

**1. What is our research question?**

What falls quicker a large and heavy or a small and light marble?

**2. How does this research fit the theme of the project?**

The Higgs boson provides mass and ensures that things (including marbles) have a weight. Mass also has to do with the earth's gravitational pull on the marble.

**3. What do we think will be the answer to the research question? And why do we think this will be the answer?**

[Researchers call this a 'hypothesis']

**4. Which persons or what materials are we researching?**

We are researching gravity. We do this by using two different kinds of marbles: a big and heavy one, and a small and light one.

**5. What is it that we will measure exactly?**

[Measuring can mean: measuring length, distance or weight.

Measuring can also mean: asking people in your research the same question and comparing the answers.]

We will measure which marble (the big and heavy one or the small and light one) falls quicker.

**6. In what way will we do the measuring?**

[For example with a test, with a question or with interviews]

We conduct a test. We let both marbles fall (not throw) at the same time from 2 meters height. We will see which marble hits the surface first.

**7. How many times or with how many people do we need to repeat our measuring to really know the answer to the question?**

We will repeat the experiment 30 times so that we can really answer the research question.

**8. How will we record the results while we conduct our research?**

[For example: make a table, keep a tally or write down the answers.]

We are going to note a stripe behind the marble that hits the surface first.

**9. What should stay the same in our research and what should change?**

The same: distance of falling (2 meters)

Different: two different marbles (a heavy and big one, and a light and small one)

**10. Make a plan: when will you do the different research activities.**

Activiteit:	Plaats/locatie:	Dag:	Tijd:

**11. What help and which materials do we need?**

- Heavy, big marble
- Light, small marble
- Measuring tape (to measure the drop height)

**12. From whom do we need permission, apart from the teacher?**

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**13. Who will do what in preparation and conducting our research?**

Naam:	Taken:	Wanneer af: