include all the points listed in the "Advertise!" section the Spin Factory Student Guide. Ask them to leave room in their document for reviews. If desired, use the sample document.

- **Spin Factory Product Data Sheet**

PARTICIPATE

5-10 minutes
Have students return to original groups from Day 1 to review each other's spinners. Reviews should be filled in on the Student Guide in the section "Collect Reviews."

PRACTICE

10-15 minutes

For homework, students should add their peers' reviews to their advertisement and complete the "Reflect" section of the Spin Factory Student Guide.